A MESSAGE FROM THE PRESIDENT

Welcome to NOVA!

Thank you for choosing NOVA and preparing for your next chapter here!

Every year tens of thousands of students discover that NOVA has exactly what they're looking for to meet their educational needs.

The high quality of NOVA's offerings is well known. We offer courses and programs of study that transfer to universities across Virginia and the nation. In fact, NOVA has guaranteed admission agreements with more than 50 colleges and universities for students who meet specific requirements. In addition, NOVA offers career pathways that connect students to employment directly after graduation. We also provide work-based learning experiences through internships, apprenticeships, and research opportunities that increase students' competitiveness. And, if you are looking for flexibility in completing your college certificate or degree, you will find it in NOVA's online and remote courses and programs.

NOVA's excellence is delivered by a dedicated faculty who love teaching and really care about the success of every student, and a committed staff who works hard to make sure you have what you need to accomplish your goals.

At NOVA, in your classes and in our vibrant student life and leadership programs, you will connect with students from all backgrounds and experiences to enrich your educational journey.

We are proud to share that your exceptional NOVA degree is also the most affordable education opportunity in the area!

We are delighted to welcome you—and look forward to serving you. Again, thank you for choosing NOVA!

Anne M. Kress, President

Northern Virginia Community College

NOVA's Mission

Northern Virginia Community College provides equitable access to affordable and exceptional higher education and workforce programs, transforming the lives of our students and advancing opportunity in our community.

ADMINISTRATION

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Anne Kress, President

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Joel Frater
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More information is available on NOVA's Administrative Offices (https://www.nvcc.edu/about/offices/) webpage.

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THE COLLEGE - GENERAL INFORMATION

History of the College

Northern Virginia Community College (NOVA) was established in 1964 as Northern Virginia Technical College. Since its founding, NOVA has served the counties of Arlington, Fairfax, Loudoun and Prince William and the cities of Alexandria, Fairfax, Falls Church, Manassas and Manassas Park.

The college opened for classes in 1965 in a single building in Bailey's Crossroads. At the time, 761 students were served by 46 faculty and staff, including the first president, Robert L. McKee. Subsequent college presidents included Dr. Richard J. Ernst (appointed in 1968), Dr. Belle S. Wheelan (appointed in 1998), Dr. Robert G. Templin Jr. (appointed in 2002), Dr. Scott R. Ralls (appointed in 2015) and Dr. Melvyn D. Schiavelli (appointed in 2019). Current president Dr. Anne M. Kress has served since 2020.

The college was renamed Northern Virginia Community College in 1966 when the Statewide General Assembly rebranded the technical college system as the Virginia Community College System (VCCS). Supplementing existing career and technical programs, new academic curricula were introduced to both meet regional demand for credentials and facilitate transfer to four-year colleges.

In 1966, the college purchased 78 acres in Annandale - the first of NOVA's six permanent campuses - and the first building at the new campus opened in 1967. That same year, the college purchased 100-acre sites for future campuses in Sterling (Loudoun), Manassas and Woodbridge. In 1969, the college purchased acreage for the Alexandria Campus. After several decades, NOVA further expanded when it purchased the Medical Education Campus site in 2000.

Loudoun, Manassas and Woodbridge first offered classes in 1972, and classes moved from Bailey's Crossroads to Alexandria in 1973. NOVA's Extended Learning Institute began offering home study courses in January 1975 and in 2018 rebranded as NOVA Online - now a national leader in online education. In 2003, the Medical Education Campus opened in Springfield in response to regional demand for healthcare training. The college also opened an educational center in 2006 in Reston.

The college's enrollment and programs have grown rapidly since its founding. By 1970, enrollment exceeded 10,000 students. By 1973, NOVA had become the largest institution of higher education in Virginia with 17,260 students. During the 2022-23 academic year, the college served more than 75,800 students in credit courses and another 22,400 in noncredit courses.

The College

NOVA is a comprehensive, open-access community college offering two-year associate degrees, one-year certificates and career studies certificates as well as continuing education and community services programs. As one of the VCCS's 23 colleges, NOVA is governed by the Virginia State Board for Community Colleges.

NOVA strives to meet the unique educational and training needs for people of differing abilities, educational background and professional experience through a variety of curricular and cocurricular programs and community services. While many programs are available at all campuses, highly specialized courses are offered at only one or two.

NOVA offers a strong advising program to help students select the curriculum that will advance their career, educational and personal goals. The college also provides orientation experiences as well as career, financial, testing, veterans and student life services to better meet the holistic needs of modern students. All services are outlined on NOVA's website (http://www.nvcc.edu/).

The college operates on the semester system, with 15-week fall and spring semesters and a 10-week summer session. Many courses are offered in even shorter sessions - including 12-week, 10-week, 8-week, 6-week, and 4-week sessions - to meet the needs of students, area employers and the regional economy.

Virginia Community College System (VCCS)

The VCCS comprises 23 two-year colleges, including NOVA. Established in 1966, the VCCS complements the missions of the secondary schools and the senior colleges and universities in the Commonwealth of Virginia. The mission of the VCCS "We give everyone the opportunity to learn and develop the right skills so lives and communities are strengthened. "

Governance

The governing board for all 23 colleges in the Virginia Community College System is the State Board for Community Colleges. The governor of the Commonwealth of Virginia appoints the members to this board. Each community college establishes its own local board. The Northern Virginia Community College Board provides local leadership and approves items to be recommended to the State Board for consideration. Members of the College Board are appointed by the nine political jurisdictions served by the College. The local board is composed of three members from Fairfax County and one member from each of the other jurisdictions.

Members of the community serve on curriculum advisory boards for career and technical curricula offered at the College. Board members are selected from career fields that are directly related to the career objectives of programs at NOVA. These boards provide the guidance necessary for planning new programs and ensuring that courses and programs continue to provide instruction in the skills suited for the job market in Northern Virginia.

The maintenance and operating budget for the College is provided through appropriations made by the Virginia General Assembly. The nine political jurisdictions of Northern Virginia provide local funding for the purchase of sites and site development. The General Assembly approves capital outlay funding for building construction and initial equipment.

Accreditation and Recognition

Northern Virginia Community College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) (https://www.sacscoc.org/) to award the associate degree. Questions about the accreditation of Northern Virginia Community College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097; by calling (404) 679-4500; or by using information available on SACSCOC's website (https://www.sacscoc.org/). Curricula of the College are approved by the College Board and by the State Board for Community Colleges. The State Council of Higher Education for Virginia (SCHEV) also approves its

two-year associate degree programs. Certain curricula of the College are accredited or otherwise recognized by specialized accrediting organizations. They include:

Program	Accrediting/Approval Agency
Air Conditioning and Refrigeration	HVAC Excellence
Automotive Technology (Alexandria Campus)	ASE Education Foundation
Automotive Technology (Manassas Campus)	ASE Education Foundation
Cybersecurity	National Security Agency
Dental Hygiene	American Dental Association's Commission on Dental Accreditation
Dental Assisting	American Dental Association's Commission on Dental Accreditation
Diagnostic Medical Sonography	Commission on Accreditation of Allied Health Education Programs upon the recommendation of the Joint Review Committee on Education in Diagnostic Medical Sonography
Early Childhood Development	National Association for the Education of Young Children
Emergency Medical Services	Commission on the Accreditation of Allied Health Education Programs upon the recommendation of the Committee on Accreditation of Educational Programs for Emergency Medical Services Professions
Health Information Management	Commission on Accreditation for Health Informatics and Information Management Education
Medical Lab Technology	National Accrediting Agency for Clinical Laboratory Sciences
Nursing	Accreditation Commission for Education in Nursing (ACEN) and Virginia Board of Nursing
Occupational Therapy Assistant	Accreditation Council for Occupational Therapy Education
Paralegal Studies	American Bar Association
Physical Therapist Assistant	Commission on Accreditation in Physical Therapy Education
Radiography	Joint Review Commission on Education in Radiologic Technology
Respiratory Therapy	Commission on Accreditation for Respiratory Care
Veterinary Technology - On-Campus	American Veterinary Medical Association - Committee on Veterinary Technician Education and Activities
Veterinary Technology - On-Line	American Veterinary Medical Association - Committee on Veterinary Technician Education and Activities

See the individual program descriptions for additional details.

NOVA Mission, Vision, and Values

Our Mission

Northern Virginia Community College provides equitable access to affordable and exceptional higher education and workforce programs, transforming the lives of our students and advancing opportunity in our community.

Our Vision

To be a learning-centered organization that promotes student success.

Our Core Values

Care is demonstrated at NOVA through a culture of compassion where success and well-being are prioritized in our commitment to developing authentic relationships and providing resources to foster a supportive and thriving community.

Excellence is demonstrated at NOVA through our high quality and cutting-edge programs; innovative, talented and experienced faculty and staff; and strong and effective relationships with employer and university partners—all to ensure our students are ready for graduation, transfer and high-demand careers.

Inclusion is demonstrated at NOVA through our intentional commitment to welcoming, supporting and engaging diverse people and perspectives so that a sense of belonging is cultivated throughout our college community.

Integrity is demonstrated at NOVA through adherence to principles and actions that foster accountability, honesty and trustworthiness; commitment to truth and fairness is ensured by ethical, equitable and professional behavior, and prioritizing the needs of students and the community we serve.

Respect is demonstrated at NOVA through treating each other with courtesy and dignity, acknowledging and valuing differing ideas and perspectives, affirming the uniqueness of every individual and being mindful of personal boundaries.

Academic Offerings

College Transfer Education

NOVA's transfer programs include courses typical of the first two years of a baccalaureate degree. Transferable courses closely parallel coursework offered at four-year institutions, meeting standards acceptable to baccalaureate degree programs. Since requirements vary among four-year colleges and universities, those planning to transfer must check the requirements of their intended transfer institution before planning a course of study at NOVA. For more information on college transfer, refer to NOVA's transfer website at https://www.nvcc.edu/admissions/transfer/index.html (https://www.nvcc.edu/admissions/transfer/).

Career and Technical Education

The career and technical education programs are designed to meet the increasing demand for technicians, office workers, paraprofessionals, and skilled craftspersons for employment in industry, business, professions, and government. These programs, which normally require two years or less of education beyond high school, may include preparation for agricultural, business, engineering, health, and medical, industrial, service, and other technical and career fields. The curricula are planned primarily to meet the needs for workers in the region being served by the College,

but the State Board for Community Colleges may designate certain community colleges as centers to serve larger areas of the state in offering expensive and highly specialized career and technical education programs.

General Education

General education, as an integrated and cohesive whole, provides the educational foundation necessary to promote intellectual and personal development. Upon completion of the associate degree, graduates of Northern Virginia Community College will demonstrate competency in student learning outcomes (SLOs) in civic engagement, critical thinking, professional readiness, quantitative literacy, scientific literacy, and written communication. General education core competencies distinguish graduates as individuals with a breadth of knowledge, skills, and abilities needed to pursue further education and their careers, continue to develop as learners, and contribute to the well-being of their communities.

NOVA's associate degree programs support a collegiate experience that meets the general education requirements of the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) and the State Council of Higher Education for Virginia (SCHEV).

NOVA General Education Competencies

The College has established goals for each degree program to enhance student learning experiences beyond the major area of study. The following are the College's general education goals:

Civic Engagement - The ability to contribute to the civic life and well-being of local, national, and global communities as both a social responsibility and a life-long learning process. Degree graduates will demonstrate the knowledge and civic values necessary to become informed and contributing participants in a democratic society.

Critical Thinking - The ability to use information, ideas and arguments from relevant perspectives to make sense of complex issues and solve problems. Degree graduates will locate, evaluate, interpret, and combine information to reach well-reasoned conclusions or solutions.

Professional Readiness - The ability to work well with others and display situationally and culturally appropriate demeanor and behavior. Degree graduates will demonstrate skills important for successful transition into the workplace and pursuit of further education.

Quantitative Literacy - The ability to perform accurate calculations, interpret quantitative information, apply and analyze relevant numerical data, and use results to support conclusions. Degree graduates will calculate, interpret, and use numerical and quantitative information in a variety of settings.

Scientific Literacy - The ability to apply the scientific method and related concepts and principles to make informed decisions and engage with issues related to the natural, physical, and social world. Degree graduates will recognize and know how to use the scientific method, and to evaluate empirical information.

Written Communication - The ability to develop, convey, and exchange ideas in writing, as appropriate to a given context and audience. Degree graduates will express themselves effectively in a variety of written forms.

Developmental Studies

Developmental courses are offered to prepare students to succeed in the College transfer and career/technical programs. These English and mathematics courses are designed to develop the basic skills and understanding needed for success in other courses and curricula. High school students may not enroll in developmental courses.

English as a Second Language (ESL) Programs

NOVA ESL programs support students whose primary language is not English in accessing American higher education, entry or advancement in the workforce, or language improvement. NOVA ESL students may be residents of Northern Virginia, students with F-1 status, or other visitors to the United States. NOVA offers courses through College ESL and the American Culture & Language Institute (ACLI). In both ESL programs, students acquire fluency, enhance their ability to express nuanced ideas, and gain greater control of linguistic complexities.

Graduation Rates

Many students attending Northern Virginia Community College do not plan to graduate with an associate degree or certificate, but enroll for the purpose of improving job skills, taking credits for transfer to another college, or for some specialized need or personal satisfaction. Determining graduation rates, given students' varied objectives is difficult; however, prospective, or enrolled students who would like to know more about the enrollments and completion rates for a particular curriculum may obtain much of this information on the College's Office of Institutional Research website at https://www.nvcc.edu/osi/oir/data-insights/achievement.html#panel5.

Business and Community Engagement

Workforce Offerings

NOVA Workforce partners with industry leaders to develop education and training programs for a diverse group of learners and companies. Close business partnerships enable NOVA Workforce to keep a pulse on new and emerging technologies, sectors, and business practices. As part of the program development, NOVA Workforce includes industry experts on advisory boards that guide the design and development of each program. Programs are offered in sectors such as Information Technology, Cybersecurity, Healthcare, Medical, Business and Management, Trades, ESL, and Education. NOVA Workforce offers recognized credentials from Amazon, EC-Council, CompTIA, Cisco, NHA, SHRM, and more.

FastForward

FastForward subsidizes the cost of certain pre-approved, high-demand programs. Students pay one-third of the cost of the program with the expectation that they will seek and obtain the related credential identified for their program. The funds are available to Virginia residents who meet Virginia domicile requirements. Students who participate in FastForward programs are financially responsible for the first third of the course cost. Additional financial assistance options, such as FANTIC and G3, may be available to cover students' first third. Funding for these programs is limited and on a first-come, first-served basis.

For further information, please visit https://www.nvcc.edu/workforce/ or contact NOVAWorkforceAnswers@nvcc.edu or 703-503-6300.

Apprenticeship and Corporate Training

Apprenticeships combine learning, industry-recognized credentials, and structured on-the-job training and mentorship to successfully fill a company's talent needs. NOVA Workforce partners with regional employers to provide curriculum and instruction as part of the company's apprenticeship program. Apprenticeship programs are approved through the Apprenticeship Division of the Virginia State Department of Labor

and Industry. Formal apprenticeship programs require related technical instruction, and NOVA offers many courses for this program requirement.

NOVA Workforce serves regional employers with tailored curriculum and customized training to address their specific needs. Training can be offered online, on one of our campuses, or on-site at their business.

Employer Engagement Career Services

Business and community partnerships are data-driven and focused on delivering short and long-term results. NOVA's Office Business Engagement and Career Services (BECS) provides comprehensive opportunities and resources to support the career development of NOVA students and alumni. Services are available to all credit and workforce students and include career fairs, employer information sessions, site visits, career assessments, one-on-one counseling, workshops, and group presentations. BECS advances data-driven business and community partnerships focused on delivering both short- and long-term workforce outcomes. NOVA's Office of Strategy, Research and Workforce Innovation conducts ongoing labor market analysis using real-time data analytics and economic modeling to provide insight into Northern Virginia's economic landscape, including market conditions, growth industries, skill shortages, and workforce demand. This research is strengthened through employer focus groups, surveys, and education data, integrating present information with economic and demographic trends to inform responsive workforce strategies.

The Business Engagement Center, housed in BECS, connects employers with NOVA's diverse talent pipeline and showcases professional opportunities that support the region's evolving economy. Each year, BECS partners with thousands of employers to create meaningful pathways from education to employment. Handshake, NOVA's career services management system which will go live on July 1, 2026, provides a centralized platform for students and employers to connect and explore opportunities. From now through June 30, students and employers will utilize a platform called Career Connect. Professional development programming is offered each semester across all campuses and virtually to ensure broad accessibility. BECS also conducts regular communication campaigns to increase awareness of in-demand careers and job projections, helping students and the College anticipate and address emerging workforce needs.

Continuing Education

Through NOVA Workforce, continuing education programs are offered to afford individuals the opportunity to continue their learning experiences. Continuing education programs are generally noncredit courses offered during the day and evening hours. The College awards Continuing Education Units (CEU) upon completion of most noncredit courses.

Other Offerings

The College provides specialized services to help meet the cultural and educational needs of the residents of the Northern Virginia area. These services include nonclassroom and noncredit cultural events, workshops, meetings, lectures, conferences, seminars, short courses, and special community projects that are designed to provide cultural and educational opportunities for the residents of the region. The College works cooperatively with other local and state agencies and with businesses interested in developing such services.

NOVA Educational Foundation

Founded in 1979, the NOVA Educational Foundation is committed to supporting Northern Virginia Community College's mission to provide all students with a high-quality, life-changing education. As a 501(c)(3) nonprofit, the Foundation connects donors to NOVA programs, securing funding, increasing visibility, and strengthening partnerships between the College, individual donors, businesses, and local and state communities.

The Foundation is dedicated to supporting the strategic priorities of the College, specifically, NOVA's goals of Access, Retention, Completion and Employment. Despite Commonwealth funding and student financial aid programs, private dollars are critically needed to close gaps and achieve bold goals. The Foundation's strategic fundraising priorities are the Student Success Fund, which provides emergency grants and "last mile" scholarships to students within six to eight credits of graduation who have depleted all educational financial resources; the Future of Work Initiative; and the NOVA Empower Bright Futures Fund.

Each year, the Foundation invests $250,000 in the Student Success Fund and holds 300+ scholarships, valued at $500,000, to ensure academically successful but financially challenged students earn their degrees and transfer to four-year institutions or enter the workforce with highly employable skills.

Alumni and Friends Network

Originally established in 1983 as the Alumni Federation, the Foundation relaunched a reimagined NOVA Alumni and Friends Network in June 2023 to mirror the College's core commitment of inclusive excellence. NOVA Alumni and Friends Network is a community of graduates, those who have taken a class or two, NOVA parents and members of the community who are passionate about our students and the transformative role of community colleges.

In 2022, the Foundation began NOVA Giving Day, an annual 24-hour event that engages students, faculty, staff, alumni, parents, friends, family, and the broader community. Giving Day strengthens a growing culture of philanthropy across NOVA and supports the Empower Bright Futures Fund, an unrestricted fund that provides flexible, "just-in-time" resources to meet the College's most pressing needs.

ACADEMIC POLICIES AND INFORMATION

Academic Integrity

When College officials award credit, degrees, and certificates, they must assume the absolute integrity of the work students have done; therefore, it is important that students maintain the highest standard of honor in their scholastic work.

The College does not tolerate academic dishonesty. Students who are not honest in their academic work will face disciplinary action along with the grade penalty the instructor imposes. Procedures for disciplinary measures and appeals are outlined at https://www.nvcc.edu/policies/_files/224-Academic-Integrity.pdf. In extreme cases, academic dishonesty may result in dismissal from the College. Academic dishonesty, as a general rule, involves one of the following acts:

- cheating on an examination or quiz, including giving, receiving, or soliciting information and the unauthorized use of notes, other materials, or technologies during the examination or quiz;
- buying, selling, stealing, or soliciting any material purported to be the unreleased contents of a forthcoming examination, or the use of such material;
- substituting for another person during an examination or allowing another person to take the student's place;
- plagiarizing, which means taking credit for another work or ideas. This includes copying another person's work either word-for-word or in substance without acknowledging the source;
- accepting help from or giving help to another person to complete an assignment, unless the instructor has approved such collaboration in advance;
- knowingly furnishing false information to the College; forgery and alteration or use of College documents or instruments of identification with the intent to defraud.

Attendance and Student Participation

Education is a cooperative endeavor between the student and the instructor. Instructors plan a variety of learning activities to help their students master the course content. Students are expected to participate in these activities within the framework established in the class syllabus. Faculty will identify specific class attendance policies and other requirements of the class in the syllabus that is distributed at the beginning of each term. Successful learning requires good communication between students and instructors; therefore, in most cases, regular classroom attendance, or regular participation in the case of a nontraditional course format, is essential.

It is the student's responsibility to inform their instructor prior to an absence from class. Students are responsible for making up all coursework missed during an absence.

To receive any letter grade, a student must have attended at least one synchronous class meeting or the equivalent asynchronous distance learning class as defined in VCCS Policy 5.6.8 Class Attendance. If a student does not attend at least one class meeting or participate in an online class by the "last day to drop with a tuition refund" (census date), their class registration will be administratively deleted, which means no record of the class or any letter grade will be on the student's transcript. Furthermore, the student's class load will be reduced by the course credits, and this may affect their full-time or part-time student status. Tuition will not be refunded.

Examinations

Students are expected to take tests at regularly scheduled times. In addition, every student is required to take a final examination, receive an appropriate evaluation instrument, or continue receiving instruction during the scheduled final examination period. Any deviation from the final examination schedule must be approved by the campus provost. Students have the right to review their final exam for one semester after the end of the term in which the final exam was taken.

Course Load

The minimum full-time academic load is 12 credits, and the maximum full-time load is 18 credits, or 19 credits, if one is a one-credit Student Development (SDV) course. To enroll in more than 18 credits, students must have a 3.00 grade point average or higher in the last 12 credits or most recent semester of full-time enrollment completed at NOVA or another accredited college or university and the approval of the dean of student success at their primary campus. In the case of students with considerable professional experience, successful completion of college-level training may substitute for the credit hour and GPA requirement. Approval for an overload based on professional training may be granted by the dean of student success in consultation with the appropriate program head/program director.

Students requesting an academic overload should visit the College Forms Library (https://www.nvcc.edu/forms/), Forms for Students, to complete the Academic Overload Request (More than 18 Credits, Excluding SDV), College Form 125-016 (https://dashboard.nvcc.edu/EForms/125-016), and email it to academicoverload@nvcc.edu for review.

Credits

A credit at NOVA is equivalent to one collegiate semester hour. One credit is awarded for each of the following:

- one hour per week of lecture (15 hours per semester plus an exam period)
- two hours per week of laboratory with one hour of out-of-class practice (45 hours per semester plus an exam period)
- three hours per week of laboratory with no out-of-class practice (45 hours per semester plus an exam period)

Courses offered in a nontraditional format require an equivalent amount of time in learning activities.

Grades

Grade Reports

Grades are obtained through myNOVA at https://portal.my.vccs.edu (http://www.nvcc.edu/novaconnect). Grade reports are not mailed.

Grading System for Credit Classes

To receive any letter grade, a student must have attended a minimum of one class meeting or the equivalent in the case of an online course. In an online course, initial student attendance is determined by completing a class assignment. The College will administratively drop students who enroll in a course but do not attend a minimum of one class meeting or the online learning equivalent by the census date. Existing College policies regarding tuition refund shall remain in effect.

The grades of "A," "B," "C," "D," "P," and "S" are passing grades. Grades of "F" and "U" are failing grades. "R" and "I" are interim grades. Grades of "W" and "X" are final grades carrying no credit.

The quality of performance in any academic course is reported by a letter grade, the assignment of which is the responsibility of the instructor. These grades denote the character of study and are assigned quality points as follows:

A = Excellent - 4 grade points per credit
B = Good - 3 grade points per credit
C = Average - 2 grade points per credit
D = Poor - 1 grade point per credit
F = Failure - 0 grade points
I = Incomplete - No grade point credit. The incomplete ("I") grade is used only for verifiable unavoidable reasons where a student is unable to complete a course within the allotted course time. To be eligible to receive an "I" grade, the student must have satisfactorily completed more than 60 percent of the course requirements and attendance and must request the faculty member to assign the "I" grade and indicate why it is warranted. The faculty member has the discretion to decide whether the "I" grade will be awarded.

Since the "I" grade extends enrollment in the course, requirements for satisfactory completion will be established through consultation between the faculty member and the student and documented on the "I" Grade Assignment Form (125-076 (https://dashboard.nvcc.edu/EForms/125-076)). In assigning the "I" grade, the faculty must complete documentation that:

- states the reason for assigning the grade;
- specifies the work to be completed and indicates its percentage in relationship to the total work of the course;
- specifies the date by which the work must be completed; and
- identifies the default grade ("B," "C," "D," "F," "P," "R," or "U") based upon coursework already completed.

Completion dates may not be set beyond the last day of the subsequent semester (to include the Summer Session) without written approval of the provost. The student will be provided with a copy of the documentation. All "I" grades that have not been changed by the faculty member through the normal grade change processes will be subsequently changed to the default grade assigned by the faculty member. An "I" grade will be changed to a "W" only under documented mitigating circumstances, which must be approved by the provost.

P = Pass - No grade point credit. Applies only to non-developmental courses. The "P/U" grading option may be used for an entire section of any course but not for an individual student within a course. Use of this grade must be approved by the academic dean. Grades of "P" are not included in grade point average calculations. Only seven credit hours of "P" grades may be applied toward graduation. This maximum may be extended to 15 credit hours for an Experiential Learning Portfolio course (formerly known as PLACE).

R = Reenroll - No grade point credit. The reenroll "R" grade may be used as a grade option in developmental and College ESL courses only to indicate some progress toward meeting course objectives. To complete the course objectives, students receiving an "R" grade must reenroll in the course and pay the specified tuition.

S = Satisfactory - No grade point credit. Used only for satisfactory completion of a developmental studies course (numbered 1-9) or any College ESL course. Grades of "S" are not included in grade point average calculations.

U = Unsatisfactory - No grade point credit. Applies to non-developmental courses being offered with a "P/U" grading option, as well as to developmental studies, ESL courses, noncredit courses, and specialized courses and seminars at the discretion of the College. The "P/U" grading option may be used for an entire section of any course but not for a single individual student within a course.

W = Withdrawal - No grade point credit. A grade of "W" is awarded if a student withdraws or is withdrawn from a course after the add/drop period but prior to the completion of 60 percent of the session. After the 60 percent point, the student will receive a grade of "F" except under mitigating circumstances that must be documented on the 125-047 (https://www.nvcc.edu/forms/pdf/125-047.pdf) Form. See also "Withdrawal from a Course (p. 30)" section, under "Enrollment Information (p. 30)."

X = Audit - Students auditing a course may attend without taking examinations or receiving credit for the course. Permission of the instructor and the academic dean is required to audit a course no later than the census date for the course.

See "Auditing a Course (p. 30)," under "Enrollment Information (p. 30)," for more information.

Calculating the GPA

The grade point average (GPA) is determined by dividing the total number of grade points earned in courses by the total number of credits attempted. Courses that do not generate grade points are not included in credits attempted. The GPA is carried out to two digits past the decimal point (example 1.00). No rounding shall be done to arrive at the GPA.

Three types of GPA are defined by the Virginia Community College System (VCCS).

Semester GPA is determined by dividing the total number of grade points earned in courses attempted for the semester by the total number of credits attempted.

Cumulative GPA, which includes all courses attempted, is computed each semester and is maintained on a continuing basis as a record of the student's academic standing. When students repeat a course, please refer to the Repeating a Course section below for the computation of the cumulative GPA and for satisfying curricular requirements. In instances of courses designated as repeatable for credit or General Usage courses, all grades/credits are counted in the computation of the cumulative grade point average. Grades of "S," "P," "U," "W," "X," and "I" shall not count as first or subsequent attempts when calculating cumulative GPA. Courses that do not generate grade points are not included in credits attempted.

Program GPA or Plan GPA, which includes only those courses applicable to the student's program of study, is computed in order to ensure that the student satisfies the graduation requirement for that curriculum.

Special Note: For students enrolled during Spring 2020 (when special grades were issued due to COVID-19), no quality points were issued for the P+ and P- grades. P+ or P- grades will not affect a student's GPA.

Sample: The following table illustrates a GPA of 2.00 obtained by dividing 30 by 15.

Course	Credit Hours Attempted	Grade	Grade Points	Credit Hours Completed	Total Grade Points
BIO 101	4	C	2	4	8
ENG 111	3	B	3	3	9
MUS 141	2	A	4	2	8
PED 109	1	F	0	0	0
FRE 101	5	D	1	5	5
PSY 100	0	W	0	0	0
Totals	**15**		**10**		**30**

Course Grade Appeals and Student Grievances

By definition, a formal academic grievance is a student-initiated report of a grievance related to a final course grade **or** a student-initiated report of an academic grievance related to a dismissal from an academic program. An academic grievance can be based on at least one of the following:

- arbitrary and/or capricious action on the part of the instructor/faculty member, including assignment of a grade or dismissal from an academic program on some basis other than performance in the course or program.
- application of standards different from those that were applied to other students in the same course or program (as defined in the course syllabus or within a related academic program document);
- an assignment of a final course grade that is not in accord with the grading protocol on the course syllabus; or
- a dismissal from an academic program that is not in accord with the program standards that define the parameters for dismissal.

Students are encouraged to check their final course grades upon the final grade's posting and informally connect with their faculty members if they have concerns. A formal student grievance process must be initiated within twenty (20) business days following the event giving rise to the grievance. Every effort will be made to settle student grievances promptly. Students should review the Student Grievance Policy 608P (https://www.nvcc.edu/dist/files/sites/policies/pdfs/608P-Student-Grievances.pdf) for more information.

Repeating a Course

Students normally are limited to two enrollments in a credit course that is not designated as repeatable for credit in the VCCS Master Course File or is not identified as a general usage course. Repeatable courses are listed below under "Course Repeat Exceptions." General usage courses are those courses numbered 90-190-290; 93-193-293; 95-195-295; 96-196-296; 97-197-297; 98-198-298; or 99-199-299.

There are currently two course repeat policies in effect based on when a student first took the course in question. This policy does not apply to credit courses that are designated as repeatable for credit in the VCCS Master Course File or are identified as general usage courses.

- For students who completed a course during any semester from Fall 1988 to Summer 2021 and repeated a course, only the last "A" through "F" grade earned, not the higher of the two grades, is counted in computing the cumulative or curriculum grade point average (GPA) calculations and for satisfying curricular requirements. When a course is repeated and the grade of "F" is earned, all grades, credits attempted, credits completed, and quality points for previous enrollments in that course are no longer applicable. Grades of "W," "X," and "I" shall not count as first or subsequent attempts for purposes of GPA calculation. Courses exempt from the course repeat policy (see exceptions) are not affected by this policy: each grade counts. For example, if a student takes MTH 161 in Spring 2020 and earns a B, then repeats the course in Fall 2024 and earns a D, the D grade would count instead of the B grade.
- For students who completed a course during any semester from Fall 2021 and beyond, and subsequently repeated the course, the highest "A" through "F" grade earned is counted in computing the cumulative and curriculum GPA and for satisfying curricular requirements. For example, if a student takes MTH 161 in Fall 2021 and earns a C grade; student repeats course in Spring 2022 and earns a D grade, then the C grade will count instead of D grade.

Repeating a course does not change a student's GPA for a given semester. A graduate's program and cumulative GPAs and Honors designations at the time of graduation will remain unchanged if the graduate repeats a course. A student is not entitled to repeat a course that is no longer offered by the College.

If a course has been discontinued and replaced by another course, the replacement course may be used to calculate both the cumulative and program GPA. However, the grade from the discontinued course will still be included in the cumulative and program GPA, unless the replacement course was specifically designated as a course that offers grade replacement for the discontinued course. A list of some courses that this applies to can be found here: Curricular Changes | Northern Virginia Community College Academic Catalog (https://catalog.nvcc.edu/curricular-changes/).

Students are advised that other colleges will have their own policy that will determine whether a grade can be accepted for transfer and they may also recalculate the GPA to include all courses, including those that NOVA does not count in the GPA. Please note: the course repeat and GPA recalculation processes are run at the end of each semester after the grade submission deadline has passed. They are only run one time per semester in batch.

Repeating a course does not change a student's GPA for a given semester. A graduate's program and cumulative GPAs and Honors designations at the time of graduation will remain unchanged if the graduate repeats a course. A student is not entitled to repeat a course that is no longer offered by the College. If the course has been replaced, the replacement course may be used in calculating the curriculum grade point average, but the grade in the previous course will be counted in the cumulative grade point average. Students are advised that other colleges may recalculate the GPA to include all courses, including those that NOVA does not count in the GPA. Please note: the course repeat and GPA recalculation processes are run at the end of each semester after the grade submission deadline has passed. They are only run only one time per semester in batch.

Course Repeat Exceptions

Normally, students may enroll a maximum of two times in a credit course that is not a general usage course or a course designated as repeatable for credit. Exceptions to this policy will be considered on a case-by-case basis when a student submits a Course Repeat Request Form (125-013 (https://dashboard.nvcc.edu/EForms/125-013)) to the academic division offering the course.

Credit courses that are designated as repeatable for credit in the VCCS Master Course File or are identified as general usage courses may be repeated for credit. Other than the general usage courses, only those courses designed to develop and maintain proficiency in the visual and

performing arts, or to meet requirements for certification or recertification in allied health or applied technology fields, may be designated as repeatable for credit. Examples are applied music courses, automotive emissions inspection courses, and theatre workshops. Students will be limited to 10 credits earned through multiple enrollments in the same course.

In addition to some visual and performing art classes, the following courses are exempt from the two-enrollment limit:

Code	Title	Credits
AUT		
AUT 215	Emissions Systems Diagnosis & Repair	2
AUT 225	Automotive Emissions Inspection	1
AUT 226	Advanced ASM Emissions Diagnostics	2
GOL		
GOL 135	Field Studies in Geology	1
General Usage Courses		
90, 190, 290; 93, 193, 293; 95, 195, 295; 96, 196, 296; 97, 197, 297; 98, 198, 298; and 99, 199, 299		

10 Year Course Limit for Some Technology Programs

For students pursuing the following programs

- Computer Science A.S.
- Cybersecurity A.A.S. and all related Career Studies Certificates
- Geographic Information Systems (GIS) C.S.C.
- Information Systems Technology A.A.S. and all related Career Studies Certificates
- Information Technology A.S.

Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses may not be older than ten years, as of the first day of the fall semester in the academic year a student plans to graduate, unless approved by the pathway dean.

Course Prerequisites

Some courses have prerequisites or corequisites. Course prerequisites or corequisites apply to all students taking a course, including those who are auditing a class. The authorization for a waiver of any prerequisite may be made only by the dean of the instructional division offering the course. Students are responsible for meeting all course prerequisites before enrolling. NOVA allows students to register while still completing a prerequisite, but if the prerequisite is not successfully passed, the subsequent course must be dropped. For help verifying prerequisites, consult the catalog or contact an academic advisor.

These requirements, which were established to foster a student's success in the course, are identified in the Course Descriptions section of this *Catalog*. Students, including auditors, may not enroll in a course for which they do not meet the prerequisites by the time the course begins. Students may be administratively dropped from any course for which they have not met the prerequisite.

In a course that requires placement tests, students must obtain the required minimum scores to enroll in a course or complete prescribed developmental studies or ESL courses before enrolling in the desired course. For alternatives to placement tests, see the "Placement (p. 40)" section of this catalog.

Student Development Courses

All curricular students, except those in some career studies certificate programs with fewer than 16 credits, are required to complete a one-credit student development course designed to help them succeed in college within their first semester of enrollment. Depending on the program of study, this may be SDV 100 College Success Skills or SDV 101 Orientation to: (a Specific Discipline). All SDV courses cover topics related to academic success, responsible decision making, and College information. Some sections address additional topics, and some are intended for students in specific programs.

NOVA students seeking a degree must take an SDV course within their first semester at the College, unless the requirement has been waived. SDV waivers may be granted for students who have graduated with an associate, baccalaureate or higher degree from a regionally accredited United States institution of higher education. Students still must complete the required total number of credits for their degree.

Course Substitutions for Students with Documented Disabilities

Otherwise qualified students with documented disabilities covered by the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973, as amended, who are, by reason of their disability, unable to complete a requirement of the program pursued by the student, with or without reasonable accommodations, may request an approved course substitution.

Substitutions will generally not be granted for any course that is deemed essential to the program of instruction being pursued by such student or to any directly related licensing requirement. If requirements are waived, students must successfully complete other courses to compensate for the credit hours. For more information, contact the Office of Accommodations and Accessibility (accommodations@nvcc.edu).

Transferring Credit to NOVA

NOVA allows previous academic study, examination, or career experience to be evaluated for possible College credit. Students may transfer a course into NOVA matching up to 80 percent of a course offered at NOVA. Students must be enrolled in at least one credit class at NOVA and placed in an academic program before their transcripts may be evaluated for transfer credit. No more than 75 percent of a degree or certificate may be earned through transfer credit and/or credit for prior learning. Only credit applicable to a student's academic program will be transferred. Prior learning credits that are to be used to meet the specific requirements of a curriculum must be approved by the academic dean responsible for a student's curriculum. Official NOVA transcripts will not be issued until a student has completed at least one NOVA class.

Credit from Other Colleges and Universities

NOVA accepts transfer credit for college-level courses completed at an accredited college with a grade of "C" or higher (a C- is considered below a C and it is not accepted for transfer), provided the courses are consistent with the course requirements of the curriculum in which the student enrolls at NOVA. To have such credit evaluated, students must submit an official transcript from their previous institutions to the College Records Office via asktheCRO@nvcc.edu or a Student Services Center on any campus. An official transcript is one that has

the seal of the institution or testing organization and the signature of an official of that institution or organization. An official transcript must be received electronically directly from the transcript company or in a sealed envelope from the originating institution that has no overt sign of having been opened or otherwise disturbed. NOVA's College Records Office prefers the electronic process as a primary method of sending transcripts. Students should have their institutions directly send their electronic transcripts through Parchment or the Clearinghouse. Students can mail paper transcripts to NOVA's College Records Office at the following address:

Northern Virginia Community College
College Records Office FX - P3
3924 Pender Dr.
Fairfax, VA 22030

If students decide to hand deliver their transcripts to any campus Student Services Center, the transcripts must be in acceptable condition, such that the receiving registrar has confidence that the record received is authentic and official. Official transcripts that are sent to College faculty also may be accepted.

International transcript evaluations should be sent electronically or to College Records at the address above rather than to a campus. Students who have earned college credit from universities outside the United States must have their credit evaluated by an international credit evaluation agency before submitting it to the College. NOVA accepts international transcript evaluations from World Education Services (WES at http://www.wes.org/students/index.asp (https://www.wes.org/)), the International Education Research Foundation (IERF at http://www.IERF.org (http://www.ierf.org/)), Educational Credential Evaluator (ECE at https://www.ece.org), and Foreign Credentials Services of America (FCSA at http://foreigncredentials.org). NOVA will accept American Association of College Registrars and Admissions Officers (AACRAO www.aacrao.org (https://www.aacrao.org/)) transcript evaluations dated prior to August 2016.

Credit for Prior Learning

NOVA recognizes prior college-level learning from nontraditional sources. Students may request an evaluation of professional trainings, certifications, or college-level coursework by submitting the appropriate documentation specified in the Credit for Prior Learning Manual and filling out the Transfer Credit Evaluation Request Form 125-049E (https://dashboard.nvcc.edu/Eforms/125-049) for all prior learning except Advanced Placement (AP), International Baccalaureate (IB), and CLEP exam scores. The Credit for Prior Learning Manual is updated annually and has an effective implementation date of the first day of the Fall semester of each academic year. Consult NOVA's Credit for Prior Learning Manual at https://www.nvcc.edu/prior-learning (https://www.nvcc.edu/prior-learning/). For complete information and a list of credit for prior learning opportunities contact an academic advisor. Credit for prior learning is available to students for nontraditional educational experiences that fall into the following categories:

- credits from Post-Secondary institutions (i.e., Transfer Credit).
- credit by Exams (e.g., College Level Examination Program (CLEP), DANTES, UExcel, Advanced Placement (AP), International Baccalaureate (IB), Abitur, and more).
- credits from nontraditional program completion (e.g., professional training programs, approved online training programs, and/or military training).
- credit by Experiential Learning Portfolio Development, (formerly known as PLACE), a NOVA program for adults who have acquired college-level learning through life experiences, such as work, volunteer activities, participation in civic and community assignments, travel, independent study, and more.

For more information, see CPL Manual (https://www.nvcc.edu/admissions/cpl.html) or email CPL@nvcc.edu (cpl@nvcc.edu).

Foreign Language Credit

Students who have completed two years of a single foreign language in high school or whose native language is not English have the following options:

- request assessment by the College faculty if it is a language currently taught at NOVA. Such assessment could place the student into levels above the introductory course in the foreign language sequence. For students who are granted advanced placement, additional general electives may have to be completed to meet the minimum credit requirements for the degree.
- take a CLEP, NYU or other approved foreign language exam. Students who achieve a satisfactory score will be awarded credit for the foreign language that may be used toward completion of a degree.
- request a waiver of the foreign language requirement for those who are proficient in a foreign language not offered by NOVA or through examination. Proficiency is generally indicated if the student has at least the equivalent of a high school diploma from an institution where the primary language is other than English. If the foreign language requirement is waived, additional open electives must be completed to meet the minimum credit requirements for the degree. To receive the waiver, students must submit a high school transcript or other official documentation indicating that the language of instruction was not English the College Records Office (CRO), AsktheCRO@nvcc.edu.

Academic and Graduation Honors

Academic excellence recognitions can be viewed online on a student's unofficial transcript through myNOVA at https://portal.my.vccs.edu (http://www.nvcc.edu/novaconnect).

The College provides the following recognitions for academic excellence:

Presidential Scholars

A student's name will be placed on the Presidential Scholars list for any semester that his/her grade point average is 3.75 to 4.00. The student must have completed at least nine semester hours in the current semester (excluding developmental courses) and have earned a minimum of 20 semester hours of credit at NOVA.

Dean's List

A student's name will be placed on the Dean's List for any semester that his/her grade point average is 3.50 to 3.74. The student must have completed at least six semester hours in the current semester (excluding developmental courses) with no grade lower than "C."

Graduation Honors

Students attending NOVA for a minimum of 30 credit hours in degree programs are eligible for graduation honors. Those attending NOVA for a minimum of 50 percent of the credit hours in their certificate program are eligible for graduation honors. Career Studies Certificates are not eligible for graduation honors. Students must apply online for graduation

to be eligible for graduation honors. Graduation honors are determined by the student's cumulative grade point average at the completion of the semester for which he/she is certified for graduation.

Appropriate honors are based on scholastic achievements and recorded on the degree or certificate as follows:

Cumulative Grade Point Average	Honor
3.20	Cum Laude (with honor)
3.50	Magna Cum Laude (with high honor)
3.80	Summa Cum Laude (with highest honor)

Graduation

Graduation Application

Students can apply for graduation online at the beginning of the semester they intend to graduate. Visit www.nvcc.edu/graduation (http://www.nvcc.edu/graduation) and click on Application for Graduation. Students must observe the application deadline dates: October 1 for Fall graduation, March 1 for Spring graduation, and June 1 for Summer graduation. Applications received after these dates will be processed for the following semester. If requirements are not met by the end of the awarding period, students must apply for graduation in the subsequent semester.

Associate Degree and Certificate Requirements

To be eligible for graduation with an associate degree (A.A., A.S., A.F.A., A.A.A., or A.A.S.), certificate, or career studies certificate from the College, students must have:

- been admitted to a curriculum (declared a major);
- completed all curricular requirements as outlined in the College *Catalog* including receiving a passing grade in all of the coursework and fulfilling the credit hour requirements. The *Catalog* to be used to determine graduation requirements is the one in effect at the time of the student's admission to a curriculum from which the student is graduating. If a student elects not to attend NOVA during the academic year admitted, the Catalog would be the one in effect when the student begins attendance or any subsequent *Catalog* of the student's choice as long as it is from an academic year in which the student attended NOVA. The Catalog to be used in certifying the student's graduation may not be more than seven academic years old at the time of graduation. For example, a student placed in the 2019-2020 catalog year may be eligible to graduate up until Summer 2026;
- taken courses at NOVA that total at least 25 percent of the credit to be applied to the curriculum (ABLE credit does not count toward the residency requirement);
- earned a grade point average of at least 2.00 in courses attempted that are applicable toward graduation in the curriculum;
- applied for graduation online on or before the published dates; and
- resolved all financial obligations to the College and returned all materials, including library books.

Additionally,

- students in programs that have been discontinued must graduate within 3 years from the term of discontinuation and
- certificate and career studies certificate candidates enrolled in a program of more than 15 credits must also complete a Student Development (SDV) course even if none is required for a specific curriculum.

Multiple Degrees

Students should be placed in only one degree (i.e., A.A.S., A.S., A.F.A.) at a time, but as needed, may be placed into a maximum of two degree plans simultaneously. In addition, students may be placed into a maximum of three additional stackable career studies or other certificates.

Students who wish to earn a degree, diploma, certificate, or career studies certificate in addition to any other degree, diploma, certificate, or career studies certificate must complete all requirements of both programs, and the awards must differ in content from one another by at least 25 percent of the credits.

Certificates of Completion

Program administrators may award a certificate of completion for successful completion of a cohesive set of courses for which no standard award (degree, certificate, or career studies certificate) is given. Certificates of completion may be given for completion of credit or noncredit courses. These awards are conferred by program administrators, not by the College, so recipients are not considered College graduates and are not eligible to participate in Commencement. Certificates of completion are not recorded on the student's official transcript.

Posthumous Degrees

Upon request, posthumous degrees may be awarded to students who were in their last semester of study and/or within 15 credits of degree completion at the time of death. The degree award must be approved by the Chief Academic Officer/Vice President for Academic Affairs. The diploma will bear the notation "Awarded Posthumously".

Issuing of Diplomas

Diplomas are issued at the end of each term after final verification of grades and completion of requirements. Diplomas will be mailed to the address the student entered in his/her online graduation application. Students will receive only one diploma for each degree or certificate earned. For students who complete additional coursework after the awarding of a degree, the cumulative and new plan grade point averages (GPAs) will be affected, but not the GPAs entered when the degree was awarded. The updated grades and GPAs will be reflected on the student's transcript but will not have any bearing on the diploma.

Participation in the Commencement Ceremony

"Commencement" is the ceremony held to celebrate graduation. Students are eligible to participate in the Commencement ceremony if they completed their program requirements during or prior to the current academic year. For example, this means that students who have completed their program requirements in Spring 2026, Fall 2025, Summer 2025, or earlier may participate in the Spring 2026 Commencement Ceremony. Spring Semester graduation applicants who participate in the Commencement ceremony are not guaranteed the awarding of a degree, and graduation applicants still must successfully complete their program requirements to graduate from NOVA. Students must apply to participate in the commencement ceremony in addition to and separately from applying for graduation. Students who have completed only the Uniform Certificate of General Studies are not eligible to participate in the Commencement ceremony.

Transcripts

The official NOVA transcript of a student's academic record can be requested by searching Transcript Request and ordering a transcript through Parchment eTranscript Service for a fee. Transcripts will be sent electronically within 24-48 hours, or students can request a paper copy for an additional fee. Students may print their own unofficial transcript through myNOVA.

Transfer from NOVA

Since admission policies and program requirements vary among four-year colleges, all students need to be acquainted with the specific requirements of the college or university of their choice. Students should consult and work closely with an academic advisors in transfer planning and for designing an appropriate NOVA program of study.

NOVA offers transfer programs that lead to the associate of arts (A.A.) degree, the associate of fine arts (A.F.A) degree, or the associate of science (A.S.) degree. These programs are designed for students who plan to complete the freshman and sophomore years of college work at the community college and then transfer to a four-year college or university to complete the junior and senior years of a bachelor's degree. Some four-year colleges will accept certain associate of applied science (A.A.S.) and associate of applied arts (A.A.A.) programs, but each institution has a different policy.

The College transfer website, www.nvcc.edu/transfer (https://www.nvcc.edu/transfer), is a good first stop in planning one's transfer from NOVA to a four-year institution. Guaranteed admission and articulation agreements, four-year school transfer guides and admission information, campus transfer events, and more, are all linked on this site. After viewing the site, a follow-up visit with a campus transfer advisor is recommended.

Only courses with a grade of "C" or better are accepted for transfer even if the student has an A.A. or A.S. degree. Students must submit a completed transcript request form online through myNOVA or to a NOVA Student Services Center to have an official copy of their transcript forwarded to the intended transfer college or university.

The State Council of Higher Education for Virginia (SCHEV) and the State Board for Community Colleges have endorsed a State Policy on Transfer. This policy gives guidelines for Virginia community colleges and state-supported senior institutions on admission of transfer students, acceptance and application of transfer credits, services for and responsibilities of transfer students, and guidelines for students who transfer without an A.A. or an A.S. degree. More information is available on the Transfer VA portal: https://www.transfervirginia.org.

Guaranteed Admission and Articulation Transfer Agreements

NOVA has formal guaranteed transfer partnerships, guaranteed admission and articulation agreements with many institutions. These agreements detail the terms of transfer for NOVA students completing associate degree programs. They define the way courses, programs, or entire categories of programs transfer to another institution and may include admission guarantees. Advisors can provide students with more specific information on how these agreements relate to individual transfer plans. For a current list of agreements, visit the transfer services website at www.nvcc.edu/transfer (https://www.nvcc.edu/transfer).

Academic Standing

Students are considered in good academic standing if they maintain a semester minimum GPA of 2.00, are eligible to reenroll at the College, and are not on academic suspension or dismissal status. Students who are on academic warning or academic probation but are eligible to reenroll may be considered eligible to receive financial aid assistance or other benefits requiring a "good academic standing" status.

Students who are having academic difficulty will have one of the following official indications appear in their grade report in myNOVA. Students will be notified by email if they are placed under Academic Warning, Probation, Suspension, or Dismissal.

To learn more about the Academic Standing policy and related procedures, see NOVA Policy 203 (https://www.nvcc.edu/dist/files/sites/policies/pdfs/203-Academic-Standing.pdf).

Academic Warning

Students who fail to maintain a minimum grade point average of 2.00 for any semester will receive an academic warning. Students on academic warning are encouraged to consult with their advisor and take advantage of academic support services provided by the College.

Academic Probation

Students who fail to maintain a minimum cumulative grade point average of 1.50 will be placed on academic probation until their grade point average reaches 1.75 or better. The statement "Academic Probation" will be included on the student's permanent record. Students on probation are ineligible for appointive or elective office in student organizations unless special permission is granted by the dean of student success#or another appropriate College administrator. Students may be required to carry less than a normal load the following semester and are required to consult with their advisor.#Students shall be placed on probation only after they have attempted 12 semester credits.

Academic Suspension

Students who are on academic probation and fail to attain a semester GPA of 1.50 or better shall be placed on suspension only after they have attempted 24 semester credits. Academic suspension will be for one semester. The statement "Academic Suspension" will be placed on the student's permanent record. Students who are placed on academic suspension and wish to appeal should follow the appeal process established by the College. Students may be reinstated at the conclusion of the suspension period by using the Reinstatement Request form (125-027 (https://dashboard.nvcc.edu/eForms/125-027)) and following the process established by the College.

Students who have been reinstated from academic suspension must achieve a 2.00 GPA for the semester of their reinstatement and must earn at least a 1.75 GPA in each subsequent semester of attendance. The statement "Subject to Dismissal" will be placed on their permanent record. Students who have been reinstated from academic suspension will remain subject to dismissal until their cumulative GPA is raised to a minimum of 1.75. Reinstated students may be required to carry less than a normal course load the following semester and are required to consult with their advisor. Reinstated students are encouraged to take advantage of additional academic support available to them.

Academic Dismissal

Students who do not attain at least a 2.00 GPA for the semester of reinstatement following academic suspension will be academically

dismissed. Students who achieve at least a 2.00 GPA for the semester of their reinstatement following academic suspension must earn at least a 1.75 GPA in each subsequent semester of enrollment. Failure to attain a 1.75 GPA in each subsequent semester until the cumulative GPA reaches 1.75 will result in academic dismissal. The statement "Academic Dismissal" will be placed on the student's permanent record.

Academic dismissal is normally final, but students who believe they have an exceptional case may appeal for reinstatement following an absence of five years (60 months).

Please review the Academic Standing Policy.

Academic Renewal

Students who return to the College after **three** (3) years (9 terms) or more without taking NOVA courses for credit may petition for academic renewal. The request must be in writing and submitted to a campus Student Services Center.

For students who are found to be eligible for academic renewal, "D" and "F" grades earned prior to reenrollment will be deleted from the cumulative and curriculum grade point average (GPA), subject to the following conditions:

- prior to petitioning for academic renewal, the student must demonstrate a renewed academic interest and effort by earning at least a 2.00 GPA in the first 12 semester hours completed at NOVA after reenrollment.
- all grades for credit courses received at the College will be a part of the student's official transcript.
- the student will receive degree credit only for courses in which grades of "C" or better were earned prior to academic renewal, providing that such courses meet current curriculum requirements.
- total hours for graduation will be based on all coursework taken at the College after readmission, as well as former coursework for which a grade of "C" or better was earned, and credits accepted from other colleges or universities.
- the academic renewal policy may be used only once and cannot be revoked after approval by the dean of student success.
- academic renewal cannot be applied to a degree or certificate that has already been conferred.

Academic Offerings and Initiatives

Apprenticeship Training

Apprenticeship training programs are approved through the Apprentice Division of the Virginia State Department of Labor and Industry. Formal apprentice training programs are subcontracted by the Virginia Community College System to local school boards. These programs include approved on-the-job experiences and related instruction classes. NOVA offers many of the related instruction classes specified in apprenticeship programs. In addition, NOVA offers certificates associated with apprenticeship programs in air conditioning and refrigeration at the Woodbridge Campus.

Cooperative Education and Internships

Cooperative Education and Internship courses provide the opportunity for students to apply the concepts and skills learned in the classroom to a job situation. The professional and technical experience gained through work-based learning experience establishes a record of performance in one's career field and eases entry into a permanent career position.

To be eligible to participate in Cooperative Education or Internship courses, students must have:

- declared a major in a NOVA degree or certificate program;
- successfully completed 12 semester hours of college work or the equivalent, including transfer credit;
- successfully completed at least six credits from NOVA;
- successfully completed a minimum of two courses (for at least six credits) directly related to the program of study and internship;
- obtained a 2.00 or better grade point average; and
- obtained divisional approval after a review of the student's academic/employment record and a determination of his/her potential for success in a co-op position or internship.

These are the minimum qualifications to participate in the credit internship program at NOVA; individual programs may have additional requirements that will also need to be met.

Credit earned in Cooperative Education and Internship courses may be used as a substitute for up to 10 credits of coursework in selected degree programs if approved by the student's academic advisor, used for elective credit, or earned as additive credit. For more information, see www.nvcc.edu/co-op (http://www.nvcc.edu/co-op).

G3 Initiative

The Governor's Get Skilled, Get a Job, Give Back (G3) initiative is a last-dollar grant for eligible students after all other qualified federal and state financial aid are applied. G3 is a limited pool of funds and will be awarded on a first-come/first-served basis as eligibility is determined. Only students placed in certain Associate of Applied Science and Certificate programs are eligible for G3. More information is available on NOVA's G3 webpage (https://www.nvcc.edu/g3/).

Developmental Studies

Developmental courses are offered to prepare students to succeed in the College transfer and career/technical programs. These English (EDE) and mathematics (MDE) courses are designed to develop the basic skills and understanding needed for success in other courses and curricula. Some MDE and EDE courses are offered as corequisites to MTH and ENG classes, to provide support for the college-level courses. Students can take college-level courses along with developmental courses. In other cases, students must complete developmental courses before enrolling in certain courses or being admitted to a curriculum.

Credits earned in these courses are not applicable toward associate degree, certificate, or career studies certificate programs.

A wide variety of instructional methods and materials are used at the College for developmental courses. EDE and MDE courses are offered in a variety of formats. Students who have any questions should check with an academic advisor.

English as a Second Language (ESL) Programs

NOVA ESL programs support students whose primary language is not English in accessing American higher education, entry or advancement in the workforce, or language improvement. NOVA ESL students may be residents of Northern Virginia, students with F-1 status, or other visitors to the United States. NOVA offers courses through College ESL and the American Culture & Language Institute (ACLI). In both ESL programs, students acquire fluency, enhance their ability to express nuanced ideas, and gain greater control of linguistic complexities.

College ESL builds the literacy and critical thinking skills necessary for success in American higher education. College ESL consists of four levels of instruction from low-intermediate ESL through advanced ESL. Students in the top two levels of instruction are often concurrently enrolled in college-level courses in a variety of disciplines.

The ACLI is housed in NOVA Workforce. ACLI offers ESL classes to residents of Northern Virginia and other visitors in its Part-Time ESL and Career Readiness Programs, and to students with F-1 status in its Intensive English Program. ACLI courses range from introductory to high-intermediate-level ESL. They prepare individuals for entry into College ESL and academic studies or for advancement in the workforce. ACLI courses are fee-based.

Students take a placement test to assess their English proficiency prior to enrolling in ESL courses at NOVA. More information can be found in the "Placement" section of this catalog and on NOVA's ESL Website at https://www.nvcc.edu/nova-esl/college/index.html (https://www.nvcc.edu/nova-esl/college/).

NOVA Online

NOVA Online offers online learning courses. NOVA Online courses are designed to offer "anytime access" to higher education from the convenience of one's home or office. Online courses are primarily web-based and require access to the Internet. Courses are designed to do the following:

- create a community of learners
- support communication between student and faculty
- guide students to valuable and appropriate resources

Some things to consider when choosing an online learning course are the following:

- To be successful, students need strong reading and time-management skills and must be self-disciplined and motivated.
- Additional technology may be required, including web conferencing software for live meetings or office hours; using live chat or social media tools like Twitter, or interactive websites, in addition to accessing materials in Canvas.
- Some online courses require in-person meetings or labs, and some require live meetings attended from home via web conferencing.
- Many NOVA Online courses require at least two proctored exams or assessments. Students should follow the instructions in their course syllabus for specific requirements. Examinations in NOVA Online may be proctored using tools like Respondus Monitor and Respondus Lockdown Browser, Zoom Live, or Honorlock. Under special circumstances students may need to secure a NOVA-approved exam proctor.
- Some online learning courses allow students the flexibility to work ahead on their own and complete a course early, while others require students to keep the same basic pace as their classmates. Be sure to check individual course descriptions for specific requirements or contact the individual instructor with questions.

Program Administration

Some degrees and certificates can be completed partially or entirely through NOVA Online. Prospective degree candidates should contact an academic advisor to plan their program of study.

Textbooks

Textbooks for NOVA Online courses might not be the same as those used on campus, so students should check the NOVA Online bookstore specifically when looking for textbook information. NOVA Online books may be purchased or rented through the Alexandria Campus bookstore or ordered online at https://nvcc-alexandria.bkstore.com.

Assignments

Students are required to submit assignments by specific due dates. Students who do not submit at least one assignment by the specified deadline will be administratively dropped from the course. Courses may also contain other progress requirements that students must meet to avoid being administratively withdrawn.

Honors

Qualified, highly motivated students may enrich their study through participation in NOVA's Honors Program or by enrolling in individual Honors courses. Honors Lead Faculty are available at each campus to help students decide if the Honors Program or specific Honors courses will help the students progress towards their academic goals. Student Services Center staff, advisors, and advising specialists also provide students with further information regarding the Honors Program and available courses.

Honors courses incorporate the R.E.A.L. components: Research, Experiential Learning, Academic Rigor, and Leadership. These four Honors components ask students to go beyond the basic course material through the development of discipline-specific critical thinking and the incorporation of skills-based learning. Within these courses, students are encouraged to think independently, to participate actively in discussions, and to collaborate with their fellow Honors students, which contributes to building a community of highly engaged peers. These courses stimulate broader and deeper consideration of the subject matter and encourage the exploration of the interrelationships of ideas across disciplines.

Each Honors course has a special transcript indicator. Universities and employers often favor students who seek the greater challenges offered by Honors courses.

Honors course offerings may vary from campus to campus and by semester. Typically, Honors courses are offered as follows:

- **honors courses:** special sections are designated as full Honors courses with an average of 16-18 students in a seminar-style setting, restricted to Honors students and eligible students only, and
- **honors options:** regular course sections in which Honors students complete the REAL Honors components as an amendment to the course curriculum.

Eligibility

Eligibility for Honors Courses

Students must complete all course prerequisites **and** meet at least **one** of the criteria listed below:

- score at least 1200 out of 1600 on the SAT Evidence-Based Reading and Writing, and Math sections with a score of at least 600 on each section; **or**
- demonstrate a combined ACT score of 25 or higher; **or**
- document a cumulative GPA of at least 3.5 at the last academic institution attended (high school, college, or university), however, once a student completes 6 credits of college coursework, the GPA requirement (3.5+) takes precedence over all other criteria; **or**

- present recommendations from two high school teachers (if currently a high school student) or from two college teaching faculty from courses taken at a college or university.

Eligibility for the Honors Program

Students who meet at least one of the criteria listed above are invited to apply for admittance into the Honors Program. Depending upon other factors, students may be required to have successfully completed at least 3 credits of Honors courses in order to be admitted to the Program.

The Honors Program

The Honors Program provides a comprehensive, educational experience for Honors students and allows them to interact as a community of learners. The Honors Program is designed to provide motivated students with an enriched program of study that includes, but is not limited, to:

- academic scholarships
- presenting at Honors symposia and conferences
- field trips
- campus and community service projects
- internships
- leadership opportunities
- campus- and College-wide honors events
- exemplary guest speakers
- letters of recommendation
- special transfer opportunities to selective institutions

The Honors Curriculum

The Honors Program is distinguished by its Honors Core Curriculum, comprised of specific courses within the categories listed in the following chart:

Code	Title	Credits
Languages, Arts, and Social Sciences (LASS) Honors Courses		6
Mathematics, Sciences, Technologies and Business (MSTB) Honors Courses		6
Honors Project [1]		0
Total Credits		**12**

[1] To satisfy the Honors Project requirement, students must submit a proposal to their campus Honors Lead Faculty outlining how they intend to meet this requirement. This proposal is due the semester before the one in which the experience will take place. Upon completion of the project, students must submit a reflection or report detailing their personal and academic growth as a result of the experience. This final report is due by the end of the semester in which the project is completed.

The Honors Project requirement may be satisfied by successfully completing one of the activities listed below or an equivalent, as determined by the Honors faculty:

- complete a supervised, reflective interdisciplinary research paper produced separately from an Honors course; or
- present at Honors symposium or approved Honors conference of which NOVA is a member; or
- at least twenty hours of supervised, verifiable community service; or
- completion of a credit-bearing internship[1] (3-credit minimum) to be taken in the place of an Honors elective; or
- noncredit internship[1] of at least 20+ working hours; or credit-bearing study abroad to be taken in place of an Honors elective; or
- completion of an Honors Portfolio, which reflects upon or summarizes their Honors experience at NOVA.

- a supervised, reflective interdisciplinary research paper produced separately from an Honors course;
- a presentation at the Honors symposium or an approved Honors conference of which NOVA is a member;
- twenty hours or more of supervised, verifiable community service;
- a credit-bearing internship* (3-credit minimum) to be taken in place of an Honors elective;
- a noncredit internship* of at least 20 working hours;
- a credit-bearing study abroad to be taken in place of an Honors elective; or
- an Honors Portfolio, which reflects upon or summarizes their Honors experience at NOVA.

*Additional specific guidelines may apply for both credit-bearing and noncredit Interdisciplinary Experience opportunities. Please confirm with the Honors Lead Faculty on your campus for additional details.

Honors Certificate

Students also have the option of earning a 6-credit Honors Certificate, instead of the Honors Curriculum. The 9 credits of Honors or Honors Option credits can be from any discipline across the college. Students who complete the Honors Certificate will receive an Honors Certificate of Completion, but the honor will not be designated on the student's official transcript and diploma. Completion of the Honors Certificate does not require completion of an Honors Project.

Honors Program Completion

Students may satisfy the requirements of both the Honors Program and their degree program by enrolling in the Honors or Honors options courses within the degree program requirements. Campus Honors Lead Faculty, and advisor can assist students with course selection. Continuation in the Honors Program is contingent upon a student maintaining good academic standing and adhering to the Student Code of Conduct. To graduate with Honors, a student must maintain a cumulative GPA of 3.0 or higher AND an Honors GPA of 3.275 or higher with no Honors course grade below a "C." Completion of the Honors Curriculum will be designated on the student's official transcript and diploma. Students will also receive the Honors Certificate of Completion. This represents a significant enhancement of one's academic credentials. (contact a campus Honors Lead Faculty for more guidance).

Military-Related Programs

ROTC (Army/Air Force)

NOVA, the Air Force ROTC, and the University of Maryland have established an agreement to make the Air Force ROTC General Military Course and/or Professional Officer Course available to qualified NOVA students who wish to earn an appointment as a commissioned officer in the U.S. Air Force. For more information, contact the University of Maryland Air Force ROTC office.

Professional Studies Coursework

Some individuals may wish to prepare for study leading to advanced professional degrees in such fields as dentistry, law, medicine, occupational therapy, optometry, pharmacy, physical therapy, and

veterinary medicine. Through NOVA, students can pursue some foundation coursework to facilitate this goal.

NOVA does offer a number of programs in the allied health professions; however, these programs have restricted admission. Visit www.nvcc.edu/medical (http://www.nvcc.edu/medical) to learn about admission to these programs.

Students who wish to meet professional goals by enrolling in nonrestricted foundation coursework should consult an academic advisor.

Study Abroad

NOVA offers occasional study abroad (https://www.nvcc.edu/academics/study-abroad/#:~:text=Please%20get%20in%20touch%20with,at%20studyabroad%40nvccedu) opportunities under a variety of disciplines. They are treated as regular credit courses, requiring registration for the course, satisfaction of prerequisites, and assignments completed for a final grade. Study abroad courses count toward the residency requirement for program completion. The related travel expenses are the responsibility of the student. Contact studyabroad@nvcc.edu for more information.

Workforce Development

The Workforce Development Division helps to plan and provide many types of programs to meet special interests within the community. The topics vary from job skills to personal enrichment interests. Workforce development services for business, industry, and professional organizations provide special courses at NOVA for their employees. These programs can be taught at the College or in the workplace. Many noncredit programs are offered each semester. A listing of the continuing and community education courses offered at each campus can be found online at www.nvcc.edu/workforce (http://www.nvcc.edu/workforce).

Continuing Education Units (CEU) for Noncredit Courses

The College awards Continuing Education Units (CEU) upon completion of most noncredit courses. One CEU represents 10 hours of participation in workforce development and continuing education courses. CEUs are a nationally recognized standard unit of measurement that has been adopted for postsecondary courses not carrying academic credit. Permanent CEU records are maintained by NOVA. CEUs are increasingly accepted as evidence of educational accomplishment and for professional certification.

ACADEMIC PROGRAMS AND REQUIREMENTS

Degrees and Certificates

Northern Virginia Community College offers two-year associate degrees, one-year certificates, and short career studies certificates. The requirements for completion of these awards are determined by the College faculty and are intended to meet the requirements specified by the Commonwealth of Virginia, the Southern Association of Colleges and Schools Commission on Colleges, and certain specialized accrediting agencies.

Terminology

Unless otherwise noted, the term *program* refers to an associate degree with its own curriculum code and all related major, specializations, certificates, and career studies certificates. The Virginia Community College System defines a *major* as a grouping of 100- and 200-level courses that define a discipline or interdisciplinary specialty. Associate of Science (AS) and Associate of Arts (AA) degrees have majors. A *degree program* is a broadly structured curriculum leading to the award of an associate degree and is listed on a student's diploma. A *specialization* is an area of concentration that varies from the parent degree by 9-15 credits. Associate of Applied Science (AAS) degree has specializations. A *certificate* is awarded for the completion of an approved non-degree curriculum consisting of 30-59 semester credit hours, usually in a career area; a minimum of 15 percent of a certificate's credit hour requirement will be in general education including one three-credit-hour English course. A *career studies certificate* is awarded for the completion of an approved non-degree curriculum of 9-29 semester credit hours in length.

Associate of Arts Degree (A.A.)

Awarded for the completion of two-year curricula in liberal arts. The A.A. degree is designed for those who plan to transfer to a four-year, degree-granting institution to complete a Bachelor of Arts (B.A.). A complete list of NOVA's A.A. degree programs can be found at the end of this *Catalog*.

Associate of Science Degree (A.S.)

Awarded for the completion of two-year curricula in a variety of preprofessional programs. The A.S. degree is designed for those who plan to transfer to a four-year, degree-granting institution to complete a Bachelor of Science (B.S.). A complete list of NOVA's A.S. degree programs can be found at the end of this *Catalog*.

Associate of Fine Arts Degree (A.F.A.)

Awarded for the completion of two-year curricula in the fine and performing arts. The A.F.A. degree is designed for those who plan to transfer to a four-year degree-granting institution to complete a Bachelor of Fine Arts or similar degree in fine arts and/or visual or performing arts. A significant portion of the A.F.A is in general education that is typical of the first two years at a four-year institution. A complete list of NOVA's A.F.A. degree programs can be found at the end of this *Catalog*.

Associate of Applied Arts Degree (A.A.A.)

Awarded for completion of two-year curricula primarily designed to prepare a student for employment in jobs in fine arts, music, and photography. These curricula are not designed for transfer to a four-year college or university. However, in some limited cases, the A.A.A. degree or selected career courses may transfer, and there may be articulation arrangements with senior institutions to facilitate such transfer. A complete list of NOVA's A.A.A. degree programs can be found at the end of this *Catalog*.

Associate of Applied Science Degree (A.A.S.)

Awarded for completion of two-year curricula designed to prepare students for employment in a technical field immediately following graduation. In some A.A.S. degree programs, one or more Summer Sessions may be required. These curricula are not designed for transfer to a four-year college or university. However, in some limited cases, the A.A.S. degree or selected career courses may transfer, and there may be articulation arrangements with senior institutions to facilitate such transfer. A complete list of NOVA's A.A.S. degree programs can be found at the end of this *Catalog*.

Certificate (C.)

Awarded for the completion of various curricula of study less than two years in length, totaling between 30 and 59 credits, at least 15 percent of the credits must be in general education, including at least 3 semester credits of English (ENG). Certificates must also include at least 1 semester credit in a Student Development (SDV) course.

Most certificates prepare students for a specific job or aspect of a job. Some certificates are part of an associate degree program, in which case the credit earned in the certificate may be used toward the degree. These curricula typically are not designed for transfer to a four-year college or university. The Uniform Certificate of General Studies (UCGS) is an exception; it does not prepare students for employment, but is designed to transfer. A complete list of NOVA's certificate programs can be found at the end of this *Catalog*.

Career Studies Certificate (C.S.C.)

Awarded for a specific group of career-related courses totaling between 9 and 29 credits. Career studies programs are designed for enhancement of job/life skills, retraining for career changes, and/or investigating new career possibilities. Credit earned in most career studies certificates may be used to meet the requirements in related certificate and degree programs, although a few are not closely related to a degree or certificate. A complete list of NOVA's career studies certificate programs can be found at the end of this *Catalog*.

Degree Requirements

The following grid shows the number of credit hours required for each component of a degree.

Components	A.A.	A.S.	A.A.A.	A.A.S.	A.F.A.
Written and Oral Communication [1]	6-9	6-9	6	3	6
Humanities/ Fine Arts/ Literature [2]	6	6	3	3	3-9
World Language (Intermediate) [3]	6	-	-	-	-
Social/ Behavioral Sciences [4]	6	6	3	3	3-9

Mathematics[5]	3	3-6	3	3	3
Physical and Life Science[6]	4	4-8	3	3	4
Minimum Total General Education Requirements	31-34	25-35	15	15	22-28
SDV Elective[7]	1	1	1	1	1
Elective and Major Area Requirements[8]	25-31	24-37	44-53	44-53	31-37
Total Credits[9] *	**60-63**	**60-63**	**60-69**	**60-69**	**60-63**

* Minimum credits required for each degree program as specified by the Virginia Community College System.

[1] Written and Oral Communication

A.A., A.S. and A.F.A. degrees require ENG 111 College Composition I and ENG 112 College Composition II. A 3-credit oral communication course is also required. For the A.S. degree, a 3-credit oral communication course is required except when it conflicts with the VCCS common curriculum.

A.A.A. degrees require 3 credits in English composition (ENG 111 College Composition I, or ENG 115 Technical Writing) and an oral communication course.

A.A.S. degrees require 3 credits in English composition (ENG 111 College Composition I, or ENG 115 Technical Writing).

See the "General Education Electives (p. 49)" section for a list of approved general education courses.

[2] Humanities/Fine Arts

Humanities requirements may be met by selecting courses in art (ART), 200-level literature (ENG), humanities (HUM), music (MUS), philosophy (PHI), religion (REL), American Sign Language (ASL), and 200-level foreign language courses. See the "General Education Electives (p. 49)" section for a list of approved general education humanities/fine arts courses. **Must be from two different categories.**

AFA programs cannot require both 9 credits of humanities/fine arts courses and 9 credits of social/behavioral science courses. AFA programs must include a 200-level literature course as one of the humanities/ fine arts requirements.

[3] World Language

Students who are in an A.A. program must demonstrate proficiency in a world language through the intermediate (201-202) level, which is consistent with the lower division requirements for most B.A. degrees. Waivers or credit by exam (for example CLEP, AP, or NYU exam) for previous experience may be available for some languages. When this requirement is waived due to a placement test, the credits must be replaced using General Education Electives (p. 49) courses.

[4] Social/Behavioral Sciences

One Social/Behavioral Science course must be a General Education History course.

AFA programs cannot require both 9 credits of social/behavioral science and 9 credits of humanities/fine arts electives.

See the "General Education Electives (p. 49)" section for a list of approved general education social/behavioral science courses.

[5] Mathematics

A.A. and A.S. degrees require a minimum of 3 credits in mathematics at or above MTH 154 Quantitative Reasoning. The A.S. in General Studies requires only 3 credits of mathematics.

A.A.A., A.F.A., and A.A.S. degrees require a minimum of 3 credits in mathematics or 4 credits of physical/life sciences.

Note that the mathematics courses offered by NOVA changed in Fall 2018. Please see an advisor if you have questions about how old math courses can be applied to new degree programs and how the new math courses can be applied to programs begun prior to Fall 2018.

See the "General Education Electives (p. 49)" section for a list of approved general education math courses.

[6] Physical and Life Sciences

A.A. and A.S. degrees require 4-8 credits in courses in physical and life sciences that include laboratories. Courses may be chosen from biology (BIO), chemistry (CHM), environmental science (ENV), geology (GOL), natural science (NAS) (non-science majors only), or physics (PHY).

A.A.A. and A.A.S. degrees may or may not require a physical/life science, depending on the curriculum, but they must require a math or science course.

A.F.A. degrees require a minimum of 4 credits of physical/life sciences.

See the "General Education Electives (p. 49)" section for a list of approved general education science courses.

[7] SDV Elective

All degrees require a one-credit Student Development course, SDV 100 College Success Skills, SDV 101 Orientation to: (a Specific Discipline). All Student Development courses cover topics related to academic success, responsible decision-making, and College information. Some sections address additional topics. First-time degree-seeking NOVA students are required to take an SDV course within their first semester at the College.

NOVA students seeking a degree must take an SDV course within their first semester at the College, unless the requirement has been waived. SDV waivers may be granted for students who have graduated with an associate, baccalaureate or higher degree from a regionally accredited United States institution of higher education. Students still must complete the required total number of credits for their degree.

[8] Open Elective and Major Area Requirements

Not all courses will transfer to all senior institutions or meet the requirements of a given four-year degree. Students who plan to transfer should refer to transfer pathways posted to the NOVA website or the Transfer VA Portal. If no pathway is available for the desired senior institution, students should see a counselor or academic advisor prior to registering for general electives. Students who plan to transfer to a

four-year degree program should become familiar with the requirements of the intended transfer institution and select electives that meet that institution's requirements.

[9] Total Credits

A.S. degrees typically require between 60 and 63 credits. However, VCCS policy allows Engineering programs to require as many as 72 credits.

A.A.S. degrees require between 60 and 69 credits, with the exception of Health Science programs, which may require as many as 72 credits.

ADMISSION INFORMATION

Student Classifications

Curricular Student

Individuals are classified as curricular students when they declare a major and are admitted to a curriculum of the College. The student must be a high school graduate (https://docs.google.com/document/d/1Ph8CEo6v9W_FLl07ArD9Xn5mozlKokOmes9AryguRc4/edit?tab=t.0#heading=h.jq778hdk3kp5), have earned a General Educational Development (GED) diploma, have completed an approved developmental program, or have been otherwise determined qualified for admission. The applicant's academic record must contain all of the information required for admission to the College. A curricular student may be either a full-time or part-time student working toward completion of a certificate or associate degree at the College.

Non-curricular Student

Students who are not formally admitted to a credit bearing program of study are considered non-curricular students. Non-curricular students may still enroll in courses by identifying the reason for enrolling at NOVA. Students are expected to declare a major prior to completing 30 credit hours of coursework. Students may be classified as non-curricular for purposes of the following:

- upgrading employment skills for one's present job
- developing skills for a new job
- exploring a new career
- seeking personal satisfaction or general knowledge
- taking developmental studies courses

Other non-curricular students may include the following:

- a transient (visiting) student. Such students may be enrolled at NOVA while maintaining primary enrollment with another college or university.
- a nondegree transfer student. Such students may be enrolled at NOVA to take only a certain number of courses for transfer to another college or university prior to completing the graduation requirements of a specific curriculum at NOVA.
- a high school junior or senior or the home-school equivalent. (Please see "Dual Enrollment (https://www.nvcc.edu/admissions/dual-enrollment/)."")
- a student with general or curricular requirements pending. The student may not have met all of the general or specific admission requirements as stated in the *Catalog* but may be accepted by the College to take courses for one semester only, with approval from the College.
- a student whose desired program has restricted enrollment. The student may meet admission requirements of a specific curriculum but be denied entry because of an enrollment limitation. The student may enroll in other courses while waiting for entry into the chosen curriculum, with approval of the College.

Full-Time Student

Students enrolled for 12 or more credits in a semester are considered full-time students.

Part-Time Student

Students enrolled for fewer than 12 credit hours in a semester are part-time students.

Admission Procedures

Admission to the College

Individuals who have a high school diploma or the equivalent (https://www.doe.virginia.gov/parents-students/for-students/graduation/diploma-options/standard-diploma-graduation-requirements) or are at least 18 years of age and are able to benefit academically from enrollment as demonstrated by assessment in reading, writing, and mathematics are eligible for admission to Northern Virginia Community College. Minimum placement criteria can be found in the "Placement" section of this *Catalog*. Exceptions to this policy may be made by the College president only for documented reasons.

High school and home-schooled students may be eligible to enroll in certain dual enrollment courses. (See the section on "Dual Enrollment (https://www.nvcc.edu/admissions/dual-enrollment/)."")

The College welcomes transfer students from other colleges. Those who meet NOVA's admission requirements may be admitted with no restrictions.

All applicants must complete the Application for Admission. A Social Security number is not required unless the student is applying for financial aid or veteran/active-duty military education benefits. Students are accepted on a first-come/first-served basis, except in restricted programs or when enrollment must be limited. In such cases, priority will be given in the following order:

1. legal residents domiciled in the cities and counties supporting the College
2. other Virginia legal residents
3. out-of-state applicants
4. international students requiring Form I-20

For certain health technology programs, "counties supporting the College" may include those in which clinical affiliates have contractual agreements with NOVA.

Individuals interested in being admitted to a particular curriculum should apply early. High school transcripts are not generally required but are useful for academic advisement and for placement to better ensure success in a chosen curriculum and to evaluate for college-level courses. Transcripts may be required in some cases, i.e., prior to dual enrollment or to verify prerequisites for college-level courses. High school transcripts are required to be considered for admission to the Veterinary Technology, Dental Hygiene, and Nursing Programs. Transcripts are preferred for the Emergency Medical Services Programs. Contact the appropriate campus Enrollment Services Office regarding admission to these programs.

The Application for Admission is available online at www.nvcc.edu (http://www.nvcc.edu/). For those with no computer access, paper forms are available at any campus Enrollment Services Office. Applicants are urged to submit their Application for Admission to the College at least 30 days prior to the first day of classes for the semester in which they plan to enroll.

The College reserves the right to evaluate and document special cases and to refuse or revoke admission if the college determines that the applicant or student poses a threat, is a potential danger, is significantly

disruptive to the college community, or if such refusal or revocation is considered to be in the best interest of the College.

The College also reserves the right to refuse admission for applicants that have been expelled or suspended from another college or determined by said college to be a threat, potential danger, or significantly disruptive. Students whose admission is revoked after enrollment must be given due process. Individuals who enroll as a student at NOVA accept the rules and regulations of the College. Any violation will be subject to appropriate action by the College. All NOVA policies are superseded by VCCS policy if differences inadvertently occur.

Readmission to the College

Former NOVA students who have not been enrolled for three years (nine consecutive terms) and wish to return to the College must also complete an Application for Admission to reactivate their records.

Reinstatement as a Result of Military Service

Should a student be called to active duty (for National Guard or reservists) or be mobilized (active military) as described in the Code of Virginia (§ 23-9.6:2) and the State Council's Virginia Tuition Relief, Refund and Reinstatement Guidelines, NOVA will provide tuition relief, refund, and reinstatement to students whose service has required their sudden withdrawal or prolonged absence from their enrollment. Students seeking readmission after being mobilized may reach out to the Office of Military and Veteran Services at militaryservices@nvcc.edu.

Admission to a Curriculum

In addition to the general admission requirements for acceptance by the College, some curricula have additional requirements for admission; these are listed in the "Programs of Study (A-Z)" section of this *Catalog*. Students should check the curriculum of their choice to see if they have met the required prerequisites for enrolling in that curriculum. Those who do not meet these requirements may be able to make up deficiencies by taking developmental or other courses.

Students may be placed in no more than two degree programs, and placement in certificate programs should be limited. Students who wish to change their program should ask their advisors to place them in the new program and remove them from any programs they do not plan to complete.

Readmission to a Curriculum

Students who wish to be readmitted to a restricted program after non attendance for at least one year must consult the specific program listing under "Programs of Study (A-Z)" for detailed readmission requirements. Students who were placed in a nonrestricted program will not have to reapply for admission to their curriculum; however, students should check to see whether the program requirements have changed since their last attendance.

Dual Enrollment (DE)

Dual enrollment allows eligible students to earn college credit(s) while still in high school. High school juniors and seniors, or the home-school equivalent, are eligible to take NOVA courses if they meet admission and placement requirements. Students may be able to use dual enrollment courses to meet both College and high school graduation requirements, or they may choose to take courses for college credit only. Since dual enrollment courses are college courses, they have college content and include college discussions. Students who take a dual enrollment course will have a NOVA college-level transcript that documents the course(s) taken and the grade(s) earned.

In addition, highly qualified students who meet stringent admission criteria may be able to complete a certificate or degree while in high school. Students interested in this opportunity should consult with their high school and NOVA's Office of Dual Enrollment.

High School Students

High school juniors or seniors may take dual enrollment courses at a NOVA campus, through NOVA Online, or take NOVA courses taught at their high school. Exceptions may be considered for freshman and sophomore students who demonstrate readiness for college coursework through the College's established institutional policies. Because enrolling freshman and sophomore students is considered exceptional, each freshman and sophomore student will be considered on a case-by-case basis and require formal approval by the College president (or designee). It is required that all prospective dual enrollment students meet criteria established by the Virginia Community Colleges System prior to enrolling in dual enrollment coursework (See "Placement Criteria (https://www.nvcc.edu/admissions/dual-enrollment/)".)

The College also has dual enrollment agreements with local public school systems and private schools whereby some dual enrollment classes are taught at some high schools during the school day. These classes are arranged annually with the high school administration. Students should contact their high school counselor for more information about dual enrollment courses that may be offered at their high school

Home-Schooled Students

Students who are the home-schooled equivalent of a high school junior or senior may be eligible to take courses at a NOVA campus or through NOVA Online. Dual enrollment is considered enrichment to the home-school program and cannot substitute for the home-school curriculum.

Admission Procedures for Dual Enrollment

Applicants for Dual Enrollment at a NOVA Facility (Independent DE)

High school students taking NOVA courses on campus or virtually/online through NOVA are designated as independent dual enrollment. Courses taken through independent dual enrollment require students to pay tuition and fees and purchase any required textbooks and course materials. First time students should complete the online application available at www.nvcc.edu (http://www.nvcc.edu). Each semester that a student requests enrollment, a student must also submit a Dual Enrollment Recommendation Form (125-208 (https://www.nvcc.edu/forms/pdf/125-208.pdf)) to the Office of Dual Enrollment. These forms can be found online at www.nvcc.edu/forms (http://www.nvcc.edu/forms). The Director of Dual Enrollment or designee will review the forms.

These forms include a place to list any NOVA courses the student wishes to use to fulfill Virginia high school graduation requirements. The student's parent or guardian must sign the form to indicate they believe the student is ready for college courses. In addition, the student's high school principal and high school counselor must sign the form to indicate that they believe the student is ready for college work and that the district will accept appropriate coursework for high school credit. Each academic year, home-schooled students must provide either a copy of a current signed home-school agreement between the respective school system and the authorizing parent or guardian or a letter from the parent or guardian declaring home-school for religious exemption.

Before final approval of a dual enrollment request is granted, students who wish to take classes at a NOVA campus or through NOVA Online

must complete the enrollment checklist and submit the appropriate form at least two weeks before the start of classes. Each academic year, a current high school or home-school transcript (official or unofficial) must be on file in the student's account. Returning dual enrollment students will have their NOVA transcript or course progress reviewed, in addition to their high school or home-school transcript, prior to approving or denying future reenrollments at the College. All students must meet admission and course placement requirements and/or prerequisites.

The entire enrollment process, including registration, must be completed before the first day of class. Payment must comply with the payment due date for the semester as established by the College.

Applicants for a Dual Enrollment Course at Their High School (Contract DE)

Students considering taking dual enrollment courses will only be allowed to register with permission of their high school and should talk to their counselor to verify that they meet college readiness requirements through GPA, PSAT, SAT, or ACT scores.

Students taking courses at their high school must apply to NOVA prior to the start of the course. After applying to NOVA, students are required to create an account at nvcc.dualenroll.com (https://nvcc.dualenroll.com/login). On this site, students will be able to obtain parent permission to enroll in the dual enrollment course, upload evidence of qualifying GPA or test scores, and select the courses they intend to take.

High school students are not permitted to register themselves for dual enrollment courses. Once a student has applied to NOVA and completed all the steps required on nvcc.dualenroll.com (http://nvcc.dualenroll.com), they will be registered for their selected courses by the Office of Dual Enrollment based on the high school rosters provided.

Dual enrollment courses taken at a high school are offered free of charge. This applies to any course taken within the high school that is included under the contract between the school district and NOVA.

Policies on Dual Enrollment

The following policies will apply to all dual enrollment high school and home-schooled students:

- The College reserves the right to evaluate applications for admission and to refuse admission to applicants when it is considered to be in the best interest of the College. Factors in a student's academic or personal record may be considered as a part of approving or denying a dual enrollment request.
- Dual enrollment students must meet admission requirements, which include demonstrated proficiency in reading, writing, and mathematics as established by the Virginia Community College System. See "Placement Criteria (https://www.nvcc.edu/dual-enrollment/admission-placement.html)" for further information.
- Dual enrollment students must meet all course prerequisites.
- Dual enrollment students are not eligible for federal financial aid through NOVA.
- Dual enrollment students are not eligible to enroll in developmental courses.
- Dual enrollment students must take courses for graded credit and may not audit courses.
- All NOVA students, regardless of age, are subject to all of the rules, policies, and procedures of the College pertaining to attendance, confidentiality of records, conduct, etc., as found in the College *Catalog* and the College *NOVA* Student Resources site (https://www.nvcc.edu/student-resources/).
- For more information consult the dual enrollment manual, found at www.nvcc.edu/dual-enrollment/ (http://www.nvcc.edu/dual-enrollment/). The manual provides all the information needed to enroll in a dual enrollment class at a NOVA facility, through NOVA Online, or at a local high school.

International Students

NOVA welcomes all international students. To be admitted, all applicants must complete an online application and submit additional documentation to the Office of International Students.

Per VCCS Policy 6.0.3, in addition to the general admission requirements of the college, all international applicants who wish to enroll as curricular students and whose native language is not English must demonstrate proficiency in both written and oral English. Proficiency can be demonstrated through a standardized national test (e.g., TOEFL, IELTS), a locally developed test approved by the college, or participation in a Pathways Program for English proficiency approved by the U.S. Immigration and Customs Enforcement (ICE) Student and Exchange Visitor Program (SEVP). Additionally, international applicants must comply with established college admissions policies, specifically those related to the issuance of an I-20 Form by the U.S. Department of Homeland Security.

International students at NOVA are required to check in online with the Office of International Students, attend an International Student Orientation lab and meet with their international student advisor prior to enrollment in classes.

F-1 students will need to provide the below documents to the Office of International Students upon arrival to NOVA.

- I-94 record of arrival
- F-1 visa and passport
- Signed copy of I-20

Specific details can be found at: www.nvcc.edu/admissions/apply/international (http://www.nvcc.edu/admissions/apply/international). When an online application is completed, the student will receive a student identification number (SIS number) and email on the next steps.

Student Visas (F-1 or Other Visa Categories)

All international students from abroad and inside the United States must request an I-20 from NOVA using their assigned SIS number. For complete details on the I-20 for academic programs or intensive programs, please visit www.nvcc.edu/admissions/apply/international/index.html (http://www.nvcc.edu/admissions/apply/international/).

Students on other approved visa categories will need to provide evidence of their legal status to the Enrollment Services office on campus or via email enrollmentservices@nvcc.edu before they can register for classes.

If students have questions about how their status might affect their studies, please contact the Office of International Students at OISS@nvcc.edu.

Senior Citizens

The *Virginia Senior Citizens Higher Education Act of 1974* and amendments allow senior citizens to take classes at no charge under certain circumstances. Individuals who are 60 years of age or older and have been legally domiciled in Virginia for one year prior to the beginning of

the semester in which they enroll may qualify to attend credit and many noncredit classes at NOVA without paying tuition.

- Such individuals may take a credit course for free on a space-available basis if their taxable income did not exceed $23,850 in the previous year.
- Regardless of income, senior citizens may take a credit course for free if they audit (do not receive a grade).
- They may take a noncredit workforce development course for free if space is available. To enroll in noncredit courses, contact the Workforce Development Office at Annandale, Loudoun, or Woodbridge campus.
- For all courses, senior citizens must complete both an Application for Admission and the Senior Citizen Certification of Eligibility for Free Tuition Form (105-088E (https://dashboard.nvcc.edu/Eforms/105-088)).
- To audit any course at the college, including NOVA online, senior citizens must have the instructor's permission.

Senior citizens may register beginning the last business day before the session begins unless they pay tuition. NOVA has various start dates throughout each term. However, senior citizens who have completed 75 percent of their degree requirements may enroll at the same time as tuition-paying students. Tuition waivers may not be used for course fees such as one-on-one instruction in art, music, or other individual study courses or for All Access course materials.

- Senior citizens who apply for free tuition **after** registering and paying for a class are not eligible for a refund for that class.
- Senior citizens will still be expected to pay all course expenses other than tuition, such as art, music and laboratory fees, and All Access course materials. Senior citizens who do not wish to participate in All Access must opt out by the earliest course census date to ensure no financial responsibility for the fees.
- Audit and noncredit enrollment are limited to three courses in one term.
- The College reserves the right to cancel any class.

Complete information is available on the NOVA Senior Citizens' web page. http://www.nvcc.edu/admissions/apply/seniors.html.

Visiting (Transient) Students

Visiting or "transient" students maintain their primary enrollment with their four-year college or university (home institution) and elect to enroll at NOVA for the limited purpose of taking one or more classes. Students must provide specified documentation showing current enrollment or admission to a four-year college or university. Documentation will be required to show successful completion of course prerequisites. Full information and directions are available at https://www.nvcc.edu/admissions/apply/visiting-students.html.

Student Information System (SIS)

MyNOVA is the name for the College's Student Information System (SIS). Access to myNOVA requires an Internet connection, a web browser, and a Student ID number. MyNOVA allows students to complete many business transactions with the College online. Students will be able to access myNOVA by clicking on "My NOVA" located on the home page of NOVA's website. Through myNOVA, students can do the following:

- register for and drop classes
- search for classes by availability, day, instructor, and location
- view and print their class schedule
- use the advising report for future course selections based on one's degree requirements
- find their priority registration date
- check their advisement report
- review grades and print unofficial transcripts
- request an official NOVA transcript
- view a transfer credit report
- view course/grade history
- view an account summary, including tuition and fees
- make a payment by clicking "Pay My Bill"
- check financial aid eligibility status
- check outstanding financial aid payments
- review their financial aid award
- view their financial aid history
- update personal information, such as addresses and phone numbers
- submit an application for graduation

For a complete list of functions available through myNOVA, students can view tutorials at https://portal.my.vccs.edu.

Student ID Number

Students will need to use their ID number throughout their NOVA college career to identify themselves in myNOVA and access their college records. The myNOVA portal assigns a seven-digit Student ID number at the time a student applies for admission.

Social Security Number

The student's Social Security number is not required as part of the student record and is not used as a Student ID number. Students must, however, submit their Social Security number to receive financial aid or military/veterans' benefits. For students who receive financial aid, the Social Security number will be used in connection with federal financial aid funds such as Pell Grants, and deferments for previous student loans.

Identification Cards (NOVACard)

Student photo identification cards, NOVACard IDs, are provided to credit-seeking students through the Student Life fee. The cards are distributed through campus NOVACard Offices. Students should wait 24 hours after first registering for classes before going to a campus NOVACard Office to obtain an ID card. ID cards may be required for library material use, admissions to special student activities, and so forth. There is a fee to replace lost cards. Contact a campus NOVACard Office for more information.

Student Records Access

The College enforces Public Law 93-380 in providing for the privacy of official student records and the rights of students to review these records. Students may review their official records by making a request to the Enrollment Services Office. NOVA will not release any personally identifiable information other than directory information about a student without his or her permission, except to certain school and governmental officials as required by law.

As required by state law (SB559/HB984, §23-2.2:1), the VCCS provides the Virginia State Police with the following information about all students within seven days of their acceptance to the College: the student's full name, Social Security number, date of birth, and gender. The State Police

compare this information to the Virginia Criminal Information Network, as well as the National Crime Information Center Convicted Sexual Offender Registry File.

Requests by individuals and agencies for the release of student information must be presented in writing. A student's permission for the College to release any information must also be in writing. Information that is considered directory (public) information is described in FERPA Procedures 613P (https://www.nvcc.edu/dist/files/sites/policies/pdfs/613P-FERPA.pdf).

Campus of Record

Once admitted to the College, students may take courses at any campus or through NOVA Online, though some majors and some courses are offered only at selected campuses. Most students identify with one campus as the place where they take a class or obtain services. Academic advising should be sought at a campus that offers the student's intended major. This is especially true of restricted programs, such as Nursing and Health Science programs. Questions about where or how to use the services of the College should be directed to the Enrollment Services Office at any campus.

ENROLLMENT INFORMATION

Before enrolling in classes, an individual must be admitted to the College. Refer to the *Schedule of Classes* for specific instructions on how and when to register.

Students may register by using myNOVA, the online Student Information System, at https://portal.my.vccs.edu. The Enrollment Services Office at each campus also has staff members who can assist with registration.

Registering, Dropping, or Withdrawing from Courses

Schedule changes are effective at the time they are processed.

Drop Initiated by Student

Students who change their mind about taking a course must drop the course through myNOVA. Otherwise, the student will be charged for the course and may receive a failing grade. Students may drop a course and receive a refund up until the census date, which is the last day to drop with a tuition refund, as noted on the academic calendar.

Cancellation of a Course by the College

If the college needs to cancel a course, students enrolled will receive a tuition refund unless they transfer to another course. All students in a cancelled course will be notified of the cancellation through their NOVA email. The number of credits for the replacement course will determine whether a student owes the College additional tuition or is entitled to an adjusted refund.

Drop Due to Administrative Deletion

Students who enroll in a course are expected to attend every class. Students who do not attend at least one class meeting or participate in an online learning class by the census date, which is the last day to drop with a tuition refund will be administratively deleted from the class. This means that there will be no record of the class or any letter grade on the student's transcript. In this situation, the student's class load will be reduced by the course credits, and this may affect his or her full-time or part-time student status. This, in turn, can impact financial aid, veteran's benefits, and F-1/M-1 status. The student's tuition will not be refunded.

Course Schedule Changes

Schedule adjustments are allowed during the add drop period only. Any credit hours that are added will result in additional tuition. If the schedule adjustment results in fewer credit hours, the student qualifies for a tuition refund only if the transaction occurs on or before the census date, which is the last day to drop with a tuition refund, for the session. Dropping a course changes a student's course load and may also impact financial aid benefits, veterans' benefits, F-1 status, etc. In some limited circumstances, students may be able to enroll in a class after the add drop period using the Late Enrollment with Permission form (125-070 (https://www.nvcc.edu/forms/pdf/125-070.pdf)). This form may also be used prior to the census date if an enrolled student is dropped in error.

Withdrawal from a Course

Students may withdraw from a course within the first sixty percent (60%) of a session without academic penalty and will receive a grade of W. Students may withdraw from a course through myNOVA.

Late Withdrawal for Mitigating Circumstances

Withdrawal after the first 60% of the session will result in a grade of F, except under mitigating circumstances. To request a withdrawal after 60% of the course is completed, a student must submit Form 125-047 (https://www.nvcc.edu/forms/pdf/125-047.pdf) Late Withdrawal for Mitigating Circumstances with documentation of mitigating circumstances. The mitigating circumstances must have been severe, not foreseeable and/or could not have been reasonably prevented during the time period in question. Examples include:

- a major medical emergency or severe, extended illness occurring during the semester the student is registered which requires hospitalization, is life threatening, prevents the student from attending classes or is contagious and a danger to the remainder of the College community.
- death of the student or a member of the student's immediate family (mother, father, sister, brother, husband, wife, child, or grandparent). An obituary or death certificate is required.
- mobilization or call to active duty for military students. A copy of the military orders is required.

Late withdrawal requests must be submitted by the end of the following semester:

- last day of spring semester for the previous fall semester
- last day of summer sessions for the previous spring semester
- last day of fall semester for the previous summer session

See the procedures here: https://www.nvcc.edu/dist/files/sites/policies/pdfs/210P-Late-Withdrawal-for-Mitigating-Circumstances.pdf. If the withdrawal is approved by the OSSR and the Academic Dean, a grade of W will be assigned to the student's records. In most cases, Late Withdrawal for Mitigating Circumstances applies to *all* courses in which the student is currently enrolled. Withdrawal from fewer than all courses will be considered in extenuating circumstances. The student will not receive a refund, though they may request consideration for a tuition refund by following the Business Office procedures.

Withdrawal as a Result of Military Service

Should a student be called to active duty (for National Guard or reservists) or be mobilized (active military) as described in the Code of Virginia (§ 23-9.6:2) and the State Council's Virginia Tuition Relief, Refund and Reinstatement Guidelines, NOVA will provide tuition relief, refund, and reinstatement to students whose service has required their sudden withdrawal or prolonged absence from their enrollment. If the student requests to be withdrawn from the College after the last day to drop classes with tuition refund for the term or semester in which he/she is enrolled, the student may elect either to be deleted from the registration file and be awarded a full refund of tuition and fees or to be administratively withdrawn with no refund and assigned a grade of "W". Except in cases of third-party payment arrangements, the College shall provide, at the option of the student, for such refunds to be retained and to be applicable to tuition and fees charged in the semester or term in which the student returns to study.

Withdrawal by Students Receiving Veterans Benefits

Veteran students who are using veterans' education benefits must contact the College veteran's office before withdrawing or dropping classes. If veteran students need guidance through this process, contact the Office of Military and Veteran Services at veteranmilitaryservices@nvcc.edu.

Withdrawal as an International Student

International students sponsored on an F1 immigration status must be enrolled each semester in a minimum of 12 credit hours as a degree student or 25 CEUs as an Intensive English program student to be considered full time. Students who find that they must withdraw from a course should talk to their assigned international student advisor before they withdraw. F-1 regulations give the College the authority to authorize exceptions to the full course of study requirement for limited and specific reasons. These requests must go through the Office of International Student Services. Students who withdraw from a course and fall below full time courseload risk termination of the F-1 status.

Withdrawal Policy for Students with Federal Financial Aid

Students who have received federal financial aid (Title IV) funds and have withdrawn from all their courses within the first 60 percent of their period of enrollment, or who drop, withdraw, or stop attending a course while not simultaneously attending another are subject to the mandatory refund policy for federal student financial aid (Return to Title IV or R2T4). To withdraw after the published withdrawal deadline due to mitigating circumstances, students must complete an official withdrawal (Form 125-047 (https://www.nvcc.edu/forms/pdf/125-047.pdf)) and submit it to the Student Services Center. Students must include their last date of attendance in the course. Financial aid recipients who stopped attending all courses and did not complete the "official" withdrawal process but who can produce an instructor-documented last date of class attendance (i.e., last exam, last paper, etc.) will have R2T4 calculated based upon their last reported date of attendance.

For financial aid recipients who stopped attending all their courses and their last date of attendance is unknown, the calculation of federal refunds returned will be based upon the midpoint (50 percent) of the period of enrollment. Students who did not attend beyond the census date of a course will have their financial aid recalculated based upon the enrollment level of courses in which attendance beyond the census date was established. Such students may be liable for repayment of federal funds. For more information, review the Return of Title IV Financial Aid Funds Policy (https://www.nvcc.edu/forms/pdf/125-119.pdf) and the information provided on the impact of dropping, withdrawing, auditing, or not attending a course that is provided on the financial aid website, https://www.nvcc.edu/financialaid/policies/impacts-FA.html.

Financial aid applicants who withdraw from courses may have difficulty subsequently in achieving the satisfactory academic progress standards for financial aid (see Satisfactory Academic Progress on the financial aid website). Failure to follow established procedures could affect a student's future eligibility for financial aid benefits.

NOVA Online Enrollment

Students may enroll in NOVA Online courses through myNOVA. Most courses have multiple sections starting throughout the semester. Details are available by visiting https://www.nvcc.edu/academics/online. Please note that NOVA Online courses have different critical course deadlines (https://online.nvcc.edu/sessions.html) than campus-based courses. When registering for sequential courses, such as ENG 111 College Composition I and ENG 112 College Composition II, students should sign up for only one course at a time.

Students taking their first online course at NOVA should also complete NOVA Online's on-demand virtual orientation: https://www.nvcc.edu/academics/online/admissions/orientation/index.html (https://www.nvcc.edu/academics/online/admissions/orientation/). Part 1 of the Orientation will cover Student Services information, focusing on getting started in courses, accessing the Canvas course site, identifying tips for success, and student support services. Part 2 will show a sample Canvas course and demonstrate the course navigation.

Check the NOVA Online website or contact the NOVA Online Hotline at 703-323-3347 or onlinereg@nvcc.edu for registration information.

Auditing a Course

Students may audit a course and attend without taking examinations. Audited courses carry no credit and do not count as a part of one's course load, which will affect a student's status if he or she receives financial aid or veterans benefits or holds an F-1/M-1 visa.

Students who wish to change status in a course from credit to audit or from audit to credit must complete the Auditing a Class Form (125-012) and have it signed by the instructor and the academic dean within the add/drop period for the course (no later than the census date). The instructor may require a certain level of attendance or completion of some assignments; students should follow the guidelines on the course syllabus or negotiate expectations with the instructor early in the semester.

The regular tuition rate is charged. However, senior citizens auditing a course do not need to pay tuition so long as they follow the process outlined under Admission Information (p. 25) for Senior Citizens.

Students who wish to earn credit for a previously audited course *must* retake the course by reenrolling in the course for credit and paying normal tuition to earn a grade other than "X." Advanced standing credit will not be awarded for a previously audited course.

Complete instructions for auditing a class can be found on Form 125-012 (https://www.nvcc.edu/forms/pdf/125-012.pdf), available on the College website.

Hold on Student Records and Service Indicators

A hold or service indicator will be placed on a student's official record under certain conditions. Nonpayment of financial obligations, such as tuition, College fines, and other debts will result in a hold on the student's record. Disciplinary action, academic suspension, or dismissal may also result in a hold on one's enrollment. A hold will restrict a student from enrolling, having transcripts or grade reports issued, or receiving other College services.

FINANCIAL INFORMATION

Tuition

Tuition rates and payment deadlines are posted online at www.nvcc.edu/admissions/tuition (http://www.nvcc.edu/admissions/tuition). Several payment options are available. Tuition payment entitles students to use the library, bookstore, food services, student lounge, and other facilities of the College except for parking. (See www.nvcc.edu/student-resources/parking (http://www.nvcc.edu/student-resources/parking) for information about parking.) Students must pay for any school property that they damage or lose, such as laboratory or shop equipment, supplies, library books, and materials.

Some courses, such as physical education, may require non-College support services from other agencies and individuals. Costs for these additional charges are paid by students directly to the individual or agency providing the service.

Beginning with the Fall 2026 semester, Career and Technical Education (CTE) course-specific fees established by the Virginia Community College System (VCCS) will be charged per credit hour for selected courses. Please refer to the course list (https://www.vccs.edu/coursefees/) for details on which courses are subject to these fees. All tuition and most fees are approved by the State Board for Community Colleges, which has the authority to change any and all tuition and fees without prior notice.

Students who register in classes must pay their tuition in full or establish a payment plan by NOVA's published payment deadlines, which can be found at Payment Deadlines | Northern Virginia Community College.

In-State Tuition Eligibility

To be eligible for in-state tuition rates, students must be domiciled in Virginia for a minimum of one year before the first official day of classes. When students apply for in-state tuition, they should be prepared to present documentation to support their claim. See the following "Domicile Requirements" section for details.

To change one's tuition status from out-of-state to in-state the student must initiate the process by completing the "Domicile Determination Form" section of the Virginia Community College System Application for Admission Form (125-030), which can be obtained online at www.nvcc.edu/forms (http://www.nvcc.edu/forms) or at any campus Student Services Center. It must be completed and returned to the Enrollment Services Office for review before the enrollment period begins for the semester in which the in-state charges will take effect.

The College reserves the right to collect the difference between in-state and out-of-state tuition charges when the wrong tuition rate is paid. The Enrollment Services Office on any campus can assist with questions concerning domicile status.

Domicile Requirements

All applicants for admission to Northern Virginia Community College are required by the Code of Virginia, 23-7.4, to complete the "Domicile Determination Form" section of the Application for Admission Form (125-030 (https://www.nvcc.edu/forms/pdf/125-030_pg3.pdf)).

To be eligible for in-state tuition, an individual must be domiciled in Virginia for a minimum of one year before the first official day of classes. Domicile is defined as an individual's "present, fixed home where you return following temporary absences and where you intend to stay indefinitely." In essence, domicile has two parts, and an individual must meet both to qualify for in-state tuition. The individual must reside in Virginia and must intend to keep this as his or her home indefinitely.

Regardless of other factors such as dependency, non-U.S. citizens on most temporary visas, in restricted classifications, or undocumented are not eligible to establish Virginia domicile or eligibility for in-state tuition. Students who are in the United States under Temporary Protected Status (TPS) are eligible to establish Virginia domicile.

In most cases, dependent students have the same domicile as their parents or legal guardian. Individuals are presumed to be a dependent of their parent or legal guardian if they are under the age of 24, unless they are a veteran or active duty member of the U.S. Armed Forces; are a graduate or professional student (beyond a bachelor's degree); are married; are a ward of the court or were a ward of the court until age 18; have no adoptive or legal guardian when both parents are deceased; have legal dependents other than a spouse; or are able to present clear and convincing evidence that they are financially self-sufficient. Children and the dependent spouse of a Virginia domiciliary may be eligible for in-state tuition. Additional documentation may be required.

Dependent children who are U.S. citizens may be eligible to establish Virginia domicile separate from their noncitizen parents. They must present clear and convincing evidence that they are domiciled in Virginia and must provide documentation of their citizenship.

The College may review many factors and documents when determining an individual's domicile, which includes but is not limited to the following:

- residence during the past year prior to the first day of the semester
- state to which income taxes are filed or paid
- driver's license
- motor vehicle registration
- voter registration
- employment
- property ownership
- sources of financial support
- other social or economic ties with Virginia and other states

However, the presence of any or all of these factors does not automatically result in Virginia domicile. The factors used to support a case for in-state tuition benefits must have existed for one year before the first official day of classes. Contact the Student Services Center at any campus for additional information. Students who have been denied in-state domicile status and wish to appeal should see the "Domicile/Tuition Appeal Process (https://www.nvcc.edu/admissions/tuition/appeal.html)" online or contact a Student Services Center.

Students classified as out-of-state who can provide clear and convincing evidence that they were eligible for Virginia domicile on the first day of class for a term may have their tuition status changed for the current term. Students should follow the institution's domicile appeal policy.

If a student's circumstances change after a semester has begun, the student may be eligible for reclassification of his/her tuition status. This reclassification shall be effective for the next academic semester or term (Fall, Spring, or Summer) following the date of the application for reclassification. Students should follow the institution's domicile appeal policy.

Changes that may occur later in one's residence, tax payment status, auto registration, etc., must be reported to a campus Enrollment Services

Office. Failure to report changes that could affect an individual's domicile and eligibility for in-state tuition could result in the College's billing the student for tuition due and/or taking disciplinary action against him or her.

Domicile Information for Military Families

The following is a summary of the State Council of Higher Education (SCHEV) for Virginia domicile guidelines, based on the Code of Virginia, 23-7.4, as they relate to active-duty military personnel, their spouses and dependents, who may not otherwise qualify for in-state tuition privileges. These guidelines are subject to annual legislative review and change; normally changes take effect on July 1 of each year. See a campus Enrollment Services Office for updated information and details.

Active-Duty Military Personnel (Service Members)

Any active-duty service members, activated guard or reservist members, or guard or reservist members mobilized or on temporary active orders for six months or more, that are either stationed or assigned by their military service to a work location in Virginia, and reside in Virginia, are eligible to pay tuition at the in-state rate. Such individuals must complete the In-state Tuition for Active-Duty Military and Dependents living in Virginia Form (125-115) and take it, along with the documents specified on the form, to a campus Enrollment Services Office to claim this benefit.

An active-duty military service member may qualify for a waiver of the one-year residency requirement by electing to establish domicile in Virginia. The one-year residency requirement will be waived only if all other conditions for establishing domicile are met, including, but not limited to, Virginia resident income taxes on all income (Leave/Earning Statement showing Virginia tax withheld), Virginia State of Legal Residence Certificate (DD 2058), Virginia driver's license, and Virginia vehicle registration. Copies of these documents must be provided by the student to claim eligibility for this waiver prior to the beginning of the semester/term for which in-state charges are requested.

In December 2016, Congress passed Public Law 114-315, which modifies 38 U.S.C. 3679(c). As amended, 38 U.S.C. 3679(c) requires that the following individuals be charged the resident rate:

- a Veteran using educational assistance under either chapter 30 (Montgomery G.I. Bill® - Active-Duty Program) or chapter 33 (Post-9/11 G.I. Bill) of title 38, United States Code, who lives in the state in which the institution is located (regardless of his/her formal State of residence) and enrolls in the institution within three years of discharge or release from a period of active duty service of 90 days or more.
- anyone using transferred Post-9/11 GI Bill® benefits (38 U.S.C. § 3319) who lives in the state in which the institution is located (regardless of his/her formal State of residence) and enrolls in the institution within three years of the transferor's discharge or release from a period of active-duty service of 90 days or more.
- anyone described above while he or she remains continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same institution. The person so described must have enrolled in the institution prior to the expiration of the three-year period following discharge or release as described above and must be using educational benefits under either chapter 30 or chapter 33, of title 38, United States Code.
- anyone using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in the state in which the institution is located (regardless of his/her formal State of residence). Individuals using the Marine Gunnery Sergeant John David Fry Scholarship are no longer required to enroll within three years of the service member's death, and there is no longer a requirement that the deceased service member's death in the line of duty followed a period of active-duty service of 90 days or more.
- anyone using transferred Post-9/11 G.I. Bill® benefits (38 U.S.C. § 3319) who lives in the state in which the institution is located (regardless of his/her formal State of residence) and the transferor is a member of the uniformed service who is serving on active duty.
- Public Law 117-68 amends Title 38 USC 3679(c)(2)(A) Chapter 35 recipients to the definitions of covered individuals to be charged in-state tuition effective August 1, 2022.

Military Spouses and Dependent Children

The dependents of an active-duty military person stationed in Virginia, the District of Columbia, or a state contiguous to Virginia, who reside in Virginia, are eligible for in-state tuition. Such individuals should complete the In-state Tuition for Active-Duty Military and Dependents Living in Virginia Form (125-115 (https://www.nvcc.edu/forms/pdf/125-115.pdf)) and take it, along with the documents specified on the form, to a campus Enrollment Services Center to claim this benefit.

Military Benefits

Active-Duty Tuition Assistance

The College participates in the Armed Forces Tuition Assistance (TA) program. Tuition Assistance is a benefit paid to eligible members of the Army, Navy, Marines, Air Force, and Coast Guard. Congress has given each service the ability to pay up to 100 percent for the tuition expenses of its members. If TA does not cover fees required by the College, the service member is responsible for paying the out-of-pocket fees. Each service has its own criteria for eligibility, obligated service, application processes, and restrictions. This money is usually paid directly to the institution by the individual services. For more information on using Tuition Assistance, students should contact their branch of service education office or NOVA's Military Services Office at militaryservices@nvcc.edu.

Reserves and National Guard Tuition Assistance

Members of the Selective Reserves are eligible for Tuition Assistance (TA). However, each of the Armed Forces determines how to administer their own Tuition Assistance. In addition, Virginia offers its National Guard service members state-funded education incentives based on state guidelines and eligibility. For more information on using Tuition Assistance, students should contact their branch of service education office or NOVA's Military Services Office at militaryservices@nvcc.edu.

Military Spouse Career Advancement Account (MyCAA)

NOVA remains committed to the education of military members and their spouses. NOVA is an approved school for the Military Spouse Career Advancement Accounts (MyCAA) program. MyCAA allows select military spouses to receive financial assistance for licenses, certificates, certifications, or associate degrees (excluding General Studies and Liberal Arts) necessary for gainful employment in high demand, high growth portable career fields. For more information, contact the Military Services Office at militaryservices@nvcc.edu.

Military Survivors and Dependents Education Program

Under the Military Survivors and Dependents Education Program, a child between the ages of 16 and 29, or spouse of a military service member killed, missing in action, taken prisoner, or at least 90 percent disabled may be eligible for education benefits. These benefits may

include full payment of tuition, fees, room and board, and books at any state-supported college or university in Virginia. The veteran must have been a Virginia citizen at the time he or she entered the military or must have been a Virginia citizen for at least five years prior to the surviving dependent's Application for Admission. The telephone number to the Virginia Department of Veteran Services is 804-225-2083.

Military Leave Policies

GI Bill® is a registered trademark of the U.S Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government Webs site at http://www.benefits.va.gov/gibill."

Public Law 117-328, which was signed on December 29, 2022, adds to Title 38 of the U.S. Code a new section, section 3691A "Withdrawal or leave of absence from certain education."

Specifically, 38 U.S.C. §3691A(a)(2)(B) provides that an educational institution may not take the following actions when a member receives orders for a period of service:

- Assigning the member a failing grade,
- Reducing the member's grade point average,
- Characterizing any member's absence(s) as unexcused, or
- Assessing a financial penalty on a member because of a withdrawal or leave of absence due to receiving orders for service.

Additionally, 38 U.S.C. §3691A(b) provides that an educational institution must take the following actions when a member withdraws due to receiving orders for a period of service:

- Refunding all tuition and fees paid for the academic term to the appropriate party. Please note that VA's interpretation of academic term is the term as reported to your State Approving Agency and VA.
- Refunding payments made by the student (or behalf of the student) to the institution for housing. Please note that in this instance the reference to housing is not the monthly housing allowance provided by the Post 9/11 GI Bill but rather housing costs such as dorm fees.

Finally, 38 U.S.C. §3691A(c) provides that an educational institution must take the following actions when a member takes a leave of absence from a course(s) due to receiving orders for a period of service:

- Assigning a grade of incomplete (or equivalent) for the course(s) during the term, and
- Providing the opportunity to complete the term after the period of service.

Veterans Benefits

This institution is approved to offer GI Bill® educational benefits by the Virginia State Approving Agency (SAA). The SAA is the approving authority of education and training programs for Virginia. Their office investigates complaints of GI Bill beneficiaries. While most complaints should initially follow the school grievance policy, if the situation cannot be resolved at the school, the beneficiary should contact the SAA office via email at saa@dvs.virginia.gov.

Most College degree and certificate programs are approved for training-eligible servicepersons, veterans, and dependents. Additional information is available from the veteran's advisor on each campus.

Veterans and veterans' dependents may be eligible for educational benefits from the Department of Veterans Affairs. Students who wish to determine eligibility for veterans' benefits should contact the Department of Veterans Affairs. Once eligibility is determined, such individuals should contact their campus veterans' advisor each semester to complete the necessary forms to establish and maintain their eligibility for benefits. Full-time educational benefits are available to those registering for and maintaining 12 or more credits in degree program courses. Three-quarter-time benefits are paid for 9 to 11 credits and half-time benefits are paid for 6 to 8 credits per semester. Active-duty servicepersons and those registered for less than 6 credits are entitled to tuition reimbursement only. Certificate programs are measured differently for payment. Courses taken through NOVA Online and accelerated courses are also measured differently, per the Department of Veteran Affairs policy. See a campus veterans' advisor for details.

Students who receive educational benefits must report their enrollment each semester to the Office of Military and Veteran Services by completing the online Veteran Enrollment Report Form (VERF). The information will then be certified and reported to the Department of Veterans Affairs Regional Office. Any changes to a student's enrollment must also be reported by completing the online Veteran Adjustment Form to the Office of Military and Veteran Services. Changes include canceled classes, dropped classes, withdrawing from classes, adding classes, or any other type of change that may affect one's eligibility to receive benefits from the Department of Veterans Affairs. Excessive absences may result in the student's dismissal from the course and adjustment of benefits from the Department of Veterans Affairs. Any change in status must be reported to the Department of Veterans Affairs as soon as possible, but no more than 30 days after the change has been officially completed at the College. Students who are using veteran related benefits will be responsible for overpayment of Basic Allowance for housing (BAH), tuition, or book stipend due to not attending class(es) or any changes in enrollment.

Satisfactory Progress Policy for Recipients of Veterans Benefits

To be eligible for veterans' educational benefits, students must maintain satisfactory academic progress in accordance with Northern Virginia Community College standards.

Students will be reported to the Department of Veterans Affairs as making unsatisfactory progress if their cumulative GPA falls below the required level based on the following:

Regular Credits Attempted (A, B, C, D, F)	Minimum Cumulative GPA Requirement
13-23 credits	1.50
24-47 credits	1.75
48 or more credits	2.00

This standard will be applied each term. However, students who do not achieve the above minimum cumulative GPA requirement but do achieve a GPA of at least a 2.00 for the term being evaluated may be certified for that term as making satisfactory progress.

When a student's academic record does not meet the above standards, the student will be notified in writing/via email by the college school certifying official (SCO) that his/her next term will be "probationary." The student will be required to meet with an academic advisor to develop a written plan to indicate how he/she will successfully complete his or her educational objective and how he or she will satisfy the GPA requirement for satisfactory progress toward graduation. This plan will be kept on file in the Veterans Office.

Those who do not meet the minimum cumulative GPA requirement or do not earn a minimum GPA of 2.00 for the probationary term will be reported to the Department of Veterans Affairs as making unsatisfactory progress. The student may be certified on a retroactive basis for the following term if he/she receives a minimum GPA of 2.00 for that semester. When the student's cumulative GPA meets or exceeds the minimum requirement, educational benefits will be restored on a regular basis.

If a student is subject to academic suspension, he/she must be reported to the Department of Veterans Affairs as making unsatisfactory progress. Benefits will not be resumed until the student is making satisfactory progress.

Questions regarding this policy should be addressed to the Office of Military and Veteran Services at militaryservices@nvcc.edu.

Survivors of Deceased Public Safety Officers of Virginia Tuition Benefits

The Code of Virginia (Sec. 23-7.1:01) provides tuition benefits for certain children and spouses of deceased public safety officers. A student may be eligible for free tuition at the College if his or her parent or spouse was killed in the line of duty while employed in Virginia as a Virginia law enforcement officer; firefighter; rescue squad member; agent of the Department of Alcoholic Beverage Control; state correctional, regional, or local jail officer; sheriff and deputy sheriff; or a member of the Virginia National Guard serving in the Virginia National Guard or the United States Armed Forces. Children must be between the ages of 16 and 25. For more information on eligibility requirements and application procedures, students may contact any campus Student Services Center.

Tuition Payment

Students who register in classes must pay their tuition in full or establish a payment plan by NOVA's published payment deadlines, which can be found at Payment Deadlines | Northern Virginia Community College.. If students register after the college established payment deadline date, they have until the next day to pay. Classes may be dropped if not paid for by the next day. However, students should not assume that they will be dropped automatically from classes for which they have not paid. It is the student's responsibility to drop all classes they do not want to take prior to the class census date. Students should confirm their schedule of classes before the census date to ensure their tuition costs are what they expect.

Tuition is payable online by credit card (Visa, MasterCard, or American Express) or e-check from the student center page in SIS via myNOVA. Tuition is also payable by cash, check, money order, NOVA's Tuition Payment Plan, third-party contract, or approved financial aid. The College accepts checks and money orders made out for the exact amount payable to the order of NOVA or NVCC. Checks made payable to the order of the College and the student are also accepted. Without exception, all checks or money orders must include the student's name and identification number. The College can also accept wire transfer of funds from a bank to pay tuition for the exact amount of the tuition and fees owed. Students must contact the Annandale campus business office for specific instructions.

NOVA charges a penalty fee to anyone whose check payment is dishonored. A dishonored check is any check returned for any reason. A dishonored credit card payment is one for which the College's account is debited. If a check is dishonored the student will be disqualified from paying by check until the original debt and penalty fee are paid.

Changes in Enrollment for Veterans

Changes in enrollment may result in overpayment of tuition and fees and/or Yellow Ribbon benefits. As a result, students may receive an automated notification from Veterans Affairs stating that the debt amount must be repaid and will be collected by the Debt Management Center. However, Veterans Affairs will instead collect these amounts from the college itself. NOVA may require students to pay any outstanding balance for tuition and fees. Students will still be responsible for repaying any debts associated with the monthly housing allowance and the books and supplies stipend to Veterans Affairs. If you have questions regarding overpayments and debts, contact militaryservices@nvcc.edu.

Delayed Payment Policy for Veterans

Northern Virginia Community College currently complies with the requirements of 38 USC 3679(e). The college will permit a covered individual that is entitled to education assistance under chapter 31, Vocational Rehabilitation and Employment, or chapter 33, Post-9/11 GI Bill® benefits to attend or participate in course of education during the period beginning on the date on which the individual provides to education institution a certificate of eligibility for entitlement to educational assistance under chapter 31 or 33. To ensure proper on-boarding, the college requires student veterans provide one of the following to protect classes/enrollment being dropped due to non-payment: the student veteran or family member must report to the nearest campus veterans office to submit ONLINE VERF (veteran enrollment reporting form), COE (certificate of eligibility) or statement of benefits from the e-benefits website or for chapter 31 authorization. Veteran case manager must send the benefit authorization to the Office of Military Services via Tungsten Portal. This will ensure veterans are processed and classes are protected until VA sends tuition payment to the college. Without following the necessary steps this can cause delay in processing benefits in a timely manner.

The above policy and steps, ensures the College will not impose any penalty, such as late fees, denial of access to classes, libraries, or other institutional facilities or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement funding from VA under chapter 31 or 33.

Tuition Refunds

Tuition refunds are not automatic except when the College cancels courses.

Students may be eligible for a tuition refund under some rare circumstances. To request a refund, students should review the section entitled Special Circumstances on the tuition refunds page on NOVA's website at www.nvcc.edu/admissions/tuition/refunds (http://www.nvcc.edu/admissions/tuition/refunds).

Prorated Refund Policy

All approved refund exceptions are prorated except in the case of military transfer or death of the student.

Proration of refund exceptions are as follows:

- during first 25% of class completion = 100%
- during 26% to 50% of class completion = 50%
- after 51% of the class has been completed = 0%

Veteran Refund Policy

If a student using veterans' benefits cannot complete a course (i.e., if the course is discontinued or the student withdraws), the unused portion of the tuition and/or fees paid by the student or Veterans Affairs will be refunded. The exact amount of the refund will be determined based on the class census date or once Veterans Affairs requests a return of tuition. Students will be responsible for returning tuition to Veterans Affairs if classes are dropped after the census date.

Students may request refunds through NOVA's business office. Refunds will be processed once all necessary paperwork is processed for Department of Veterans Affairs and will be sent in the form of payment the student used to pay for the class (i.e., check, credit card, etc.).

Students may be eligible for an exception to college policy regarding tuition debt under special circumstances.

Students will receive a refund or incur no debt if:

- the student drops a class before the session's census date (see NOVA's Academic Calendar or Schedule of Classes), or
- the class is canceled by the College.

If a student replaces the dropped or canceled class with another class for a different number of credits, the student may be entitled to a refund if the new class carries fewer credits. The student may also owe NOVA money if the new class carries more credits.

Fees, Charges, and Expenses

Books and Supplies

Students are expected to obtain their own books, supplies, and consumable materials needed in their studies. A bookstore is located on each campus. Textbooks may be purchased new, used, or rented (selected titles only) from the store or online. Check the bookstore website at http://nvcc.bncollege.com for each campus bookstore's hours of operation.

NOVA All Access is automatically applied when you register for classes, and a fee of $22.50 per credit hour is charged to your student account unless you take action to opt out. This charge is billed alongside your tuition and other fees, creating a financial obligation for course materials you may not need or want. Students who do not wish to incur this additional cost must opt out of the NOVA All Access program within the designated timeframe to ensure the fee is removed from their account. To determine whether the program is appropriate for you—and to avoid being charged—review the opt#out information at NOVA All Access | Northern Virginia Community College (https://www.nvcc.edu/academics/bookstore/all-access.html).

Students with pending financial aid that covers their tuition and fees may be able to use their excess financial aid to purchase books, supplies, or a laptop through the NOVA bookstore. Please visit https://www.nvcc.edu/admissions/financialaid/policies/charge-books.html for details.

Library Charges

Library patrons are responsible for the replacement cost of any item they lose. Payments for lost materials are not refundable. This nonrefundable rule also applies to fines and replacement costs charged for materials borrowed from other libraries with a NOVACard Student ID.

Because access to high-demand reserve materials is critical, the College libraries charge fines for overdue reserve materials. Patrons returning regular reserve materials late will be charged a fine of $2.00 per day. Patrons returning timed reserve materials late will be charged a fine of $2.00 per hour. Timed reserve materials are those with specific time limits on their use in the Library. The maximum fine for late return of reserve materials is $80.00.

Patrons with overdue circulating or reserve items will not be able to check out additional materials until all overdue items are returned and fines paid. Continued enrollment and the release of transcripts will be prevented if overdue items are not returned.

Parking Fees

Any student, full- or part-time, who wishes to park a vehicle in the student parking lots on any campus during any semester, including Summer, must purchase a valid parking permit. Students are not required to have a permit or purchase hourly parking while parked in a student lot after 3:45 p.m. on weekdays or anytime on weekends. Hourly pay parking is also available at all campuses for those who do not have a current permit.

Permits are available for purchase beginning May 1 for the Summer, August 1 for the Fall Semester, and December 1 for the Spring Semester. Students may purchase student parking permits online through the parking services website at www.nvcc.edu/parking (http://www.nvcc.edu/parking). Parking Services utilizes a virtual permit system where license plates act as a permit. The license plate(s) provided when purchasing a permit will serve as the credentials needed while parking on campus. No physical permit needs to be displayed, and permits are active immediately after purchase. The cost of a parking permit and hourly parking rates are specified on the parking website.

Parking enforcement on student lots will begin at 6 a.m. Monday through Friday following the end of the schedule adjustment period. Campus signage will indicate specific dates. Parking regulations are enforceable 24 hours per day, seven days per week.

Questions regarding parking on campus can be directed to the Parking Services Office or by emailing parking@nvcc.edu.

Graduation

There is no fee for graduation. However, students are required to purchase academic regalia, available at the campus bookstores, if they wish to participate in the Commencement ceremony. See "Participation in the Commencement Ceremony" section under the "Academic Policies and Information (p. 11)" for more information.

Nonpayment of Debts

Continued attendance at NOVA is dependent upon proper settlement of all debts owed to the institution. Should a student fail to satisfy all due and payable amounts for tuition and fees, college loans, college fines, or other debts owed the college, the student may be suspended. No student shall be allowed to register in any succeeding semester until all current debts owed to the college have been satisfied or the student is enrolled in a past-due payment plan and current on all scheduled payments. An exception will be granted when a debt-owing student registers under a third-party contract arrangement. If the third-party is responsible for the tuition payment under the contract, the named students on the contract may register even if individual debts to the college are outstanding.

Any student who owes $500 or more to any individual college in the VCCS will not be allowed to register at another college in the VCCS until their debt is satisfied. An exception to this policy will be granted when a debt owing student is enrolled and active in a past-due payment plan or has a third-party contract arrangement. If the third-party is responsible for the tuition payment under the contract, the named students on the contract may register even if individual debts to any college in the VCCS are outstanding.

In addition, the College reserves the right to pursue payment through debt collection services and other lawful means. Debtors are subject to late fees and collection costs.

Financial Aid Information

NOVA strives to ensure that no one is denied the opportunity to attend the College for financial reasons. Financial aid programs offer various funds to help students pay for college.

Financial aid representatives at each campus and the College Financial Aid Office provide information about financial aid programs, application procedures, and eligibility requirements. Applications, forms, and information are posted on the office's website at www.nvcc.edu/financialaid (http://www.nvcc.edu/financialaid).

Applications for need-based financial aid begin with filing the Free Application for Federal Student Aid (FAFSA) at https://studentaid.gov/h/apply-for-aid/fafsa. The Free Application for Federal Student Aid (FAFSA) for the upcoming fall can be submitted starting October 1 each year. Applications should be completed several months in advance of the semester for which assistance is needed. Applicants for all aid programs, including loans and work study, must file the FAFSA. Completed applications received by May 1st for Fall, October 1st for Spring, and April 1st for Summer will receive priority consideration. FAFSA applications for the upcoming fall can be submitted starting October 1 each year.

Additional information on scholarships, grants, loans, and on-campus employment, as well as information about financial aid policies pertaining to class attendance, recalculation of awards, satisfactory academic progress, and repayment of funds, can be found at https://www.nvcc.edu/admissions/financialaid/index.html (https://www.nvcc.edu/admissions/financialaid/).

NOVA Financial Aid Satisfactory Progress Standards

Federal regulations mandate that students receiving federal financial aid must maintain satisfactory academic progress (SAP) according to the standards set by NOVA and the federal government. These requirements apply to all terms of enrollment, regardless of whether aid was awarded or received. At NOVA, satisfactory academic progress (SAP) standards also apply to nonfederal aid, including state funds, institutional funds, and foundation scholarships. Progress is measured throughout the academic program based on the student's cumulative grade point average (Qualitative) and the percentage of credits earned versus those attempted (Quantitative or Pace of Completion). Additionally, students must complete their programs of study before attempting 150% of the credits required to complete the program.

The College Financial Aid Office will evaluate satisfactory academic progress before awarding aid and again at the end of every term after grades have been posted, starting with the first term of enrollment. Although some career studies certificate programs are ineligible for student financial aid, the credits earned in these programs will count toward all SAP requirements (GPA, Completion Rate, Maximum Timeframe, and Developmental Maximum) if the student later enrolls in an eligible program.

Financial Aid Status

Financial Aid Good Standing (GS)

Students who meet all aspects of the satisfactory academic progress policy or successfully follow a designated academic progress plan are in good standing.

Financial Aid Warning Status (WS)

Students who fail to meet satisfactory academic progress for the first time (excluding students who have already attempted 150 percent of the credits required for their programs of study) will be automatically placed in a warning status for one term and are expected to meet SAP requirements by the end of that term. Students who fail to meet SAP requirements at the end of the warning status term will be placed on financial aid suspension. However, with a successful SAP appeal, those students will be placed on financial aid probation and will retain financial aid eligibility. Students who attempt at least half-time status and fail or withdraw from all classes can immediately be placed on financial aid suspension status without being given a warning semester.

Financial Aid Probation Status (PS)

Students who successfully appeal financial aid suspension are placed in probation status (PS). Students in probation status are eligible to receive financial aid for one semester, after which they MUST be in good standing (GS) or meeting the requirements of an academic progress plan that was preapproved by the College Financial Aid Office. (See "Financial Aid Appeals (https://catalog.nvcc.edu/financial-information/#FinancialAidAppeals)" for additional information.)

Financial Aid Suspension Status (SS)

Students who do not meet the credit progression schedule and/or the cumulative grade point average standard, who fail to meet the requirements of their preapproved academic progress plan, or who are flagged by the Department of Education for having unusual enrollment history with no recent academic success at NOVA will be placed in suspension status (SS). Students in suspension status are not eligible to receive financial aid unless an appeal and academic plan are submitted and approved.

Academic Suspension (AS)

Academic requirements for avoiding warning status and staying in school differ from financial aid requirements for satisfactory academic progress. Academic status will be noted on registration records; financial aid status will be noted on financial aid screens in the Student Information System (myNOVA portal). Any student suspended from NOVA for academic or behavioral reasons is automatically ineligible for financial aid.

Evaluating Progress

Quantitative Standards or Pace of Completion

Completion Rate (67 Percent Rule): Students must, at a minimum, receive satisfactory grades in 67 percent of cumulative credits attempted. This calculation is performed by dividing the cumulative total number of successfully completed credits by the cumulative total number of credits attempted. All credits attempted at NOVA are included (except audits, which must be entered as such by the class census date). All credits accepted in transfer count as both attempted and successfully completed credits. This evaluation will be made prior to aid being awarded and after grades are posted at the end of each semester a student is enrolled at the College. Satisfactory grades at the College

consist of "A," "B," "C," "D," "P," or "S." **note**: Federal student loan borrowers must meet satisfactory academic progress requirements at the point of loan certification and again prior to the disbursement of any loan proceeds.

Maximum Hours (150 Percent Rule): In order to continue receiving financial aid, a student must complete his/her program of study before attempting 150 percent of the credits required for that program. Developmental and ESL coursework are excluded in this calculation. Attempted credits from all enrollment periods at the College, along with all applicable transfer credits, are counted, regardless of whether the student received financial aid for those terms.

Transfer Students: In order to properly calculate satisfactory academic progress, transfer students who apply for financial aid are to request official transcripts from all other colleges attended. Visit https://www.nvcc.edu/cro/transfercredit/index.html (https://www.nvcc.edu/cro/transfercredit/) to learn more about having your transcript(s) evaluated by the College Records Office for transfer credit. Credits officially accepted in transfer will be counted in the 67% rule and in determining the maximum number of allowable semester credit hours for financial aid eligibility. The College has the option to put an individual transfer student directly in financial aid warning status (WS) or suspension status (SS) immediately upon evaluation for financial aid if academic history at previous colleges indicates a pattern of unsuccessful academic work.

Second Degree Students: Credits earned from a first degree or certificate must be counted if the student changes programs or attempts a second degree or certificate. Depending on the circumstances, an appeal might be warranted if the student changes programs or attempts a second degree or certificate.

ESL and Developmental Studies: Students may receive financial aid for a maximum of 30 semester hours of developmental studies courses as long as the courses are required as a result of placement testing, the student is in an eligible program of study, and SAP requirements continue to be met. ESL credits are not limited in number as long as they are taken as part of an eligible program and SAP requirements continue to be met.

Additional Considerations for Quantitative or Pace of Completion Standards

- Withdrawal ("W") grades that are recorded on the student's permanent academic transcript will be included as credits attempted and will have an adverse effect on the student's ability to meet the requirements of the completion rate for financial aid.
- Incomplete ("I") grades: Courses that are assigned an Incomplete are included in cumulative credits attempted. These cannot be used as credits earned in the progress standard until a successful grade is assigned.
- Repeated courses enable the student to achieve a higher cumulative grade point average. Students can repeat courses with financial aid until successfully completed, but repeating courses adversely affects the student's ability to meet completion rate requirements. Financial aid can be considered for successfully completed classes that are repeated to achieve a higher grade, but for only one additional attempt, provided the student does not exceed the 150% maximum requirement or the program's completion requirements.

Qualitative Standards

Cumulative GPA Requirements (GPA Rule): In order to remain eligible for financial aid consideration, students must meet minimum cumulative grade point average requirements based on a progressive scale. Only nonremedial courses with grades of "A," "B," "C," "D," and "F" are included in this calculation. Transfer credits are excluded from GPA evaluation. In order to graduate, a minimum cumulative grade point average of 2.0 is required.

Total Number of Credits Attempted	GPA Requirement
1-15	1.50
16-30	1.75
31 or more	2.00

Regaining Eligibility for Financial Aid

Students who do not meet the credit progression requirements (Quantitative or Pace of Completion) and/or cumulative grade point average requirements (Qualitative) will be immediately ineligible for financial aid. Being ineligible for financial aid does not prevent students from enrolling without financial aid if they are otherwise eligible to continue their enrollment.

Unless extenuating circumstances exist and an appeal approval is granted (see "Financial Aid Appeals"), a student on financial aid suspension should expect to continue classes at their own expense until they meet satisfactory academic progress requirements.

Satisfactory Academic Progress will be checked at the end of each term and can be updated accordingly as long as a current FAFSA is on file. If standards are met, eligibility is regained for subsequent terms of enrollment in the academic year. Students should consult their campus financial aid advisors for assistance in appealing or to determine how to regain eligibility for financial aid.

Financial Aid Appeals

Under certain circumstances, students who fail to meet SAP standards and lose eligibility for financial aid can appeal the financial aid suspension. Students must clearly state what caused the suspension and must also clearly indicate what has changed that will now allow the student to succeed. Appeals are encouraged in the following cases:

- the student has experienced extenuating circumstances (for example, the student's serious illness or accident; death, accident, or serious illness in the immediate family; other mitigating circumstances).
- the student has successfully completed one degree and is attempting another.
- the student on suspension for other than Maximum Hours (150 percent), who has not yet met SAP requirements, has enrolled during SAP suspension and successfully completed at least 12 semester credits at the College with no D, F, W, U, X, R or I grades.

Students appealing a suspension must:

1. View the following video: https://nova.get-counseling.com/session/understanding-satisfactory-academic-progress-sap-and-financial-aid-sap-appeal-process-16.
2. Download the appeal form available upon completion of the video.
3. Compose a signed and dated statement that includes a detailed description of the circumstances that caused the student to fail the SAP requirements and a description of what has changed that will allow the student to succeed academically going forward.
4. Review their Advisement Report in the myNOVA Student Information System (SIS) and attach a copy of the Advisement Report to the appeal. A tutorial for accessing the Advisement Report is available at https://www.nvcc.edu/novaconnect/students/tuts/advising/report.html.

5. If appealing SAP due to not meeting the minimum GPA or 67% completion rate requirement, include appropriate and thorough documentation to support the claim of extenuating circumstances.
6. Submit the completed SAP appeal form, typed statement, supporting documentation, and Advisement Report all at one time to the Financial Aid Office. Incomplete appeals will be denied.
7. **Appeals must be submitted before November 1 for Fall, April 1 for Spring, or July 1 for Summer or prior to the last date of attendance in the semester the student is appealing reinstatement of aid (if earlier). Appeals submitted after these dates will automatically be reviewed for the following term.**

Only complete appeal submissions, with documentation, will be evaluated by the Financial Aid Office. The decision is final. Depending on the circumstances, the student could be required to complete additional requirements (for example, see a career or another type of advisor, meet with an advisor to develop an academic progress plan for completion, limit enrollment, etc.) before an appeal is granted. The goal is to help the student get back on track for graduation. The reasonableness of the student's ability for improvement to again meet SAP standards and complete the student's program of study will be carefully considered. Appeals will be approved or denied. Students who have appeals approved will be in probationary status for the coming term. During probationary status, all attempted credits must be successfully completed with at least "C" or "S" grades, and any additional requirements of probation must be met, or the student will return to suspension. If an academic progress plan has been preapproved by financial aid, continuing to meet the requirements of that plan will put the student back into good standing.

Scholarships

Private citizens, businesses, nonprofit institutions, and associations have generously donated scholarship funds for students. Recipients are selected by the NOVA Scholarship Committee or a campus committee. Most scholarships require that students provide a statement of financial need by completing the Free Application for Federal Student Aid (FAFSA): some scholarships are field or career related and do not stipulate financial need as a requirement. Campus Financial Aid Offices and the financial aid website provide information about the current availability of individual scholarships as well as application materials. The NOVA Educational Foundation publishes a list of available scholarships with their general criteria and deadlines. Scholarship information and the online application can be found on the College website by searching for "Scholarships."

PLACEMENT

As of the Fall 2021 semester, most NOVA students will not be required to take placement tests to determine placement for entry level English and Math courses.[1] Students' eligibility for course enrollment is based on their U.S. high school grade point average (GPA) or their standardized test scores (i.e. SAT, ACT, or GED). Students should complete the direct enrollment/self-informed placement survey (http://www.nvcc.edu/academics/placement/) to determine placement.

- A student's U.S. high school GPA is valid for 5 years after the date of high school graduation.
- Students who completed U.S. high school 6 or more years before applying to NOVA may select courses through informed self-placement. Students may consult the Informed Self Placement Advising Survey (https://www.nvcc.edu/academics/placement/) to help decide which classes to take.
- SAT, ACT, and GED test scores are valid for 5 years after the date of the test.

[1] The Virginia Placement Test (VPT) is still required for students who will receive veterans' benefits. Students who have not completed high school with a diploma recognized by the VCCS (http://catalog.nvcc.edu/mime/media/view/12/1873/VDOEhighschooldiplomatypes_April2022.pdf) or a GED, including dual enrollment students, will also be able to take the VPT under certain circumstances; students whose primary language is not English should take the Accuplacer.

Math Course Placement [1]

Course	Minimum Placement Requirement
MDE 10	1.99 or lower HS GPA
MDE 60	2.0 or higher HS GPA without HS Algebra 2
MTH 111, MTH 133	2.0 or higher HS GPA with or without HS Algebra 2
MTH 154 + MDE 54; MTH 155 + MDE 55	2.0-2.99 HS GPA with or without HS Algebra 2
MTH 154, MTH 155	3.0 or higher HS GPA with or without HS Algebra 2
MTH 161 + MDE 61	2.0-2.99 HS GPA with HS Algebra 2
MTH 161	3.0 or higher HS GPA with HS Algebra 2
MTH 167	3.0 or higher HS GPA with HS Algebra 2

SAT/ACT/GED Scores for Math Placement

Test	If you scored...	You may enroll in...
SAT-MTH	500 or above	MTH 111, MTH 133, MTH 154, MTH 155, MTH 161, MTH 167
SAT-MTH	470-490	MTH 111, MTH 133, MTH 154, MTH 155, MTH 161 + MDE 61
ACT-Subject Area Test Math	18 or above	MTH 111, MTH 133, MTH 154, MTH 155, MTH 161, MTH 167
ACT-Subject Area Test Math	17	MTH 111, MTH 133, MTH 154, MTH 155, MTH 161 + MDE 61
GED-MTH	165 or above	MTH 111, MTH 133, MTH 154, MTH 155, MTH 161 + MDE 61
GED-MTH	155-164	MTH 111, MTH 133, MTH 154 + MDE 54, MTH 155 + MDE 55, MDE 60
GED-MTH	154 or below	MDE 10

[1] The math course you take depends on your academic goals and program of study. Refer to the requirements in the catalog and contact an advisor for more information.

Placement into Higher-Level Math

- Recent high school graduates (students who graduated from high school within the last 5 years) may be placed into certain higher-level math courses based on their high school coursework. The student must provide a copy of their high school transcript for consideration. **A minimum GPA of 3.0 with at least Algebra II is required for consideration for placement into higher level math courses.** Placement into higher-level math courses is determined by the table below.

High School course	MTH 162	MTH 245	MTH 261	MTH 263
Math Analysis	A or B in Honors Course	A or B	A or B in Honors Course	N/A
Precalculus without Trigonometry	N/A	A or B	N/A	N/A
Precalculus with Trigonometry	A or B in Honors Course	A or B	A or B in Honors Course	N/A
Algebra III	A or B	A or B	A or B	N/A
Calculus	A or B	A or B	A or B	A or B
AP Calculus AB or BC	A or B	A or B	A or B	A or B
IB Math - Analysis and Approaches-Higher Level	A or B	A or B	A or B	A or B
Probability and Statistics	N/A	A or B	N/A	N/A
AP Statistics	N/A	A or B	N/A	N/A
Discrete Math	N/A	A or B	N/A	N/A

- Recent high school graduates who have a GPA of at least 3.0 and have taken at least Algebra II, but do not meet the grade criteria in the table above, may take the "Calculus only" portion of the VPT (CVPT) to determine placement into MTH 162 PreCalculus II, MTH 245 Statistics I, MTH 261 Applied Calculus I, or MTH 263 Calculus I. To learn if you meet the eligibility requirements for the CVPT, please contact Advising (https://www.nvcc.edu/student-resources/advising/) for assistance.

- Non-traditional students (students who graduated from high school more than 5 years ago) without college credit or with college coursework not analogous to NOVA course prerequisites and recent high school graduates with international transcripts are permitted to take the CVPT to determine placement into MTH 162 PreCalculus II, MTH 245 Statistics I, MTH 261 Applied Calculus I, or MTH 263 Calculus I. To learn if you meet the eligibility requirements for the CVPT, please contact Advising (https://www.nvcc.edu/student-resources/advising/) for assistance.
- Students who have already attempted a math course at NOVA are not permitted to take the CVPT to determine placement.
- Students with college credit may be placed into higher level math using prior college coursework, per VCCS Policy 6.4.0.2. A grade of C- or higher is acceptable for placement, although NOVA credit will not be awarded.
- Students enrolled in the prerequisite at another college or university may be permitted to enroll in a higher-level math course for the subsequent semester. Students may need to provide documentation that they have earned the required grade, per the prerequisite standards for the course, to avoid being dropped from the course.

Math Placement for International Students

Any student who has not completed high school in the U.S. must follow the guidelines below based on their documentation:

- U.S. University Transcript:
  - Unofficial Transcript: Send to mathplacement@nvcc.edu for placement approval.
  - Official Transcript: Send to the CRO (College Records Office (https://www.nvcc.edu/about/offices/college-records-office/)) for transfer credit evaluation.
- Foreign High School or University Transcript:
  - In English: Send to mathplacement@nvcc.edu for placement approval.
  - Not in English: Take the Math VPT (Virginia Placement Test).
- No High School or University Transcript:
  - Use the Self-Informed Tools (https://sites.google.com/email.vccs.edu/vccs-placement-guidance/self-informed) provided by mathplacement@nvcc.edu or seek advising.

English Course Placement

Course	Minimum Placement Requirement
EDE 10. ESL students may take the ESL assessment for guidance	1.99 or lower HS GPA
ENG 111 + EDE 11. ESL students may take ENG 111 with ESL 95	2.0-2.99 HS GPA
ENG 111	3.0+ HS GPA
ENG 115	2.0+ HS GPA

SAT/ACT/GED Scores for English Placement

Test	If you scored...	You may enroll in...
SAT-ERW, Evidence-Based Reading and Writing	480 or above	ENG 111
SAT-ERW, Evidence-Based Reading and Writing	400-470	ENG 111 + EDE 11. ESL students may take ENG 111 with ESL 95
ACT, Subject Area Tests English and Reading	18 or above	ENG 111
ACT, Subject Area Tests English and Reading	15-17	ENG 111 + EDE 11. ESL students may take ENG 111 with ESL 95
ACT, Subject Area Tests English and Reading	14 or below	EDE 10. ESL students may take the Accuplacer
GED-English	165 or above	ENG 111. ESL students may take ENG 111 with ESL 95
GED-English	164 or below	EDE 10. ESL Students may take the Accuplacer

TOEFL/IELTS/DuoLingo/Oxford ELLT Scores for English Placement

Test	If you scored...	You may enroll in...
TOEFL iBT	92 or higher	ENG 111
TOEFL iBT	76-91	ENG 111 + ESL 95
TOEFL iBT	59-75	ESL 51 + ESL 52
TOEFL iBT	43-58	ESL 41 + ESL 42
IELTS Band Average	7 or higher	ENG 111
IELTS Band Average	6.5	ENG 111 + ESL 95
IELTS Band Average	5.5-6	ESL 51 + ESL 52
IELTS Band Average	5	ESL 41 + ESL 42
DuoLingo	125+	ENG 111
DuoLingo	110-120	ENG 111 + ESL 95
DuoLingo	95-105	ESL 51 + ESL 52
DuoLingo	80-90	ESL 41 + ESL 42
Oxford ELLT	7-12	ENG 111

International students who do not have the above scores will need to take the Accuplacer. Students with scores lower than those listed above may contact ESL@nvcc.edu for additional guidance.

ACCUPLACER

What is the ACCUPLACER?

It has three parts and should take less than two hours to complete

How Do I Take the ACCUPLACER?

- First, complete the Online NOVA application. Then visit the Testing Center on campus. Appointments are recommended but not required. Find locations and hours for the Testing Centers here: NOVA Testing Centers (https://www.nvcc.edu/student-resources/technology/testing-centers/).
- It is important to take the ACCUPLACER at a time you can do your best because you cannot immediately take it again.

Students take a placement test to assess their English proficiency *prior* to enrolling in ESL courses. Students who score 74 or below on the ACCUPLACER and students in F-1 status who place at College ESL Levels 2 and 3 are referred to the American Cultural Language Institute (ACLI). Students who score 75 or higher on the ACCUPLACER will place into College ESL or ENG 111 College Composition I based on the assessment results. In-state and out-of-state guidelines apply to the College ESL Program, and financial aid is available for those who qualify.

Accuplacer Assessment Timeline

Immediate Placement Notification

- **Scores 99 and Below:**
  - Students will receive immediate placement based on their scores:
    - **92-99 points:** ESL Level 3
    - **75-91 points:** ESL Level 2
    - **20-74 points:** ESL Level 1 (ACLI)

Essay Grading for Higher Scores

- **Scores 100 and Above:**
  - Essays will be evaluated by ESL Faculty. Students will receive their placement information via email, typically within **1 to 2 business days**, depending on faculty availability.

Class Identification

- **For Students Scoring 99 and Below:**
  - The Placement Result Message will list the ESL courses required based on the student's score.
- **For Students Scoring 100 and Above:**
  - An email will be sent containing placement details and a list of required ESL courses.

Student Notification

- **Scores 99 and Below:**
  - Students will be informed of their placement immediately upon test completion.
- **Scores 100 and Above:**
  - Students will receive an email notification within **1 to 2 business days**, contingent on ESL Faculty availability.

NOL - NOVA ONLINE

NOVA is committed to preparing students for today's workforce and recognizes computers to be an extension of the learning tools needed to be globally competitive. All NOVA students are expected to have a laptop (or a desktop with webcam and microphone) that meets the minimum requirements for their major. Students are also expected to have access to reliable internet at home or through a mobile device hot spot. (**Note:** Chromebooks and iPads are useful but insufficient to replace a laptop. They will not run all the software typically needed at NOVA). Students can find the required specifications for their computers by reviewing NOVA's technology requirements (https://www.nvcc.edu/academics/online/admissions/orientation/need-to-know-pg-5.html). NOVA Online offers online learning courses to students who require a more flexible schedule for their academic work, seek to complete NOVA courses while residing outside the local area, or prefer to learn online. Many NOVA degrees/specializations and certificates can be earned in their entirety or in part online. Courses are available in more than sixty disciplines. See the NOVA Online website (https://www.nvcc.edu/academics/online) for a complete listing of programs and courses.

While most of NOVA's Online coursework may be completed at home, some courses require face-to-face participation for labs or exams. In general, for each 3-credit course, students should plan to study at least 6-9 hours each week depending on the session length. Like campus-based classes, NOVA Online courses have regular assignment deadlines. Students also have access to dedicated faculty and staff support, including assistance via phone, email, office visits, or web conferencing. Beyond campus-based resources, NOVA Online provides holistic support services tailored to online learners, including academic counselors, success coaches, librarians, online tutors, and additional support staff.

Similar to campus-based courses, NOVA Online courses have proctored activities and or exams. Exams may be proctored using tools like Respondus Monitor and Respondus Lockdown Browser, Zoom Live, or Honorlock. Under special circumstances students may need to secure an exam proctor.

Students may enroll in NOVA Online courses the same way they enroll in on-campus courses, through myNOVA. Most NOVA Online courses have multiple sections starting throughout the semester. When course capacity limits are reached, NOVA Online sections are closed to further enrollment.

Veterans and military-related students who use VA benefits must have classes certified by completing the online Veterans Enrollment Form. For international students, certain restrictions apply to how many NOVA Online credits they may take in a given semester.

For additional information, see "NOVA Online" in the Academic Policies and Information (p. 11) section or visit the NOVA Online website.

NOVA Online Staff Telephone

Main number: 703-323-3000
Counselors: 703-323-3347
NOVA Online Hotline: 703-323-3347
Financial Aid: 703-764-5015
IT Support: 703-426-4141
Registration: 703-323-3347
Success Coaches: 703-323-3347
Testing/Proctors: 703-323-3347

Complaint Resolution, NOVA Online

NOVA's Student Grievance Process for academic and other decisions is described in the Policy and Procedures 608 and 608P. Complaints arising from students living outside Virginia who are enrolled in online course(s) through NOVA Online are subject to oversight by the State Council of Higher Education for Virginia (SCHEV) in accordance with the State Authorization Reciprocity Agreemen (https://nc-sara.org/)t (SARA). If an issue cannot be resolved by NOVA's internal processes as described in 608 and 608P, students may file a formal complaint directly with the State Council of Higher Education for Virginia (https://www.schev.edu/students/resources/student-complaints) (SCHEV). Grade appeals and student conduct appeals are not allowed under SARA. Students residing outside of Virginia can find information about their state's student complaint procedures by visiting NOVA Online's State Authorization Information for Students Outside of Virginia site. (https://www.nvcc.edu/academics/online/programs/state-authorization.html)

STUDENT SERVICES AND RESOURCES

NOVA provides several services designed to help with a student's education, career, and personal development.

The NOVA Student Resources (https://www.nvcc.edu/student-resources/) site provides additional information about the College, including student activities and organizations and the statement of student rights and responsibilities.

The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. For information, please go to the Student Records (FERPA) page (https://www.nvcc.edu/policies/_files/613-FERPA.pdf) and Federal FERPA page (https://studentprivacy.ed.gov/ferpa).

Student Rights and Responsibilities

NOVA strives to be a learning-centered institution that prioritizes student success, a vision reflected in the Student Code of Conduct, which fosters a safe and supportive learning environment. Grounded in the College's Core Values-Care, Excellence, Inclusion, Integrity, and Respect-the Code of Conduct establishes clear expectations for student behavior that align with these principles. When a student's conduct disrupts the College's educational mission, the conduct process may be initiated to address the behavior while promoting accountability and growth.

NOVA's approach to student conduct emphasizes both resolution and education, guiding students toward personal and academic development. The goal is that through engagement with the conduct process, students will become more informed learners, responsible members of the College community, and engaged global citizens. To learn more about expectations, rights, and responsibilities, view the Student Code of Conduct (https://www.nvcc.edu/about/offices/student-rights/student-code.html).

Academic Advising

Academic advising (https://www.nvcc.edu/student-resources/advising/) is a comprehensive program facilitated by advisors, teaching faculty, and student services personnel. The advising relationship is an ongoing, developmental process built on open communication, mutual respect, and honesty. Advising supports students as they transition to college and work toward their academic, career, and personal goals.

Through participation in a range of advising activities-including individual and group advising sessions, classes, and workshops-students gain an understanding of campus and College resources while developing the skills to make informed, independent decisions. Students may schedule an appointment (https://nvcc.navigate.eab.com/app/#/authentication/remote/) or meet with an advisor virtually (https://www.nvcc.edu/student-resources/advising/virtual-advising/).

Wellness and Mental Health

The Office of Wellness and Mental Health (OWMH) (https://www.nvcc.edu/about/offices/wellness/) promotes a culture of care to assist NOVA students and community in accessing wellness and mental health resources, support, and interventions to positively enhance their social and emotional development, educational and career success. The aim is to focus on the individual as a whole: mind, body, and spirit.

If you are in a mental health crisis, call 988 or 703.527.4077. For all other emergencies, call 911. View the 988-Crisis Lifeline Flyer (https://www.nvcc.edu/dist/files/sites/about/offices/wellness/988-Crisis-Hotline.pdf) for more information.

Accommodations and Accessibility Services

NOVA is committed to ensuring all students have an opportunity to pursue a college education regardless of the presence or absence of a disability. NOVA makes reasonable accommodations in providing course, program, and building modification, and/or auxiliary aids and services in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Students who require services should contact Accommodations and Accessibility Services (http://www.nvcc.edu/student-resources/accessibility/) at least four weeks prior to the beginning of classes for support.

Accessible parking spaces are available on each campus. A disabled parking placard or license plate issued by the Department of Motor Vehicles is required. The College does not issue disabled parking placards or license plates.

International Student Services

The Office of International Student Services (OISS) supports the outreach and admission of qualified students from outside the United States to study at NOVA on an F1 international student status. OISS manages the onboarding process by providing international students with the resources they need to be academically successful and compliant with their immigration requirements. The office provides services related to travel, employment authorization, reduced course load and transfer out among other status related requests for the international student population on all NOVA campuses.

Military and Veteran Services Office

NOVA's Office of Military and Veteran Services (https://www.nvcc.edu/about/offices/military/) helps all members of the military community-active duty, veterans, and family members-achieve their education and career goals. Military members can receive assistance with navigating the admissions process, troubleshooting payment issues, understanding Tuition Assistance (TA) and VA benefits, and provide connections with College representatives and community resources.

The office coordinates all veterans' educational benefits from the federal Department of Veterans Affairs for the College. Information, counseling, and certification of enrollment for veterans are available from each campus veteran's advisor. See also "Admission" and "Financial Information" for further information relative to veterans.

Library and Learning Supports

Library

Students, faculty, staff, and members of the community may access the combined College collection of more than 200,000 units of print and nonprint materials that is available at all of the campuses or remotely. Books, periodicals, and media are loaned among the campuses by intercampus mail couriers.

Open stacks and immediate access to materials are common to all campuses. Books, periodicals, online databases, and media are selected primarily for support of the campus instructional programs, for personal

intellectual growth, and the development of a cultural environment. Extensive access to online materials adds breadth and depth to the resources. Students may also access copies of course materials at no cost. All patrons may use networked workstations on campus to search a variety of online resources and the Internet. Access to electronic resources and campus library information is available at www.nvcc edu/library (http://www.nvcc.edu/library).

Staff members provide research assistance and instruction in the use of resources both on-site and virtually. Through a reciprocal agreement, NOVA students, faculty, and staff have access to the library collections at George Mason University.

Testing Centers

Testing services for placement purposes, for classes, and in support of NOVA Online are available in the Testing Centers.

Tutoring Services

NOVA's Tutoring Centers offer two types of services: in-person at the campus centers and virtual tutoring via Zoom. In addition to appointments, the centers also provide walk-in services. Learn more or book at an appointment at https://www.nvcc.edu/student-resources/tutoring/index.html (https://www.nvcc.edu/student-resources/tutoring/).

Assistive Technology Services

Accommodations and Accessibility Services provides support to College personnel in the use of assistive technology used to serve students with disabilities. Assistive Technology may include software programs to help enhance academic skills in reading and writing, text-to speech programs, dictation software programs, as well as hardware such as alternate keyboards, text magnifiers, and smart pens. Accommodations and Accessibility Services also provides instruction in the conversion of alternate format for texts and course materials when needed to support the specific needs of students with disabilities.

Career Development Services

Career Planning Services

The Career Services Centers provide resources to support students, faculty, staff, and alumni. Services include career assessments, occupational information, salary trends, goal setting, career planning, and employment resources to help individuals navigate their professional journey.

For more information on available career resources and support, visit the Career Services Center (https://www.nvcc.edu/student-resources/career-services/).

Employment Resources

Area employers cooperate with the College to provide part-time and full-time employment for students. Career Connection (https://www.nvcc.edu/student-resources/career-services/career-connection.html) is an online listing for students and local employers. This site also includes additional online job search engines and resources with information on public and private sector employment.

Student Life

To encourage students to make the most of their educational experience at NOVA, the College offers diverse educational, cultural, and social activities and programs. These unique opportunities are offered to complement and enhance the student's learning process both in and out of the classroom environment. Student activities include student government, student publications, intercollegiate and intramural sports, performing arts, political organizations, professional and community service organizations, cultural and religious organizations, and many other interest groups. *All* students are welcome to participate and get involved by visiting the Office of Student Life (https://www.nvcc.edu/student-life/).

Safety Information

The College has a professionally trained police force on each campus. These officers provide protection for the campus community. The College publishes the *Annual Security Report*, which can be found on the Police section of NOVA's website. The document details the College's safety programs, crime statistics, and crime prevention. Furthermore, it includes the College's policies and procedures to address alcohol and drug use, the reporting of crimes, sexual assault, and other matters.

Copies of the *Annual Security Report* are available from the campus Police Offices (https://www.nvcc.edu/student-life/college-safety/police/) and Enrollment Services Office.

Sexual Misconduct

As a recipient of federal funds, Northern Virginia Community College is required to comply with Title IX of the Higher Education Amendments of 1972, 20 U.S.C. § 1681 et seq. ("Title IX"), which prohibits discrimination on the basis of sex in education programs or activities, admission, and employment. Under certain circumstances, sexual harassment constitutes sexual discrimination prohibited by Title IX. See Policy 110 (110-Sexual-Misconduct.pdf (https://www.nvcc.edu/policies/_files/110-Sexual-Misconduct.pdf)) for more information. Inquiries concerning the application of Title IX may be referred to the College's Title IX Coordinator or to the U.S. Department of Education's Office for Civil Rights. NOVA's Title IX Coordinator can be contacted at TitleIX@nvcc.edu.

Threat Assessment Team

Campus safety at NOVA is a shared responsibility, relying on referrals from students, employees, and visitors to ensure a secure and enriching environment. NOVA's multi-disciplinary Threat Assessment Team, formed in compliance with Virginia Code 23.1-805 (https://law.lis.virginia.gov/vacode/title23.1/chapter8/section23.1-805/), includes representatives from student affairs, law enforcement, human resources, and counseling services.

The Threat Assessment Team's mission is to assess whether an individual may pose a threat of violence to themselves, others, or the NOVA community. The team provides guidance, recommends interventions, and promotes coordinated communication throughout the review process.

By identifying and assessing concerning behaviors from students, employees, visitors, and others, the team makes informed recommendations to help prevent incidents. Through their guidance and coordination, they support NOVA's commitment to maintaining a safe, secure, and productive learning environment across all campuses.

Contacting the Threat Assessment Team: If you are encountering an emergency, call 911 or the NOVA Police Department (https://www.nvcc.edu/student-life/college-safety/police/) immediately. For non-emergency concerns about threatening behavior or a disturbing situation, submit a report. If you have questions about submitting a report or an incident, email the team at TATReferral@nvcc.edu.

Technology Support and Guidelines

NOVA students will have access to and use of information technology applications, services, and resources as part of their enrollment. Enrolled students are provided with a student account to access their student email, the Student Information System (myNOVA), and online Canvas courses. MyNOVA allows students to enroll and pay for courses online.

Students are responsible for checking their email often for College announcements on student services or messages from instructors and classmates. To ensure student privacy, the College will use a student's official College email address.

The Virginia Community College System has established a student ethics agreement for the use of College computer information technology. Student use of this technology is limited to his or her role as a student at the College, and there are certain security procedures that all students are expected to observe. The Information Technology Student/Patron Ethics (https://www.nvcc.edu/dist/files/sites/policies/pdfs/501P-VCCS-Information-Technology-Requirements-Standards-Policies-and-Guidelines.pdf) Agreement is available in the *Student Resources site* and posted in computer laboratories, libraries, and other areas where access to College computer services is available.

Technology Expectations

To attend NOVA, students are expected to have a laptop (or a desktop with webcam and microphone) that meets the minimum requirements for their major and internet access at home or through a mobile device hot spot. (**Note:** Chromebooks and iPads are useful but insufficient to replace a laptop. They will not run all the software typically needed at NOVA). Students can find the required specifications for their computers in the Student Computer Specifications document (https://www.nvcc.edu/student-resources/technology/purchase.html).

CONSUMER INFORMATION AND ACCREDITATION

Consumer Information

The College is obligated under the 1998 Amendments to the Higher Education Act of 1965 to disclose annually where the following student consumer information may be found.

Consumer Information	Where Available
• Procedures for inspecting and reviewing of student's education records • Procedures for amending student records • Procedures for disclosing student's educational records	• Federal FERPA website: https://studentprivacy.ed.gov/ferpa • Student Records (FERPA) website: https://www.nvcc.edu/dist/files/sites/policies/pdfs/613-FERPA.pdf
• Procedures for filing a complaint to the U.S. Department of Education	• See U.S. Dept. of Education, Office for Civil Rights website at www2.ed.gov/about/offices/list/ocr/docs/howto.html (http://www2.ed.gov/about/offices/list/ocr/docs/howto.html) and Office of Inspector General website at https://oig.hhs.gov/
• A list of all available federal, state, local, private, and institutional financial need-based and non-need-based assistance programs • The application procedures, eligibility criteria, method and frequency of disbursements, terms of loans, general conditions, and exit counseling information for these assistance programs	• Financial aid website: https://www.nvcc.edu/admissions/financialaid/index.html (https://www.nvcc.edu/admissions/financialaid/) • Types of Financial Aid: https://www.nvcc.edu/admissions/financialaid/types-of-aid/index.html (https://www.nvcc.edu/admissions/financialaid/types-of-aid/) • Student Loan Information: https://www.nvcc.edu/admissions/financialaid/types-of-aid/loans/index.html (https://www.nvcc.edu/admissions/financialaid/types-of-aid/loans/) • Financial Aid Disbursements: https://www.nvcc.edu/admissions/financialaid/policies/awards.html • Federal Student Loan Eligibility Requirements: https://studentaid.gov/understand-aid/eligibility/requirements • Federal Student Loan Exit Counseling: https://studentaid.gov/exit-counseling/
• Cost of attending College (tuition and fees posted online only) • Refund policy • Grant or loan return or repayment procedures for withdrawn students • Requirements for officially withdrawing from the College	• Financial aid website: https://www.nvcc.edu/admissions/financialaid/index.html (https://www.nvcc.edu/admissions/financialaid/) • Financial Aid: https://www.nvcc.edu/financialaid/index.html (https://www.nvcc.edu/financialaid/) • Cost of Attendance: https://www.nvcc.edu/admissions/tuition/cost.html • Refund Policy: https://www.nvcc.edu/admissions/tuition/refunds.html • Return of Title IV (R2T4) Policy: https://www.nvcc.edu/admissions/financialaid/policies/return-title-iv-funds.html • Withdrawal Policy: https://catalog.nvcc.edu/enrollment-information/
• Academic programs information	• Catalog: https://www.nvcc.edu/catalog/index.html (https://www.nvcc.edu/catalog/) • Schedule of Classes: https://www.nvcc.edu/academics/schedule/index.html (https://www.nvcc.edu/academics/schedule/)
• Organizations that accredit, license, or approve the College and its programs. Procedures for reviewing schools' accreditation, licensing, or approval documentation	• Catalog: https://catalog.nvcc.edu/general-information/ • Accreditation: https://www.nvcc.edu/about/accreditation/index.html (https://www.nvcc.edu/about/accreditation/)
• Description of any special services and facilities for disabled students	• Catalog: https://catalog.nvcc.edu/student-services-resources/ • Accommodations and Accessibility Services: https://www.nvcc.edu/student-resources/accessibility/index.html (https://www.nvcc.edu/student-resources/accessibility/)
• Title and availability of NOVA staff responsible for dissemination of institutional and financial assistance disclosure information and how to contact them	• Financial aid: http://www.nvcc.edu/admissions/financialaid/index.html (http://www.nvcc.edu/admissions/financialaid/)

• Statement that enrollment in a study abroad program approved for credit may be considered enrollment at NOVA for the purpose of applying for Title IV assistance	• Catalog: https://catalog.nvcc.edu/academic-policies-information/#text • If a NOVA credit course offers special studies abroad, it is treated as a regular credit course.
• Completion or graduation rate for NOVA certificate-or degree-seeking, full-time students who graduated or completed their program within 150% of the normal time for graduation or completion • Transfer-out rate for above described students • Guaranteed Admission Agreements and Articulation Agreements	• Office of Strategic Insights (OSI) Reports: https://www.nvcc.edu/about/offices/strategic-insights/index.html (https://www.nvcc.edu/about/offices/strategic-insights/) • Virginia Community College System (VCCS) Institutional Research Information: https://www.vccs.edu/statistics/ • Guaranteed Admission Agreements: https://www.nvcc.edu/student-resources/transfer/gaa.html and Articulation Agreements: https://www.nvcc.edu/student-resources/transfer/art.html
• Campus security report. The Annual Security Report includes statistics concerning crimes on College property. The report includes institutional policies on campus security, alcohol and drug use, crime prevention, the reporting of crimes, sexual assault, and other matters.	• Annual Security Report: https://www.nvcc.edu/student-life/college-safety/police/clery-act/security-reports.html
• Privacy of Records (FERPA): Notification of student rights under the Family Educational Rights and Privacy Act.	• FERPA Annual Notice: https://www.nvcc.edu/student-resources/transcripts/ferpa-annual-notice.html
• Student Code of Conduct including prohibited conduct, disciplinary procedures, and sanctions related to behavior, academic integrity, copyright infringement, etc.	• Student Code of Conduct: https://www.nvcc.edu/about/offices/student-rights/vccs-student-code-policy.html
• Voter Registration information	• Voter Registration: https://www.nvcc.edu/student-life/vote.html

Accreditation

Northern Virginia Community College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award the associate degree. Northern Virginia Community College also may offer credentials such as certificates and diplomas at approved degree level. Questions about the accreditation of Northern Virginia Community College may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097; by calling (404) 679-4500; or by using information available on SACSCOC's website (https://www.sacscoc.org/). For other information about the College, please contact NOVA's Administrative Offices, 4001 Wakefield Chapel Road, Annandale, Virginia 22003 (703-323-3000). Curricula of the College are approved by the College Board and by the State Board. The two-year associate degree programs are also approved by the State Council of Higher Education for Virginia (SCHEV) (http://www.schev.edu/).

Statement of Non-Discrimination: Equal Opportunity Institution

Northern Virginia Community College (NOVA) provides equal employment opportunities to all employees and applicants for employment and educational opportunities to all students and prohibits discrimination and harassment of any type without regard to race, color, religion, age, sex, national origin, disability status, genetics, political affiliation, veteran status, sexual orientation, gender identity or other non-merit factors. Inquiries regarding the non-discrimination policy may be addressed to the EEO Officer at 3926 Pender Drive, Suite 150, Fairfax, VA 22030, (703) 323-3284, or eo@nvcc.edu.

Oversight of Student Grievance and Complaint Procedures

Northern Virginia Community College provides fair and orderly procedures to resolve student grievances. Policy 608 Student Grievances (https://www.nvcc.edu/dist/files/sites/policies/pdfs/608-Student-Grievances.pdf) and its accompanying procedures specify the timeline and process to follow to initiate the grievance process. The procedures for Policy 608 are subject to oversight of the State Council of Higher Education for Virginia (SCHEV). If an issue cannot be resolved by NOVA's internal processes, students may file a formal complaint directly with SCHEV. (https://www.schev.edu/students/resources/student-complaints)

Additionally, the Virginia State Approving Agency (SAA) validates and approves education and training courses and programs to be pursued by veterans and eligible persons. The SAA oversees Virginia's educational and training institutions and ensures compliance with federal and state guidelines. The SAA protects veterans and schools from fraud, waste, and abuse and investigates complaints of GI Bill® beneficiaries and others. Complaints should follow NOVA's grievance policy. If the situation cannot be resolved at NOVA, military-affiliated students may contact SAA at saa@dvs.virginia.gov.

The State Authorization Reciprocity Agreement (SARA) (https://www.nc-sara.org/) includes consumer protection provisions for online students that require an institution's home state, in this case SCHEV, to investigate and resolve allegations of dishonest or fraudulent activity. Student complaints relating to consumer protection laws offered under the terms and conditions of SARA must first be filed with the institution to seek resolution (Note: grade or student conduct appeals are not included). If the situation cannot be resolved at NOVA, online students may contact SCHEV.

Refer to "Course Grade Appeals/Student Grievances" under "Academic Policies and Information" for internal procedures.

GENERAL EDUCATION ELECTIVES

General education is that portion of the collegiate experience that addresses the knowledge, skills, attitudes, and values characteristic of educated persons. It is unbounded by disciplines and honors the connections among bodies of knowledge. NOVA degree graduates will demonstrate competency in the following general education areas: civic engagement, critical thinking, professional readiness, quantitative literacy, scientific literacy, and written communication.

Consequently, the College, in accord with the general education guidelines of the Virginia Community College System, has determined the following list of general education electives.

It is highly recommended that students consult with an academic advisor or counselor in order to select the most appropriate course for their curriculum and/or transferability to another college.

NOVA offers Passport Courses (https://catalog.nvcc.edu/passport-courses/), which are typically taken in the first semester of many degree programs. These courses will transfer to most Virginia public colleges and universities. Exceptions may exist for specific baccalaureate programs. Students also have the option to complete the Uniform Certificate of General Studies (UCGS) (https://www.schev.edu/home/showpublisheddocument/4930/639071831318666908). UCGS courses are also indicated in the General Education Elective section below, marked with an asterisk (*).

Certain programs of study may require specific types of electives. Each type of elective is listed below.

Open Electives may be filled by any course offered by the College.

Transfer Electives may be filled by any General Education elective or other transferable courses from an approved, limited listing. Each degree program that uses this elective has its own list of approved courses.

Technical Electives may be filled only by the specific courses allowed by the program.

General Education Electives may be filled by any course on the General Education list below.

Humanities/Fine Arts Electives

Art

*Select two courses chosen from different categories, i.e. the two courses **cannot** be from the same category.*

** UCGS course.*
 # Passport course.

Code	Title	Credits
ART 100	Art Appreciation * #	3
ART 101	History of Art: Prehistoric to Gothic * #	3
ART 102	History of Art: Renaissance to Modern * #	3
ART 150	History of Film & Animation	3
ART 215	History of Modern Art	3
ART 250	History of Design	3
CST 130	Introduction to The Theatre * #	3
CST 141	Theatre Appreciation I	3
CST 151	Film Appreciation * #	3
MUS 121	Music in Society * #	3
MUS 221	History of Western Music pre-1750 * #	3
MUS 222	History of Western Music 1750 to Present * #	3
MUS 225	The History of Jazz	3
MUS 226	(Not currently offered at NOVA) * #	
PHT 110	History of Photography	3

Humanities

** UCGS course.*
 # Passport course.
*** Check with your advisor to see if ASL meets the foreign language requirement at your transfer school.*

Code	Title	Credits
ARC 200	History of Architecture	4
ASL 201	Intermediate American Sign Language I **	3
ASL 202	Intermediate American Sign Language II **	3
HUM 201	Early Humanities * #	3
HUM 202	Modern Humanities * #	3
HUM 210	Introduction to Women and Gender Studies * #	3
HUM 216	(Not currently offered at NOVA) * #	
HUM 220	Introduction to African American Studies * #	3
HUM 256	Mythology in Literature and the Arts (Not currently offered at NOVA) * #	3
HUM 259	The Greek and Roman Tradition * #	3
PHI 100	Introduction to Philosophy * #	3
PHI 111	Logic * #	3
PHI 220	Ethics and Society * #	3
PHI 227	Biomedical Ethics	3
REL 100	Introduction to the Study of Religion * #	3
REL 230	Religions of the World * #	3
REL 233	Introduction to Islam	3
REL 237	Religions of the East * #	3
REL 238	Religions of the West * #	3
REL 240	* #	
ARA 201	Intermediate Arabic I	4
ARA 202	Intermediate Arabic II	4
CHI 201	Intermediate Chinese I	4
CHI 202	Intermediate Chinese II	4
FRE 201	Intermediate French I	3
FRE 202	Intermediate French II	3
GER 201	Intermediate German I	3
GER 202	Intermediate German II	3
JPN 201	Intermediate Japanese I	4
JPN 202	Intermediate Japanese II	4
LAT 201	Intermediate Latin I	3
LAT 202	Intermediate Latin II	3
RUS 201	Intermediate Russian I	4
RUS 202	Intermediate Russian II	4
SPA 201	Intermediate Spanish I	3
SPA 202	Intermediate Spanish II	3

Literature

** UCGS course.*
 # Passport course.

Code	Title	Credits
ENG 225	Reading Literature: Culture and Ideas *	3
ENG 230	Mystery in Literature & Film	3
ENG 236	Introduction to the Short Story	3
ENG 237	Introduction to Poetry	3
ENG 245	British Literature *	3
ENG 246	American Literature *	3
ENG 250	Children's Literature *	3
ENG 255	World Literature *	3
ENG 256	Literature of Science Fiction	3
ENG 257	Mythological Literature	3
ENG 258	African American Literature *	3
ENG 271	The Works of Shakespeare I	3
ENG 275	Women in Literature *	3
ENG 279	Film And Literature	3

Physical and Life Sciences/Mathematics Electives

Physical and Life Sciences Electives

** UCGS course.*
 # Passport course.

Code	Title	Credits
BIO 101	General Biology I *#	4
BIO 102	General Biology II *	4
BIO 106	(Not currently offered at NOVA) *#	4
CHM 101	Introductory Chemistry I *#	4
CHM 111	General Chemistry I *#	4
CHM 112	General Chemistry II *	4
ENV 121	Foundations of Environmental Science *#	4
ENV 122	Applications in Environmental Science *	4
GOL 105	Physical Geology *#	4
GOL 106	Historical Geology *#	4
GOL 110	(Not currently offered at NOVA) *#	
GOL 111	Oceanography I	4
GOL 112	Oceanography II	4
NAS 125	Meteorology	4
PHY 100	Elements of Physics *#	4
PHY 150	Elements of Astronomy	4
PHY 201	General College Physics I *	4
PHY 202	General College Physics II *	4
PHY 241	University Physics I *	4
PHY 242	University Physics II *	4

Mathematics Electives

** UCGS course.*
 # Passport course.

Code	Title	Credits
MTH 154	Quantitative Reasoning *#	3
MTH 155	Statistical Reasoning *#	3
MTH 161	PreCalculus I *#	3
MTH 162	PreCalculus II *#	3
MTH 167	PreCalculus with Trigonometry *#	5
MTH 245	Statistics I *#	3
MTH 246	Statistics II	3
MTH 261	Applied Calculus I *#	3
MTH 262	Applied Calculus II	3
MTH 263	Calculus I *#	4
MTH 264	Calculus II *#	4

Social/Behavioral Sciences Electives

History Electives

** UCGS course.*
 # Passport course.

Code	Title	Credits
HIS 101	Western Civilizations Pre-1600 CE *#	3
HIS 102	Western Civilizations Post-1600 CE *#	3
HIS 111	World Civilizations Pre-1500 CE *#	3
HIS 112	World Civilizations Post-1500 CE *#	3
HIS 121	United States History to 1877 *#	3
HIS 122	United States History Since 1865 *#	3
HIS 203	History of African Civilizations	3
HIS 231	Introduction to Latin American History	3
HIS 254	History of Modern East Asian Civilizations	3

Other Social/Behavioral Sciences Electives

** UCGS course.*
 # Passport course.

Code	Title	Credits
ADJ 100	Survey of Criminal Justice	3
ECO 150	Economic Essentials: Theory and Application *#	3
ECO 201	Principles of Macroeconomics *#	3
ECO 202	Principles of Microeconomics *#	3
GEO 200	Introduction to Physical Geography	3
GEO 210	People & the Land: Intro. to Cultural Geography *#	3
GEO 220	World Regional Geography *#	3
PLS 135	U.S. Government and Politics *#	3
PLS 140	Introduction to Comparative Politics *#	3
PLS 200	Introduction to Political and Democratic Theory	3
PLS 241	Introduction to International Relations *	3
PSY 200	Principles of Psychology *#	3
PSY 216	Social Psychology	3
PSY 219	Cross-Cultural Psychology	3
PSY 230	Developmental Psychology	3
SOC 200	Introduction to Sociology *#	3
SOC 211	Cultural Anthropology *#	3
SOC 268	Social Problems *#	3

These courses satisfy specific NOVA program requirements. Students are advised to consult their intended transfer institution's general education and program-specific requirements to ensure that selected courses apply toward their intended transfer program.

Communication, Language, Studio Art, and Technology Electives

Students should align this selection with their intended transfer destination's specific general education or programmatic requirements.

** UCGS course.*

Code	Title	Credits
ART 121	Foundations of Drawing *	3
ART 131	Two-Dimensional Design *	3
ART 132	Three-Dimensional Design *	3
ART 223	Life Drawing *	3
ASL 101	Beginning American Sign Language I *	4
ASL 102	Beginning American Sign Language II *	4
ASL 201	Intermediate American Sign Language I *	3
ASL 202	Intermediate American Sign Language II *	3
CSC 110	Principles of Computer Science *	3
CST 100	Principles of Public Speaking *	3
CST 110	Introduction to Human Communication *	3
CST 126	Interpersonal Communication	3
CST 229	Intercultural Communication	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications *	3
MUS 101	Fundamentals of Music *	3
ARA 102	Beginning Arabic II *	4
ARA 101	Beginning Arabic I *	4
ARA 201	Intermediate Arabic I *	4
ARA 202	Intermediate Arabic II *	4
CHI 101	Beginning Chinese I *	4
CHI 102	Beginning Chinese II *	4
CHI 201	Intermediate Chinese I *	4
CHI 202	Intermediate Chinese II *	4
FRE 101	Beginning French I *	4
FRE 102	Beginning French II *	4
FRE 201	Intermediate French I *	3
FRE 202	Intermediate French II *	3
GER 101	Beginning German I *	4
GER 102	Beginning German II *	4
GER 201	Intermediate German I *	3
GER 202	Intermediate German II *	3
JPN 101	Beginning Japanese I *	4
JPN 102	Beginning Japanese II *	4
JPN 201	Intermediate Japanese I *	4
JPN 202	Intermediate Japanese II *	4
LAT 101	Beginning Latin I *	4
LAT 102	Beginning Latin II *	4
LAT 201	Intermediate Latin I *	3
LAT 202	Intermediate Latin II *	3
RUS 101	Beginning Russian I *	4
RUS 102	Beginning Russian II *	4
RUS 201	Intermediate Russian I *	4
RUS 202	Intermediate Russian II *	4
SPA 101	Beginning Spanish I *	4
SPA 102	Beginning Spanish II *	4
SPA 201	Intermediate Spanish I *	3
SPA 202	Intermediate Spanish II *	3

Accounting, A.A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 2030

Purpose

The curriculum is designed for persons who seek employment in the accounting field or for those presently in accounting who wish to increase their knowledge and update their skills. Job opportunities include accounting trainee, accounting technician, junior accountant, and accountant.

NOVA's A.A.S. in Accounting is excellent for those interested in the organization and reporting of financial data. Upon completion of the program, students can take an additional three courses for the Accounting Career Studies Certificate, and then are eligible to proceed to the CPA exam (if other education requirements are satisfied). Contact the Virginia Board of Accountancy for all education requirements.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Recommended Preparation

The student should possess a proficiency in high school English and a strong background in basic arithmetic.

Two Years

Course	Title	Credits
1st Semester		
ACC 211	Principles of Accounting I	3
BUS 100	Introduction to Business	3
ENG 111	College Composition I	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
ACC 212	Principles of Accounting II	3
ACC 215	Computerized Accounting	3
CST 110 or CST 227	Introduction to Human Communication or Business and Professional Communication	3

ECO 150	Economic Essentials: Theory and Application	3
ITE 140	Spreadsheeting for Business	3
	Credits	**15**
3rd Semester		
ACC 221	Intermediate Accounting I	3
ACC 231	Cost Accounting I	3
ACC 261	Principles of Federal Taxation I	3
BUS 240	Introduction to Business Law	3
ENG 112	College Composition II	3
	Credits	**15**
4th Semester		
ACC 222	Intermediate Accounting II	3
ACC 241	Auditing I	3
BUS 200	Principles of Management	3
BUS 220	Introduction to Business Statistics [1]	3
FIN 215	Financial Management	3
PHI 220	Ethics and Society	3
	Credits	**18**
	Total Credits	**64**

Upon the completion of this program, students may consider the Accounting Career Studies Certificate (p. 52). Additional courses needed are as follows: ACC 219 Gov. & Not-For-Profit Accounting, ACC 262 Principles of Federal Taxation II, and ACC 230 Advanced Accounting.

[1] May substitute with BUS 224 Business Statistics. Alternatively, students may request MTH 245 Statistics I as substitute for BUS 220 Introduction to Business Statistics; contact a faculty advisor to request a course substitute for MTH 245 Statistics I.

Accounting, C.S.C.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 221-203-02

Purpose

This curriculum is designed to provide students with the accounting courses required by of the Virginia Board for Accountancy to sit for the Certified Public Accountancy (CPA) examination. To meet the educational requirements to sit for the Virginia CPA exam as of July 1, 2025, a candidate must obtain from one or more accredited institutions or from the National College the following:

- at least 120 semester hours of education;
- baccalaureate or higher degree; and
- accounting concentration or equivalent[1]

An accounting concentration or equivalent is comprised of:

- a minimum of 24 semester hours of accounting courses, including courses in accounting information systems, auditing, financial accounting, and taxation (referred to as Core Accounting Courses); and
- a minimum of 24 semester hours of business courses. As many as 6 hours of accounting courses (not included in the 24 hours of accounting courses) may be considered for the business course requirement.

[1] Principles or introductory accounting courses should not be considered in determining whether a person has obtained the 48 minimum number of semester hours required for an accounting concentration or equivalent.

- Candidates are highly encouraged to use the Education Handbook (https://boa.virginia.gov/cpa-exam/requirements/education-handbook/) to evaluate and confirm the education requirements to qualify for the CPA exam: https://boa.virginia.gov/cpa-exam/requirements/education-handbook/.

Admission Requirements

Successful completion of ACC 211 Principles of Accounting I and ACC 212 Principles of Accounting II or equivalent as demonstrated through transcript evaluation.

These accounting courses may also meet accounting requirements of various government and private sector positions.

Students on Financial Aid should consider the AAS in Accounting Degree in order to get financial aid coverage of ACC 211 Principles of Accounting I and ACC 212 Principles of Accounting II.

Students who do not have the required business courses may find the AAS in Accounting Degree a good alternative for covering all CPA requirements.

One Year

Course	Title	Credits
1st Semester		
ACC 219	Gov. & Not-For-Profit Accounting	3
ACC 221	Intermediate Accounting I	3
ACC 231	Cost Accounting I	3
ACC 261	Principles of Federal Taxation I	3
ACC 215 or ACC 263	Computerized Accounting or Data Analytics and Statistics in Accounting	3
	Credits	**15**
2nd Semester		
ACC 222	Intermediate Accounting II	3
ACC 230	Advanced Accounting	3
ACC 241	Auditing I	3
ACC 262	Principles of Federal Taxation II	3
	Credits	**12**
	Total Credits	**27**

Since the CPA exam is a computer-based test, students should be proficient with computers, including the ability to work with Windows, Word, and Excel.

Accounting: Accounting Information Security with Data Analytics, C.S.C.

Location(s): AL, AN, LO, MA, WO
NOVA Code: 221-203-10

Purpose

This program is designed to provide knowledge in accounting, information security, and analytics to working business professionals. This program enables students to bridge the gap between accounting and technology. This program helps prepare students for the highly in demand Certified Information Systems Auditor (CISA) exam and/or

registered CPA's for the Certified Information Technology Professional (CITP) exam.

One Year

Course	Title	Credits
1st Semester		
ACC 211	Principles of Accounting I	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**7**
2nd Semester		
ACC 212	Principles of Accounting II	3
ACC 215	Computerized Accounting	3
ITN 100 or ITN 101	Intro to Telecommunications or Introduction to Network Concepts	3
	Credits	**9**
3rd Semester		
ACC 241	Auditing I	3
ACC 263	Data Analytics and Statistics in Accounting	3
ITD 256	Advanced Database Management	3
ITN 260	Network Security Basics	3
	Credits	**12**
	Total Credits	**28**

Accounting: Bookkeeping, Certificate

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 2040

Purpose

The program is designed to provide the student with sufficient knowledge to keep a simple set of accounting books and/or to qualify for entry-level positions in bookkeeping and accounting.

Recommended Preparation

The student should possess a proficiency in high school English and a good background in basic arithmetic operations.

One Year

Course	Title	Credits
1st Semester		
ACC 211	Principles of Accounting I	3
BUS 100	Introduction to Business	3
ENG 111	College Composition I	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
ACC 212	Principles of Accounting II	3
ACC 215	Computerized Accounting	3
CST 227 or CST 110	Business and Professional Communication or Introduction to Human Communication	3
ECO 150	Economic Essentials: Theory and Application	3
ITE 140	Spreadsheeting for Business	3
	Credits	**15**
	Total Credits	**31**

Students may consider the AAS in Accounting (p. 51) at this point. All classes would apply to the AAS.

Air Conditioning and Refrigeration, A.A.S.

Location(s): WO
NOVA Code: 9040

Purpose

This curriculum is designed to prepare students for jobs in the air conditioning and refrigeration field. The second year provides students with skills that lead to leadership positions in the HVACR industry. Occupational objectives include industry licensing, advanced critical thinking skills, and state tradesman licenses in HVACR. Occupational objective includes preparing graduates with the knowledge and skills to become industry certified technicians, as well as meeting the educational requirements to be licensed as a HVACR Tradesman in Virginia.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning and will be evaluated on a case-by-case basis by the program head.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Special Accreditation Status

The Air Conditioning and Refrigeration Associate of Applied Science is accredited by HVAC Excellence (Benchmark of Academic Excellence). The date of the last review was 2024.

Two Years

Course	Title	Credits
1st Semester		
AIR 111	Air Conditioning & Refrig Controls I	3
AIR 121	Air Cond & Refrigeration I	4
ENG 111 or ENG 115	College Composition I or Technical Writing	3
Humanities/Fine Arts Elective (p. 49)		3
Select one of the following:		3-4
PHY 100	Elements of Physics	
MTH 111	Basic Technical Mathematics (or Higher)	
SDV 100	College Success Skills	1
	Credits	**17-18**
2nd Semester		
AIR 122	Air Cond & Refrigeration II	4
AIR 134	Circuits And Controls I	3
AIR 154	Heating Systems I	4
AIR 276	Refrigerant Usage EPA Certification	1
CST 110	Introduction to Human Communication	3
	Credits	**15**

3rd Semester		
AIR - Elective (p. 54)		4
AIR - Elective (p. 54)		4
AIR - Elective (p. 54)		3-4
AIR 238	Advanced Troubleshooting And Service	4
	Credits	**15-16**
4th Semester		
AIR - Elective (p. 54)		4
AIR - Elective (p. 54)		4
AIR - Elective (p. 54)		3-4
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**14-15**
	Total Credits	**61-64**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

Air Conditioning and Refrigeration Electives

Code	Title	Credits
Students who Plan a Career Path in Residential or Commercial HVAC		
AIR 205	Hydronics And Zoning	4
AIR 207	Heat Loads & Psychrometrics	4
AIR 235	Heat Pumps	4
AIR 251	Air Conditioning Systems I	4
AIR 252	Air Conditioning Systems II	4
AIR 257	Gas-Fired Warm Air Furnaces	4
Students who Desire a Controls Focus		
AIR 207	Heat Loads & Psychrometrics	4
AIR 213	Air Cond & Refrigeration Controls III	4
AIR 231	Circuits and Controls IV	4
AIR 232	Circuits and Controls V	3
AIR 240	Direct Digital Controls (DDC) I	3
AIR 251	Air Conditioning Systems I	4
AIR 252	Air Conditioning Systems II	4

Air Conditioning and Refrigeration, Certificate

Location(s): WO
NOVA Code: 9030

Purpose

This program is intended to prepare students for jobs in the air conditioning and refrigeration field. Upon successful completion of the program, the student is prepared for full-time employment. The occupational objectives include service, maintenance, repair, and installation of air conditioning and refrigeration equipment.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning and will be evaluated on a case-by-case basis by the program head.

One Year

Course	Title	Credits
1st Semester		
AIR 111	Air Conditioning & Refrig Controls I	3
AIR 121	Air Cond & Refrigeration I	4
AIR 154	Heating Systems I	4
AIR 276	Refrigerant Usage EPA Certification	1
ENG 111 or ENG 115	College Composition I or Technical Writing	3
SDV 100	College Success Skills	1
	Credits	**16**
2nd Semester		
AIR 122	Air Cond & Refrigeration II	4
AIR 134	Circuits And Controls I	3
AIR - Elective [1]		4
Select one of the following:		3-4
PHY 100	Elements of Physics	
MTH 111	Basic Technical Mathematics (or Higher)	
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**17-18**
	Total Credits	**33-34**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] Students may select AIR 205 Hydronics And Zoning, AIR 207 Heat Loads & Psychrometrics, or any 200-Level AIR course for 4 credits.

Air Conditioning and Refrigeration: HVAC-R and Facilities Services Technology, C.S.C.

Location(s): WO
NOVA Code: 221-903-10

Purpose

This program is designed to prepare the student for entry-level positions in the air conditioning, refrigeration and facilities maintenance industry. Students receive entry-level instruction in the principles, service, maintenance, repair, and installation of air conditioning, refrigeration, heating, plumbing, and electrical systems.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning and will be evaluated on a case-by-case basis by the program head.

One Year

Course	Title	Credits
1st Semester		
AIR 111	Air Conditioning & Refrig Controls I	3
AIR 121	Air Cond & Refrigeration I	4
AIR 154	Heating Systems I	4
SDV 106 or SDV 100	Preparation For Employment or College Success Skills	1
	Credits	**12**
2nd Semester		
AIR 122	Air Cond & Refrigeration II	4
AIR 134	Circuits And Controls I	3
AIR 276	Refrigerant Usage EPA Certification	1
Select one of the following:		3
ENG 111	College Composition I	
ENG 115	Technical Writing	
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	

CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
	Credits	**11**
	Total Credits	**23**

American Sign Language (ASL), C.S.C.

Location(s): AN
NOVA Code: 221-640-01

Purpose

This program prepares students to communicate proficiently in American Sign Language, including both expressive and receptive skills. The ASL Career Studies Certificate will improve the students' marketability in a wide range of positions where it is necessary to possess effective communication between hearing and Deaf persons. These fields include careers such as teaching, health and social service occupations, and public safety positions. Many people already holding positions in these areas would enhance their ability to perform their current jobs by expanding the range of people with whom they can communicate. The ASL Career Studies Certificate also fulfils all of the prerequisite requirements for our other programs of study. Many students complete the ASL C.S.C. and then go on to enroll in either the Interpreting A.A.S. or Deaf Studies A.A. curriculum.

Admission Requirements

Successful completion of ASL 101 Beginning American Sign Language I or consent of instructor based on demonstrably equivalent skill level.

One Year

Course	Title	Credits
1st Semester		
ASL 100	Orientation to Acquisition of ASL as an Adult	2
ASL 101	Beginning American Sign Language I	4
	Credits	**6**
2nd Semester		
ASL 102	Beginning American Sign Language II	4
ASL 125	History of the U.S. Deaf Community	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**8**
3rd Semester		
ASL 115	Fingerspelling And Number Use in ASL	2
ASL 201	Intermediate American Sign Language I	3
	Credits	**5**
4th Semester		
ASL 202	Intermediate American Sign Language II	3
ASL 220	Comparative Linguistics: ASL/English	3
	Credits	**6**
	Total Credits	**25**

American Sign Language to English Interpretation, A.A.S.

Location(s): AN
NOVA Code: 6400

Purpose

Designed for students who have limited, if any, previous experience with interpreting for Deaf people, this degree program provides the comprehensive training in theory and practical interpreting skills necessary for employment as an educational or community interpreter. Successful completion of this program prepares the student to pursue either a Virginia Quality Assurance Screening Level, national certification through the Registry of Interpreters for the Deaf, or a level on the Educational Interpreter's Performance Assessment. These credentials qualify the student to interpret in either educational or community settings.

Admission Requirements

The prerequisite for admission to the program is fluency in both English and American Sign Language. This is demonstrated by placement into ENG 111 College Composition I and completion of the ASL Career Studies Certificate with a grade of "C" or better.

Two Years

Course	Title	Credits
1st Semester		
ASL 261	Advanced American Sign Language I	4
ENG 111	College Composition I	3
INT 105	Interpreting Foundations I	3
INT 142	ASL Discourse Analysis	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**14**
2nd Semester		
ASL 262	Advanced American Sign Language II	4
CST 110	Introduction to Human Communication	3
INT 106	Interpreting Foundations II	3
INT 107	Translation Skills	3
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**16**
3rd Semester		
INT 141	Transliterating I (Summer)	3
	Credits	**3**
4th Semester		
INT 130	Interpreting: Intro to The Profession	3
INT 133	ASL-to-English Interpretation I	3
INT 134	English-To-Asl Interpretation I	3
Select one of the following: [1]		3-4
Mathematics Elective (p. 50)		
Physical or Life Science Elective w/Lab (p. 50)		
	Credits	**12-13**
5th Semester		
INT 233	ASL-To-English Interpretation II	3
INT 234	English-To-ASL Interpretation II	3
INT 237	Interpreting ASL in Safe Settings	2
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**11**
6th Semester		
INT 250	Dialogic Interpretation I (Summer)	3
INT 290	Coordinated Internship (Summer)	3
	Credits	**6**
	Total Credits	**62-63**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] May choose MTH 154 Quantitative Reasoning, MTH 155 Statistical Reasoning, or higher or the science elective may be selected from biology, chemistry, physics, geology, or natural science courses with a lab component, listed under General Education Electives (p. 49).

Architecture Technology, A.A.S.

Location(s): AL, AN
NOVA Code: 9010

Purpose

This curriculum is designed to prepare students for employment. Students must see their Architecture Technology advisor to satisfy individual goals. The graduates may find employment in the field of architecture, construction, and urban design utilizing their construction knowledge, graphic communication, and problem solving skills.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Recommended Preparation

Two years of high school algebra and geometry.

Two Years

Course	Title	Credits
1st Semester		
ARC 123	Architectural Graphics I	3
ARC 133	Construction Methodology & Procedures I	3
ARC 200	History of Architecture	4
CAD 201	Computer Aided Drafting & Design I	4
ENG 111	College Composition I	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**18**
2nd Semester		
ARC 124	Architectural Graphics II	3
ARC 134	Construction Methodology & Procedures II	3
ARC 138	Structures For Architects	3
Select one of the following: [1, 3]		2-3
ARC 298	Seminar And Project	
ARC Technical Elective		
MTH 161	PreCalculus I (or Higher) [2]	3
	Credits	**14-15**
3rd Semester		
ARC 225	Site Planning And Technology	3
ARC 231	Advanced Architectural Design and Graphics I	4
ARC 243	Environmental Systems	4
CAD 202	Computer Aided Drafting & Design II	4
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**18**
4th Semester		
CAD 203	Computer Aided Drafting & Design III	3
ARC 232	Advanced Architectural Design and Graphics II	4
Select one of the following: [3]		3
ARC 240	Designing Sustainable Built Environments	
ARC Technical Elective		
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
Humanities/Fine Arts Elective (p. 49)		3
PED 116	Lifetime Fitness And Wellness	1
	Credits	**17**
	Total Credits	**67-68**

Colleges and universities offering the Bachelor of Science in Architecture and Master of Architecture may accept NOVA graduates as transfer students. See ARC faculty for details. Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] ARC 298 Seminar And Project is recommended for the students who are planning to transfer to four-year colleges.
[2] MTH 167 PreCalculus with Trigonometry (5 cr.) is recommended for students who wish to transfer.
[3] Courses may be selected from ARC, BLD, and CAD.

Architecture Technology: Architecture, C.S.C

Location(s): AL, AN
NOVA Code: 221-901-01

Purpose

This curriculum is designed to prepare students with the skills and knowledge needed for paid internship in architecture and associated fields. The foundation courses preparing students with drafting, modeling, materials, construction methodology and building code are accompanied by two electives which are selected based on employment opportunities. The program would assist students with exploring career pathways while providing students the opportunity to continue the Architecture AAS program with the possibility of a paid internship.

One Year

Course	Title	Credits
1st Semester		
ARC 123	Architectural Graphics I	3
ARC 133	Construction Methodology & Procedures I	3
SDV 101 or SDV 100	Orientation to: or College Success Skills	1
	Credits	**7**
2nd Semester		
ARC 124	Architectural Graphics II	3
ARC 134	Construction Methodology & Procedures II	3
Select two of the following technical electives: [1]		6-8
ARC 138	Structures For Architects	
ARC 225	Site Planning And Technology	
ARC 240	Designing Sustainable Built Environments	
ARC 298	Seminar And Project [2]	
CAD 201	Computer Aided Drafting & Design I	
CAD 202	Computer Aided Drafting & Design II	

CAD 203	Computer Aided Drafting & Design III	
	Credits	**12-14**
	Total Credits	**19-21**

[1] With the approval of the Dean, Co-op (ARC 197 Cooperative Education) and other classes may be approved for electives.
[2] Topics for ARC 298 Seminar And Project will be offered based on employment opportunities and employment prediction.

Architecture Technology: Computer Aided Drafting and Design, C.S.C.

Location(s): AL, AN
NOVA Code: 221-729-01

Purpose

This program of study is structured to enable students to improve their skills in computer application for drafting and design in their respective fields. It is important that students confer with your drafting advisor or counselor to better acquaint themselves with the selection of classes in the curriculum.

One Year

Course	Title	Credits
1st Semester		
CAD 201	Computer Aided Drafting & Design I	4
ENG 111 or ENG 115	College Composition I or Technical Writing	3
	Credits	**7**
2nd Semester		
CAD 202	Computer Aided Drafting & Design II	4
Technical Elective [1]		2-3
Technical Elective [1]		3
	Credits	**9-10**
	Total Credits	**16-17**

[1] Technical elective must be approved by department.

Automotive Technology, A.A.S.

Location(s): AL, MA
NOVA Code: 9090

Purpose

This curriculum is designed to train technicians for the automotive field. Students completing this program will be ready for full-time employment as automotive technicians. Job opportunities include line technician, new car make-ready, and customer service representative.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Two Years

Course	Title	Credits
1st Semester		
AUT 111	Automotive Engines I	4
AUT 241	Automotive Electricity I	4
Select one of the following:		2
AUT 100	Intro. to Automotive Shop Practices	
AUT 197	Cooperative Education [1]	
ENG 111 or ENG 115	College Composition I or Technical Writing	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**14**
2nd Semester		
AUT 242	Automotive Electricity II	4
AUT 265	Automotive Braking Systems	4
AUT 266	Auto Alignment, Suspension & Steering	4
Select one of the following:		3-4
PHY 100	Elements of Physics (or Higher-level Physics)	
MTH 111	Basic Technical Mathematics (or Higher)	
	Credits	**15-16**
3rd Semester		
AUT 121	Automotive Fuel Systems I	4
AUT 236	Automotive Climate Control	4
	Credits	**8**
4th Semester		
AUT 112	Automotive Engines II	4
AUT 122	Automotive Fuel Systems II	4
AUT 141	Auto Power Trains I	4
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**15**
5th Semester		
AUT 142	Auto Power Trains II	4
AUT 245	Automotive Electronics [3]	4
CST 110	Introduction to Human Communication	3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**14**
	Total Credits	**66-67**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] Available to students in cooperative internship programs only.
[2] May substitute AUT 233 Hybrid Electric Vehicle Technology.

Automotive Technology: Automotive Diagnosis and Repair, C.S.C.

Location(s): AL, MA
NOVA Code: 221-909-02

Purpose

This program will provide an opportunity for student success by offering a Career Studies Certificate which will lead to a credential and gainful employment. It will create a seamless informed pathway for students to achieve their career goal, or, as an exit point to employment.

It will fill a demand in the automotive repair field by graduating a larger number of local, qualified apprentice and entry-level technicians to fill the shortage gap. It will also allow the involvement of multiple industry partners to support our program and meet the new advisory board requirements.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning and will be evaluated on a case-by-case basis. Please check the Credit for Prior Learning Manual (https://www.nvcc.edu/admissions/cpl.html) for more information.

One Year

Course	Title	Credits
1st Semester		
AUT 100	Intro. to Automotive Shop Practices	2
AUT 111	Automotive Engines I	4
AUT 241	Automotive Electricity I [1]	4
AUT 265	Automotive Braking Systems	4
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**15**
2nd Semester		
Select one of the following: [2]		2
AUT 136	Automotive Vehicle Inspection	
AUT 197	Cooperative Education	
AUT 236	Automotive Climate Control	4
AUT 242	Automotive Electricity II	4
AUT 266	Auto Alignment, Suspension & Steering	4
	Credits	**14**
	Total Credits	**29**

1. May substitute DSL 141 Transportation Electrical Systems I plus DSL 143 Diesel Truck Electrical Systems. Both courses must be taken in order to make this substitution.
2. May substitute AUT 197 with two (2) AUT 297 Cooperative Education (1 CR.) courses. Both courses must be taken in order to equal to two credits to make this substitution.

Automotive Technology: Diesel Basic Repair, C.S.C.

Location(s): MA
NOVA Code: 221-920-01

Purpose

This program is designed to introduce the fundamentals of diesel equipment repair and provide instruction in hydraulic systems, diesel engine overhaul and tune-up, hydraulic and braking systems. The curriculum provides practical training and the option of on-the-job experience through cooperative education. Graduates will gain a basic background in diesel equipment technology principles. Graduates will be prepared for employment as an entry-level diesel technician in the following areas: diesel equipment repair, diesel truck repair, supervisor, shop foreman, heavy duty repair, purchasing agent, salesperson, power train repair, fuel injection repair, diesel engine repair, automotive diesel repair, and marine diesel repair.

One Semester

Course	Title	Credits
1st Semester		
DSL 137	Basic Diesel Engine Systems	5
DSL 150	Mobile Hydraulics&Pneumatics	3
DSL 155	Heavy Duty Suspension and Service	3
DSL 161	Air Brake Systems I	2
DSL 162	Air Brake Systems II	2
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
	Total Credits	**16**

Automotive Technology: Diesel Preventative Maintenance, C.S.C.

Location(s): MA
NOVA Code: 221-920-04

Purpose

This certificate is designed to enhance the skills necessary to service and repair diesel equipment. The courses included in this program will train students in the servicing and repair of diesel engines, electrical systems, transmissions, and preventative maintenance inspection (PMI). The curriculum provides practical training and the option of on-the-job experience through cooperative education. Graduates will have a background in advanced diesel equipment technology principles and some business skills. The program prepares graduates for employment in the following areas: diesel equipment repair, diesel truck repair, supervisor, shop foreman, heavy duty repair, purchasing agent, salesperson, power train repair, fuel injection repair, diesel engine repair, automotive diesel repair, and marine diesel repair. Students should ideally complete the Diesel Repair Technology career studies certificate prior to enrolling in this program.

One Semester

Course	Title	Credits
1st Semester		
BUS 100	Introduction to Business	3
DSL 135	Introduction to Diesel Technology	3
DSL 143	Diesel Truck Electrical Systems	4
DSL 145	Medium/Heavy Duty Truck Preventative Maintenance Inspection	3
DSL 153	Power Trains I	3
	Credits	**16**
	Total Credits	**16**

Automotive Technology: Electric, Hybrid, and Autonomous Vehicles, C.S.C.

Location(s): AL, MA
NOVA Code: 221-909-46

Purpose

The purpose of this certificate is to enhance a student's employment options to include electric, hybrid, and autonomous (ADAS) vehicle technology repair facilities.

Program Prerequisites

Completion of the Maintenance and Light Repair Career Studies Certificate or demonstrate knowledge through field experience in the areas of shop safety, brakes, suspension and steering, basic engine operation, cooling systems, and 12V electrical systems including battery, starting, and charging systems.

One Year

Course	Title	Credits
1st Semester		
AUT 242	Automotive Electricity II	4
SDV 100	College Success Skills	1
	Credits	**5**
2nd Semester		
AUT 233	Hybrid Electric Vehicle Technology	4
AUT 236	Automotive Climate Control	4
AUT 245	Automotive Electronics	4
	Credits	**12**
	Total Credits	**17**

Automotive Technology: Maintenance and Light Repair, C.S.C.

Location(s): AL, MA
NOVA Code: 221-909-01

Purpose

This program is designed to prepare students for entry-level employment as light repair technicians in new car dealerships and after-market service outlets.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

One Year

Course	Title	Credits
1st Semester		
Select one of the following:		2
AUT 100	Intro. to Automotive Shop Practices	
AUT 197	Cooperative Education [1]	
AUT 241	Automotive Electricity I	4
AUT 265	Automotive Braking Systems	4
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**11**
2nd Semester		
AUT 111	Automotive Engines I	4
AUT 266	Auto Alignment, Suspension & Steering	4
	Credits	**8**
	Total Credits	**19**

[1] Available to students in cooperative internship programs only.

Biology, A.S.

Location(s): AL, AN, LO, MA, WO
NOVA Code: 6550

The curriculum is designed to prepare students to transfer to a four-year college or university to complete a baccalaureate degree program with a major in one of the following fields: agriculture, biology, botany, pre-dentistry, forestry, genetics, microbiology, molecular biology, neuroscience, pre-pharmacy, pre-physical therapy, pre-medicine, science education, pre-veterinary, or zoology.

Two Years

Course	Title	Credits
1st Semester		
CHM 111	General Chemistry I	4
ENG 111	College Composition I	3
HIS Elective (p. 50)		3
Select one of the following: [1]		4-5
MTH 167	PreCalculus with Trigonometry	
Physical or Life Science Elective w/Lab (p. 60)		
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**15-16**
2nd Semester		
BIO 101	General Biology I	4
CHM 112	General Chemistry II	4
ENG 112	College Composition II	3
Humanities/Fine Arts Elective (p. 49) [2]		3
MTH 263	Calculus I [1]	4
	Credits	**18**
3rd Semester		
Social/Behavioral Sciences Elective (p. 50) [3]		3
Select one of the following: [4]		4
BIO 102	General Biology II	
BIO 207	General Zoology	
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
Select one of the following: [1]		3-4
MTH 264	Calculus II	
MTH 245	Statistics I	
Physical or Life Science Elective w/Lab (p. 60)		
	Credits	**13-14**
4th Semester		
BIO 206	Cell Biology [5]	4
Humanities/Fine Arts Elective (p. 49) [2]		3
Physical or Life Science Elective w/Lab (p. 60)		4
Select one of the following: [1]		3-4
MTH 245	Statistics I	
MTH 264	Calculus II	
Physical or Life Science Elective w/Lab (p. 60)		
	Credits	**14-15**
	Total Credits	**60-63**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. Select one option from the "Mathematics List" below to satisfy the program's mathematics and credit hour requirements. Click the list to expand.
2. Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.
3. Select a class which is not a History course.
4. Students transferring to George Mason University who take BIO 207 General Zoology must also take BIO 110 General Botany.
5. Students may substitute this course with BIO 205 General Microbiology or BIO 256 General Genetics, as advised by their intended transfer institution.

Students must complete at least 60 credits applicable to this program, regardless of the combination of math and science courses.

Mathematics List

To fulfill the mathematics and credit hour requirements in the program, students will select MTH courses from this list and follow one of the options provided.

Code	Title	Credits
MTH 161	PreCalculus I [1]	3
MTH 162	PreCalculus II [1]	3
MTH 167	PreCalculus with Trigonometry [1]	5
MTH 245	Statistics I	3
MTH 263	Calculus I	4
MTH 264	Calculus II	4

1. Students may take MTH 161 PreCalculus I and MTH 162 PreCalculus II instead of MTH 167 PreCalculus with Trigonometry, but may **not** earn credit for both MTH 167 PreCalculus with Trigonometry and MTH 161 PreCalculus I or MTH 162 PreCalculus II.

Option 1

Begin with PreCalculus (5 CR.)

Course	Title	Credits
1st Semester		
MTH 167	PreCalculus with Trigonometry	5
	Credits	**5**
2nd Semester		
MTH 263	Calculus I	4
	Credits	**4**
3rd Semester		
Select one of the following:		3
MTH 245	Statistics I	
MTH 264	Calculus II	
Physical or Life Science Elective w/Lab (p. 60)		
	Credits	**3**
4th Semester		
Physical or Life Science Elective w/Lab (p. 60)		3
	Credits	**3**
	Total Credits	**15**

Option 2

Begin with PreCalculus (3 CR.)

Course	Title	Credits
1st Semester		
MTH 161	PreCalculus I	3
	Credits	**3**
2nd Semester		
MTH 162	PreCalculus II	3
	Credits	**3**
3rd Semester		
MTH 263	Calculus I	4
	Credits	**4**
4th Semester		
Select one of the following:		3
MTH 245	Statistics I	
MTH 264	Calculus II	
Physical or Life Science Elective w/Lab (p. 60)		
	Credits	**3**
	Total Credits	**13**

Option 3

Begin with Calculus (4 CR)

Course	Title	Credits
1st Semester		
MTH 263	Calculus I	4
	Credits	**4**
2nd Semester		
Select one of the following:		3
MTH 245	Statistics I	
MTH 264	Calculus II	
Physical or Life Science Elective w/Lab (p. 60)		
	Credits	**3**
3rd Semester		
Physical or Life Science Elective w/Lab (p. 60)		3
	Credits	**3**
4th Semester		
Physical or Life Science Elective w/Lab (p. 60)		3
	Credits	**3**
	Total Credits	**13**

Physical or Life Science Electives w/Lab

Students may choose any lab science elective from the following list:

Code	Title	Credits
BIO 102	General Biology II	4
BIO 110	General Botany	4
BIO 207	General Zoology	4
BIO 205	General Microbiology	4
BIO 256	General Genetics	4
BIO 270	General Ecology	4
CHM 241	Organic Chemistry I	3
CHM 242	Organic Chemistry II	3
CHM 245	Organic Chemistry I Laboratory	2
CHM 246	Organic Chemistry II Laboratory	2
GOL 105	Physical Geology	4
GOL 106	Historical Geology	4
PHY 201	General College Physics I	4
PHY 202	General College Physics II	4

PHY 241	University Physics I	4
PHY 242	University Physics II	4

Please note: BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II, CHM 101 Introductory Chemistry I, PHY 100 Elements of Physics, or ENV 121 Foundations of Environmental Science and ENV 122 Applications in Environmental Science **do not** satisfy this requirement.

Biotechnology Lab Technician, C.S.C.

Location(s): MA
NOVA Code: 221-149-01

Purpose

This program is designed for persons wishing to enhance their employment options or retrain for a career as a laboratory technician in various biotechnology disciplines. Students interested in this certificate may include career changers who already have a bachelor's degree, scientists who were trained in foreign countries who need updated training, current A.S. in Science (p. 128) students who want to obtain a core of biotechnology courses and/or find a job in local industry while they complete their undergraduate degrees, and high school teachers who wish to refine their own biotechnology skills and obtain the required retraining necessary for continued teacher certification.

Application Process

Students applying to the Biotechnology Lab Technician Career Studies Certificate must complete all of the pre-admission requirements as outlined for the A.A.S. in Biotechnology (p. 61) with the exception that applications will only be accepted for students enrolling in the Fall Semester (August 1). In addition, a student must have completed a college degree (associate of science or higher). Foreign students must document the U.S. equivalent to an associate degree. Students without a science degree are strongly advised to complete the A.A.S. in Biotechnology (p. 61) instead of the career studies certificate.

Prerequisites

Because jobs in biotechnology generally require at least an associate degree, in a science field, students must already have a 2-year or 4-year college degree, be enrolled in the A.S. in Science (p. 128), or obtain permission from the Biotechnology program coordinator in order to be placed into this program. BIO 101 General Biology I is a prerequisite of all of the biotechnology courses in this program.

Students who have degrees in non-science fields are strongly encouraged to complete the A.A.S. in Biotechnology (p. 61).

One Year

Course	Title	Credits
1st Semester		
BIO 147	Basic Laboratory Calculations for Biotechnology	1
BIO 165	Principles in Regulatory and Quality Environments for Biotechnology	2
BIO 250	Biotechnology Research Methods and Skills	3
BIO 253	Biotechnology Concepts	3
Select one of the following ENG or CST Electives:		3
ENG 111	College Composition I	
ENG 115	Technical Writing	
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
	Credits	**12**
2nd Semester		
BIO 180	Introduction to Careers in Biotechnology	1
BIO 251 or BIO 252	Protein Applications in Biotechnology or Nucleic Acid Methods	4
BIO 254	Capstone Seminar in Biotechnology	2
BIO 255	Bioinformatics and Computer Applications in Biotechnology	2
	Credits	**9**
3rd Semester		
BIO 296	On-Site Training in: [1]	3
	Credits	**3**
	Total Credits	**24**

[1] Students must be approved by the Biotechnology program coordinator(s) for an internship. Criteria for approval include successful completion of biotechnology courses (including a demonstrated proficiency of basic lab skills), a professional work ethic, and an ability to work well with others. Please see a Biotechnology academic advisor for assistance in determining eligibility and placement or for approval of a topic for a Project or Supervised Study.

Biotechnology, A.A.S.

Location(s): MA
NOVA Code: 1490

Purpose

This program is designed to prepare graduates for employment in entry-level positions at biotechnology and pharmaceutical companies as laboratory, research, or manufacturing technicians. Coursework will develop an understanding of basic scientific principles in biology and chemistry, and will emphasize laboratory techniques and procedures such as solution and media preparation, DNA purification and analysis, electrophoresis, chromatography, maintenance of cells in culture, and quality control techniques.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Many of the courses within the program are accepted for transfer to almost any senior institution. Students interested in transfer should contact their academic advisor early in their program.

Individuals wishing to enroll in the A.A.S. in Biotechnology should follow these steps for admission, starting at least one semester prior to when they wish to enroll in the program:

1. Attend an information session or schedule an advising appointment with a Biotechnology academic advisor.
   - This can be completed prior to or after steps 2-4. Students are encouraged to seek information very early in the process.
2. Apply to NOVA.
   - Students may choose to enroll in the A.S. in General Studies (p. 91) prior to their acceptance into the program.

3. Take the College placement test for English and Mathematics in one of the College's Testing Centers (located on each campus).
4. Complete pre-admission requirements for the program. Students applying to the A.A.S. program must have documentation of the following:
   - placement into college-level English (ENG 111 College Composition I),
   - placement into MTH 161 PreCalculus I or higher, and
   - completion of BIO 101 General Biology I with a "C" or better. Students who are currently enrolled in BIO 101 General Biology I may apply to the program and be admitted on a provisional basis after meeting with and if recommended by a biotechnology faculty advisor until their final grade is submitted. If a student has taken BIO 101 General Biology I or any of the course requirements at another institution, he/she must submit official transcripts and if applicable, foreign transcripts, and submit a formal evaluation of the courses/degree, along with a Request for Evaluation of Transcripts Form (125-049 (https://dashboard.nvcc.edu/Eforms/125-049)), for each institution.
5. Apply to the program.
   - Apply to the program by emailing the Biotechnology application form (https://www.nvcc.edu/academics/programs/biotechnology/apply.html) to Dr. Xin Zhou at xzhou@nvcc.edu. An advising session will be scheduled if not already completed. Students will be notified within 2 - 4 weeks as to whether they have been accepted or not.
6. Receive the *Biotechnology Program Handbook* and register for core biotechnology classes, BIO 250 Biotechnology Research Methods and Skills and BIO 253 Biotechnology Concepts.

Two Years

Course	Title	Credits
1st Semester		
BIO 101	General Biology I [1]	4
ENG 111	College Composition I	3
MTH 161	PreCalculus I (or Higher)	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**14**
2nd Semester		
CHM 111	General Chemistry I	4
ENG 112	College Composition II	3
Humanities/Fine Arts Elective (p. 49)		3
Select one of the following:		4
BIO 102	General Biology II	
BIO 251	Protein Applications in Biotechnology	
BIO 252	Nucleic Acid Methods	
BIO 256	General Genetics	
	Credits	**14**
3rd Semester		
CHM 112	General Chemistry II	4
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
	Credits	**7**
4th Semester		
BIO 147	Basic Laboratory Calculations for Biotechnology	1
BIO 165	Principles in Regulatory and Quality Environments for Biotechnology	2
BIO 205	General Microbiology	4
BIO 250	Biotechnology Research Methods and Skills	3
BIO 253	Biotechnology Concepts	3
	Credits	**13**
5th Semester		
BIO 180	Introduction to Careers in Biotechnology	1
BIO 206	Cell Biology	4
BIO 251 or BIO 252	Protein Applications in Biotechnology or Nucleic Acid Methods	4
BIO 254	Capstone Seminar in Biotechnology	2
BIO 255	Bioinformatics and Computer Applications in Biotechnology	2
	Credits	**13**
6th Semester		
BIO 296	On-Site Training in: [2]	3
	Credits	**3**
	Total Credits	**64**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 Must complete with a "C" or better.
2 Students must be approved by the Biotechnology program coordinator(s) for an internship. Criteria for approval include successful completion of biotechnology courses (including a demonstrated proficiency of basic lab skills), a professional work ethic, and an ability to work well with others. Please see a Biotechnology academic advisor for assistance in determining and placement or for approval of a topic for a Project or Supervised Study.

Business Administration, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 2130

Purpose

This curriculum is designed for individuals who plan to transfer to a four-year college or university to complete a baccalaureate degree program in business administration with a major in accounting, business management, decision science and management, information systems, finance, marketing, etc.

Transfer Information

Since four-year colleges can vary in their course and GPA requirements for the business major, please consult a counselor or an academic advisor regarding specific requirements and course selection.

This program is aligned with the Transfer Virginia common curriculum. Students are strongly encouraged to consult their academic advisor and review transfer options using the Transfer Virginia Portal, Where Can This Degree Transfer (https://www.transfervirginia.org/degrees/F4019C2E69E411EDB960122FC3C6BCDE#:~:text=Where%20Can%20This%20Degree%20Transfer).

Recommended Preparation

Satisfactory completion of the following high school units or equivalent: 4 units of English; 2 units of mathematics (algebra and geometry); 1 unit of laboratory science; and 1 unit of social studies.

Two Years

Course	Title	Credits
1st Semester		
BUS 100	Introduction to Business	3
ENG 111	College Composition I	3
HIS Elective (p. 50)		3
MTH 161	PreCalculus I (or Higher) [1]	3
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
ENG 112	College Composition II	3
Humanities/Fine Arts Elective (p. 49) [3]		3
MTH 261	Applied Calculus I (or Higher)	3
Physical or Life Science Elective w/Lab (p. 50)		4
Select one of the following: [2]		3
ITE 140	Spreadsheeting for Business	
BUS 240	Introduction to Business Law	
	Credits	**16**
3rd Semester		
ACC 211	Principles of Accounting I	3
BUS 224	Business Statistics	3
ECO 201	Principles of Macroeconomics	3
Humanities/Fine Arts Elective (p. 49) [3]		3
Select one of the following:		3-4
Physical or Life Science Elective w/Lab (p. 50)		
BUS Elective (https://catalog.nvcc.edu/programs/business-administration-as/#be)		
	Credits	**15-16**
4th Semester		
ACC 212	Principles of Accounting II	3
BUS Elective (https://catalog.nvcc.edu/programs/business-administration-as/#be) [4]		3-0
ECO 202	Principles of Microeconomics	3
Select one of the following:		3
BUS 270	Interpersonal Dynamics	
BUS Elective (https://catalog.nvcc.edu/programs/business-administration-as/#be)		
Select one of the following:		3
BUS 280	Introduction to International Business	
BUS Elective (https://catalog.nvcc.edu/programs/business-administration-as/#be)		
	Credits	**15-12**
	Total Credits	**62-60**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. Students who are placed out of MTH 161 PreCalculus I may choose a higher-level math class or a BUS Elective (p. 63).
2. Students considering transfer should consult with an academic advisor for proper selection of ITE 140 Spreadsheeting for Business or BUS 240 Introduction to Business Law. Consult transfer guides via Resource Center Transfer Virginia (https://www.transfervirginia.org/resources) for additional information.
3. Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.
4. This course is not needed if selections for all other requirements total 60 credits or more.

Business Electives

Code	Title	Credits
BUS 200	Principles of Management	3
BUS 227	Business Analytics	3
BUS 240	Introduction to Business Law	3
ITE 140	Spreadsheeting for Business	3
MTH 262	Applied Calculus II	3
MKT 201	Introduction to Marketing	3

Business Management, A.A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 2120

Purpose

The curriculum is designed for individuals who seek employment in business management or for those presently in management who are seeking promotion. Job opportunities include office manager, program manager and project manager, business owner.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Recommended Preparation

The student should possess a proficiency in high school English and a strong background in basic arithmetic operations.

Two Years

Course	Title	Credits
1st Semester		
BUS 100	Introduction to Business	3
ENG 111	College Composition I	3
Humanities/Fine Arts Elective (p. 49)		3
Select one of the following: [1]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
BUS 125	Applied Business Mathematics [2]	3
BUS 200	Principles of Management	3
BUS Elective (https://catalog.nvcc.edu/programs/business-management-aas/#be)		3
ENG 112	College Composition II	3
MKT 201	Introduction to Marketing	3
	Credits	**15**
3rd Semester		
ACC 211	Principles of Accounting I	3
BUS 240	Introduction to Business Law	3

BUS Elective (https://catalog.nvcc.edu/programs/business-management-aas/#be) [3]		3
BUS Elective (https://catalog.nvcc.edu/programs/business-management-aas/#be) [3]		3
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
ECO 201 or ECO 202	Principles of Macroeconomics or Principles of Microeconomics	3
	Credits	**18**
4th Semester		
ACC 212	Principles of Accounting II	3
BUS 220	Introduction to Business Statistics [4]	3
BUS Elective (https://catalog.nvcc.edu/programs/business-management-aas/#be) [3]		3
BUS Elective (https://catalog.nvcc.edu/programs/business-management-aas/#be) [3]		3
ITE 140 or ITE 152	Spreadsheeting for Business or Introduction to Digital and Information Literacy and Computer Applications	3
FIN 215	Financial Management	3
	Credits	**18**
	Total Credits	**64**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 May substitute a higher-level mathematics course. If considering transfer, consult an academic advisor for appropriate selection.
2 Students considering transfer should consult an academic advisor.
3 BUS 224 Business Statistics is recommended for those who qualify and want to transfer.

Business Electives

May be selected from ACC, BUS, CON, ECO, FIN, HRI, IT, REA or the following:

Code	Title	Credits
MKT 215	Sales and Marketing Management	3
MKT 221	Public Relations	3
MKT 228	Promotion	3
MKT 282	Principles of E-Commerce	3
MKT 284	Social Media Marketing	3

Students considering transfer should consult an academic advisor for appropriate choices.

Business Management: Business Information Technology, C.S.C.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 221-212-15

Purpose

The curriculum is designed to teach the student the basics of business information technology and the first award for persons who intend to pursue certificate and/or associate degree programs in business-related fields. The courses in this career studies program provide foundations in basic business practices that can be applied to a variety of certificate and degree programs.

One Semester

Course	Title	Credits
1st Semester		
BUS 100 or BUS 204	Introduction to Business or Project Management	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
SDV 100	College Success Skills	1
Select one of the following:		3
Business Elective		
IT Elective		
Select one of the following English or CST Electives:		3
ENG 111	College Composition I	
Other ENG courses approved by the student's academic advisor		
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
Select one of the following:		3
Social/Behavioral Sciences Elective (p. 50)		
BUS 201	Organizational Behavior	
	Credits	**16**
	Total Credits	**16**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 May substitute BUS 226 .

Business Management: Digital Marketing, C.S.C.

Location(s): AL, NOL
NOVA Code: 221-251-01

Purpose

This program is designed to offer students already employed in marketing the opportunity to improve and update their skills, allowing for advancement on the job. Interested students will have an opportunity to explore e-commerce as a career and become acquainted with fundamental skills.

Recommended Preparation

Students should possess a proficiency in high school English.

One Year

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
MKT 201	Introduction to Marketing	3
MKT 282	Principles of E-Commerce	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**10**
2nd Semester		
MKT 228	Promotion	3

MKT 284	Social Media Marketing	3
Select one of the following:		3
ENG 112	College Composition II	
ENG 115	Technical Writing	
ENG 116	Writing For Business	
	Credits	**9**
	Total Credits	**19**

Business Management: Entrepreneurship, C.S.C.

Location(s): AL
NOVA Code: 221-212-10

Purpose

This program is designed to prepare students to start and grow a successful small business by providing instruction in entrepreneurial culture, strategy, operations, financial management, marketing, and leadership.

Recommended Preparation

The student should possess a proficiency in high school English, strong background in basic arithmetic operations and basic computer/software skills.

One Year

Course	Title	Credits
1st Semester		
Select one of the following:		3
ACC 211	Principles of Accounting I [1]	
ACC 220	Accounting for Small Business	
BUS 116	Entrepreneurship	3
BUS 165	Small Business Management	3
BUS 200	Principles of Management	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
BUS 240	Introduction to Business Law	3
BUS 260	Planning for Small Business	3
FIN 260	Financial Managment for Small Business	2
MKT 201	Introduction to Marketing	3
	Credits	**11**
	Total Credits	**24**

[1] ACC 211 Principles of Accounting I is recommended for students who plan to transfer.

Business Management: Leadership Development, C.S.C.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 221-212-13

Purpose

This program combines communication and human relations competencies with specialized business courses. It is designed for individuals who are currently, or hope to be, in leadership, human resource, or supervisory managerial positions in the private/not-for-profit sector or governmental organizations. The certificate is especially appropriate for individuals who have a degree related to their field of employment, but who lack training in team leadership or management skills. The program emphasizes practical application of leadership concepts and theories to prepare students for team leadership positions.

One Year

Course	Title	Credits
1st Semester		
Select one of the following: [1]		3
BUS 100	Introduction to Business	
BUS 200	Principles of Management	
Select one of the following: [1]		3
BUS 111	Principles of Supervision I	
BUS 201	Organizational Behavior	
BUS 270 or ENG 116	Interpersonal Dynamics or Writing For Business	3
	Credits	**9**
2nd Semester		
BUS 117 or BUS 297	Leadership Development or Cooperative Education	3
BUS 205	Human Resource Management	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**7**
	Total Credits	**16**

[1] For students with minimal work experience, BUS 100 Introduction to Business and BUS 111 Principles of Supervision I are recommended. Consult an academic advisor to make the appropriate choices.

Business Management: Promotion and Public Relations, C.S.C.

Location(s): AN, NOL
NOVA Code: 221-251-03

Purpose

This program is designed to offer students already employed in promotion and public relations the opportunity to improve and update their skills, allowing for advancement on the job. Interested students will have an opportunity to explore this field as a career and become acquainted with fundamental skills.

Recommended Preparation

The student should possess a proficiency in high school English.

One Year

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
MKT 201	Introduction to Marketing	3
MKT 215	Sales and Marketing Management	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**10**
2nd Semester		
Select one of the following ENG Electives:		3

ENG 112	College Composition II	
ENG 115	Technical Writing	
ENG 116	Writing For Business	
MKT 221	Public Relations	3
MKT 228	Promotion	3
	Credits	**9**
	Total Credits	**19**

Cinema, A.F.A.

Location(s): AL, WO
NOVA Code: 5630

Purpose

This curriculum is designed for individuals who plan to transfer to a four-year college or university to complete a baccalaureate degree program in the Visual Arts with a major in cinema, film, or media production.

Transfer Information

Since four-year colleges can vary in their course and GPA requirements for the business major, please consult your Cinema, AFA Academic Advisor regarding specific requirements and course selection.

Recommended Preparation

Satisfactory completion of the following high school units or equivalent: 4 units of English; 2 units of mathematics (algebra and geometry); 1 unit of laboratory science; and 1 unit of social studies.

Two Years

Course	Title	Credits
1st Semester		
ART 160	Film Production	3
CST 115 or CST 126	Small Group Communication or Interpersonal Communication	3
CST 151	Film Appreciation	3
ENG 111	College Composition I	3
SDV 101	Orientation to: (Fine Arts)	1
Social/Behavioral Sciences (p. 66) [1]		3
	Credits	**16**
2nd Semester		
ENG 112	College Composition II	3
CST 120	Screenwriting	3
CST 140	Acting for the Camera	3
CST 152	Film Appreciation II	3
CST 198	Seminar And Project	1
Select one of the following: [2]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
	Credits	**16**
3rd Semester		
ART Elective [3]		3
ART 161	Cinematography	3
CST 250	The Art of The Film	3
PHT 274	Digital Film Editing and Post Production	3
Physical or Life Science Elective w/Lab (p. 50)		4
	Credits	**16**
4th Semester		
Select one of the following ART or CST Electives: [4]		3
ART 140	Introduction to Graphic Skills	
ART 150	History of Film & Animation	
CST 110	Introduction to Human Communication	
CST 114	Survey of Mass Media	
ENG 2XX - Literature Elective (p. 50)		3
CST 270	Film Directing	3
CST 290	Coordinated Internship	3
CST 298	Seminar And Project	3
	Credits	**15**
	Total Credits	**63**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. May choose Social/Behavioral Science Elective with Advisor approval from the table below; three from this list-strongly recommended.
2. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I.
3. May choose ART Elective with Advisor approval for maximum transferability.
4. May choose ART or CST Elective with Advisor approval.

Social/Behavioral Science Elective

Code	Title	Credits
ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3
GEO 200	Introduction to Physical Geography	3
GEO 210	People & the Land: Intro. to Cultural Geography	3
GEO 220	World Regional Geography	3
HIS 101	Western Civilizations Pre-1600 CE	3
HIS 102	Western Civilizations Post-1600 CE	3
HIS 112	World Civilizations Post-1500 CE	3
HIS 121	United States History to 1877	3
HIS 122	United States History Since 1865	3
PLS 135	U.S. Government and Politics	3
PLS 200	Introduction to Political and Democratic Theory	3
PLS 241	Introduction to International Relations	3
PSY 200	Principles of Psychology	3
PSY 230	Developmental Psychology	3
PSY 230	Developmental Psychology	3
SOC 200	Introduction to Sociology	3
SOC 211	Cultural Anthropology	3

Collision Repair Technology, C.S.C.

Location(s): AL
NOVA Code: 221-909-10

Purpose

This program prepares students for entry-level positions as collision repair technicians. The curriculum provides experience in evaluation, repair, and refinishing of automotive body damage.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

Recommended Preparation

It is important that the student talk with their advisor about selecting classes in the curriculum.

One Year

Course	Title	Credits
1st Semester		
AUB 106	Basic Sheet Metal Operations	4
AUB 118	Automotive Paint Preparation	4
AUB 127	Introduction to Collision Repair Technology	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**12**
2nd Semester		
AUB 115	Damage Repair Estimating	2
AUB 116	Auto Body Repair	4
AUB 119	Automotive Painting	4
AUB 125	Auto Body Welding	4
	Credits	**14**
	Total Credits	**26**

Computer Science, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 2460

Purpose

The curriculum is designed primarily for students who wish to transfer to a four-year college or university to complete a baccalaureate degree in computer science. The curriculum emphasizes the study of the science of computing and the use of computing in a scientific setting.

Transfer Information

Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully to meet the requirements of the transfer institution. The responsibility for proper course selection rests with the student.

This program is aligned with the Transfer Virginia common curriculum. Students are strongly encouraged to consult their academic advisor and review transfer options using the Transfer Virginia Portal, Where Can This Degree Transfer (https://www.transfervirginia.org/degrees/0E2BF429E89911EEBFE30234F6702AD1#:~:text=Where%20Can%20This%20Degree%20Transferhttps://www.transfervirginia.org/degrees/0E2BF429E89911EEBFE30234F6702AD1#:~:text=Where%20Can%20This%20Degree%20Transfer).

Recommended Preparation

Satisfactory completion of the following high school units or equivalent: 4 units of English and 4 units of college preparatory mathematics.

Two Years

Course	Title	Credits
1st Semester		
CSC 221	Introduction to Problem Solving and Programming	3
ENG 111	College Composition I	3
HIS Elective (p. 50)		3
Select one of the following options: [1]		5-6
Option 1: If PreCalculus is needed		
MTH 167	PreCalculus with Trigonometry	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**15-16**
2nd Semester		
CSC 222	Object Oriented Programming	4
ENG 112	College Composition II	3
MTH 263	Calculus I	4
Humanities/Fine Arts Elective (p. 49) [2]		3
	Credits	**14**
3rd Semester		
CSC 208 or MTH 288	Introduction to Discrete Structures or Discrete Mathematics	3
CSC 223	Data Structures and Analysis of Algorithms	4
MTH 264	Calculus II [3]	4
Select one of the following Physical and Life Science Electives w/Lab:		4
BIO 101	General Biology I	
CHM 111	General Chemistry I	
PHY 241	University Physics I	
GOL 105	Physical Geology	
GOL 106	Historical Geology	
	Credits	**15**
4th Semester		
Approved Elective (https://catalog.nvcc.edu/programs/computer-science-as/#apcomputer) [4]		3-4
Humanities/Fine Arts Elective (p. 49) [2]		3
Social/Behavioral Sciences Elective (p. 50) [5]		3
Select one of the following:		3-4
CSC 205	Computer Organization	
CSC 215	Computer Systems	
MTH 265	Calculus III	
Select one of the following Physical and Life Science Electives w/Lab:		4
BIO 102	General Biology II	
CHM 112	General Chemistry II	
PHY 242	University Physics II	
GOL 105	Physical Geology	
GOL 106	Historical Geology	
	Credits	**16-18**
	Total Credits	**60-63**

Computer Science (CSC) courses used for this program may not be more than 10 years old as of the first day of the fall semester of the academic year in which a student graduates, unless approved by the pathway dean.

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. As students may begin the program with different levels of academic preparation, If precalculus is needed, begin with MTH 167 PreCalculus with Trigonometry (or MTH 161 PreCalculus I and MTH 162 PreCalculus II). Students who place out of Precalculus should follow the course outlined in Option 2 and complete two electives totaling at least five credits.
2. Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.
3. MTH 245 Statistics I may satisfy this area if required by the intended transfer institution; consult intended transfer institution for best selection.
4. Select from an approved elective (p. 68) list below.
5. Select a class which is not a History course.

Option 2: If placed out of PreCalculus

Code	Title	Credits
CSC 205	Computer Organization	3
CSC 208	Introduction to Discrete Structures	3
CSC 215	Computer Systems	3
MTH 265	Calculus III	4
MTH 266	Linear Algebra	3
MTH 288	Discrete Mathematics	3
PHY 201	General College Physics I	4
BIO 101	General Biology I	4
BIO 102	General Biology II	4
CHM 111	General Chemistry I	4
CHM 112	General Chemistry II	4
PHY 241	University Physics I	4
PHY 242	University Physics II	4
GOL 105	Physical Geology	4
GOL 106	Historical Geology	4

Approved Electives

Code	Title	Credits
PHY 201	General College Physics I	4
CSC 205	Computer Organization	3
CSC 215	Computer Systems	3
CSC 195	Topics In:	1-5
CSC 295	Topics In:	1-5
EGR 121	Foundations of Engineering	2
EGR 122	Engineering Design	3
EGR 270	Fundamentals of Computer Engineering	4
CST 100	Principles of Public Speaking	3
CST 110	Introduction to Human Communication	3
MTH 265	Calculus III	4
MTH 266	Linear Algebra	3
MTH 283	Probability and Statistics	3
BIO 101	General Biology I	4
BIO 102	General Biology II	4
CHM 111	General Chemistry I	4
CHM 112	General Chemistry II	4
PHY 241	University Physics I	4
PHY 242	University Physics II	4
GOL 105	Physical Geology	4
GOL 106	Historical Geology	4

Computer Science: Algorithms and Artificial Intelligence, C.S.C.

Location(s): AL, AN, LO, MA, WO
NOVA Code: 221-246-02

Purpose

Prepares students for entry-level positions or transfer pathways in computing, software development, and artificial intelligence. Students gain foundational programming, data structures, and algorithmic problem-solving skills with optional specialization in General CS, AI, or Data Science & Machine Learning.

Course	Title	Credits
1st Semester		
CSC 221	Introduction to Problem Solving and Programming	3
CSC 222	Object Oriented Programming	4
	Credits	**7**
2nd Semester		
CSC 208	Introduction to Discrete Structures	3
CSC 223	Data Structures and Analysis of Algorithms	4
	Credits	**7**
3rd Semester		
Select one of the following:		3
CSC 195	Topics In: (AI-Artificial Intelligence)	
CSC 195	Topics In: (Data Science)	
CSC 205	Computer Organization	
Select one of the following:		3
CSC 295	Topics In: (AI-Artificial Intelligence)	
CSC 295	Topics In: (Machine Learning)	
CSC 215	Computer Systems	
	Credits	**6**
	Total Credits	**20**

Construction Management Technology, A.A.S.

Location(s): AL
NOVA Code: 9170

Purpose

The curriculum is designed to qualify personnel in both engineering technology and management for employment in many areas of a construction firm. Job opportunities include engineering aide, construction project manager, construction supervisor, estimator, and facilities planning and supervision.

Two Years

Course	Title	Credits
1st Semester		
ARC 133	Construction Methodology & Procedures I	3
BLD 101	Construction Management I	3
CAD 165	Architectural Blueprint Reading	3
Select one of the following:		3-4
ARC 243	Environmental Systems	
Technical Elective (p. 69)		
Select one of the following: [1]		3
MTH 111	Basic Technical Mathematics	
MTH 161	PreCalculus I	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16-17**
2nd Semester		
ARC 225	Site Planning And Technology	3
BLD 215	OSHA 30 Construction Safety	2
BLD 231	Construction Estimating I	3
CIV 171	Surveying I	3
ENG 111 or ENG 115	College Composition I or Technical Writing	3

Humanities/Fine Arts Elective (p. 49)		3
	Credits	**17**
3rd Semester		
BLD 165	Construction Field Operations	2
BLD 200	Sustainable Construction	2
BLD 241	Construction Management III	3
BLD 247	Construction Planning And Scheduling	3
FIN 215	Financial Management	3
Technical Elective (p. 69)		3-4
	Credits	**16-17**
4th Semester		
ARC 134	Construction Methodology & Procedures II	3
BLD 232	Construction Estimating II	3
BLD 242	Construction Management IV	3
CIV 228	Concrete Technology [2]	2
CIV 229	Concrete Laboratory [2]	1
Social/Behavioral Sciences Elective (p. 50)		3
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
	Credits	**18**
	Total Credits	**67-69**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 Students transferring to a four-year college or university should consider taking MTH 161 PreCalculus I or Higher.

2 Students may take CIV 228 and 229 or a Technical Elective. Technical elective courses must be approved by the program academic advisor.

Technical Electives

Technical elective courses must be approved by the program academic advisor. May be selected from the following:

Code	Title	Credits
CAD 201	Computer Aided Drafting & Design I	4
CAD 202	Computer Aided Drafting & Design II	4
CAD 203	Computer Aided Drafting & Design III	3
CIV 172	Surveying II	3
CIV 225	Soil Mechanics	3

Construction Management Technology: Construction Supervision, C.S.C.

Location(s): AL
NOVA Code: 221-917-01

Purpose

The curriculum is designed to qualify personnel in both building construction and engineering technologies. Job opportunities include employment within construction companies, assisting project managers and general contractors in preparing estimates, contract document interpretation, and construction administration. Independent employment may include construction site supervision and facilities management.

One Year

Course	Title	Credits
1st Semester		
ARC 133	Construction Methodology & Procedures I	3
BLD 101	Construction Management I	3
BLD 165	Construction Field Operations	2
CAD 165	Architectural Blueprint Reading	3
	Credits	**11**
2nd Semester		
BLD 215	OSHA 30 Construction Safety	2
BLD 231	Construction Estimating I	3
CIV 171	Surveying I	3
Select one of the following Technical Electives: [1]		3
CAD 201	Computer Aided Drafting & Design I	
CAD 202	Computer Aided Drafting & Design II	
CAD 203	Computer Aided Drafting & Design III	
CIV 225	Soil Mechanics	
CIV 228	Concrete Technology	
CIV 229	Concrete Laboratory	
	Credits	**11**
	Total Credits	**22**

1 Technical elective courses must be approved by the program academic advisor.
Students selecting CIV 228 Concrete Technology and CIV 229 Concrete Laboratory must take both courses concurrently as a combined technical elective option.

Construction Management Technology: Site Development, C.S.C.

Location(s): AL
NOVA Code: 221-915-01

Purpose

The curriculum is designed to prepare students for either employment in civil engineering or the construction industry, or to prepare for continuing education in civil engineering technology, urban and landscape planning, or construction management. Job opportunities may include CAD operation, entry-level land planning or land development technician, and civil or construction engineering technician.

One Year

Course	Title	Credits
1st Semester		
BLD 165	Construction Field Operations	2
CAD 201	Computer Aided Drafting & Design I	4
CIV 225	Soil Mechanics	3
CIV 171	Surveying I	3
CAD 165	Architectural Blueprint Reading	3
	Credits	**15**
2nd Semester		
ARC 225	Site Planning And Technology	3
CIV 280	Introduction To Environmental Engineering	3
CIV 228	Concrete Technology	2
CIV 229	Concrete Laboratory	1
Select one of the following Technical Electives: [1]		3
BLD 101	Construction Management I	
BLD 200	Sustainable Construction	

BLD 231	Construction Estimating I	
CIV 240	Fluid Mechanics and Hydraulics	
HRT 246	Herbaceous Plants	
	Credits	**12**
	Total Credits	**27**

[1] Technical electives must be approved by the program academic advisor.

Contract Management, A.A.S.

Location(s): WO
NOVA Code: 2480

Purpose

This curriculum is designed for individuals who plan to seek employment in contract management positions and for those presently in contract management positions who seek career advancement. The program is designed to create opportunities for positions in contract management for both government agencies and private industry. Instruction includes both the theoretical concepts and the practical applications needed for future success in the contract management field. This will provide a greater understanding of acquisition, life cycle management, and contracting processes. Job opportunities include project manager, procurement analyst, contract administrator, contract specialist, contract negotiator, contract price analyst, and contract termination specialist.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Admission Requirements

In addition to the general admission requirements of the College, entry into the program requires proficiency in high school English and mathematics. Students with deficiencies will require developmental studies.

Two Years

Course	Title	Credits
1st Semester		
CON 100	Shaping Business Arrangements	3
CON 104	Federal Acquisition Regulation (Far) Fundamentals I	3
ENG 111	College Composition I	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
CON 105	Federal Acquisition Regulation (FAR) Fundamentals II	3
CON 121	Strategic Focused Contracting II	3
CST 110	Introduction to Human Communication	3
ECO 201	Principles of Macroeconomics	3
ENG 112	College Composition II	3
	Credits	**15**
3rd Semester		
ACC 211	Principles of Accounting I	3
BUS 200	Principles of Management	3
CON 170	Fundamentals of Cost and Price Analysis	3
CON 214	Business Decisions for Contracting	3
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**15**
4th Semester		
ACC 212	Principles of Accounting II	3
BUS 220	Introduction to Business Statistics	3
CON 124	Contract Execution	3
CON 127	Contract Administration	3
CON 216	Legal Considerations in Contracting	3
CON 217	Cost Analysis and Negotiation Techniques	3
	Credits	**18**
	Total Credits	**64**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

Criminal Justice, A.A.S.

Location(s): AL, AN, LO, MA, WO
NOVA Code: 456

Purpose

The curriculum is designed to provide a broad foundation that will prepare students to enter any of the varied fields in criminal justice or to prepare for professional advancement. Job opportunities for students include local, state, and federal enforcement officers, police officers, private or government investigators, adult/juvenile correction officers, probation/parole officers and counselors, security directors (managers), loss prevention directors, classification managers, and personnel clearance administrators. Most of the ADJ courses in this curriculum are “core courses” that provide a basic entry-level foundation in both criminal justice and security administration. These courses must be taken by **all students** in this program. At several points in the curriculum, “course options” are provided for selection by the students.

Special Curriculum Admission Requirements

Students are advised that many criminal justice and private/government security agencies require excellent moral character and a written record of conduct prior to consideration for employment.

Two Years

Course	Title	Credits
1st Semester		
ADJ 100	Survey of Criminal Justice	3
ADJ 140	Introduction to Corrections	3
ENG 111	College Composition I	3
Social/Behavioral Sciences Elective (p. 50)		3
Select one of the following: [1]		3
ADJ 164	Case Studies in Murder/Violent Crimes	
ADJ Elective (p. 140)		
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**

2nd Semester		
ADJ 105	The Juvenile Justice System	3
ADJ 201	Criminology	3
Social/Behavioral Sciences Elective (p. 50)		3
Select one of the following: [1]		3
ADJ 229	Community Policing in Modern Society	
ADJ Elective (p. 140)		
Select one of the following: [2]		3-4
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
Physical or Life Science Elective w/Lab (p. 50)		
	Credits	**15-16**
3rd Semester		
ADJ 211	Crim Law, Evidence And Procedures I	3
Select one of the following: [1]		3
ADJ 216	Organized Crime And Corruption	
ADJ Elective (p. 140)		
Select one of the following: [1]		3
ADJ 234	Terrorism And Counter-Terrorism	
ADJ Elective (p. 140)		
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
Humanities/Fine Arts Elective (p. 49)		3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
	Credits	**18**
4th Semester		
ADJ 133	Ethics & The Criminal Justice Prof.	3
ADJ 212	Crim Law, Evidence And Procedures II	3
HIS Elective (p. 50)		3
Select one of the following: [1]		3
ADJ 236	Principles of Criminal Investigation	
ADJ Elective (p. 140)		
Select one of the following: [1]		3
ADJ 248	Probation, Parole, And Treatment	
ADJ Elective (p. 140)		
	Credits	**15**
	Total Credits	**64-65**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. Select any ADJ course (p. 140).
2. Students who wish to substitute a laboratory science for MTH 154 Quantitative Reasoning/MTH 155 Statistical Reasoning **must** meet with their ADJ academic advisor first. The science elective may be selected from physical and life science courses with a lab component.

Criminal Justice, Certificate

Location(s): AL, AN, MA, NOL, WO
NOVA Code: 412

Purpose

This curriculum is designed for those students who wish to take only those courses that relate directly to the law enforcement field. The occupational objectives are to provide a basic foundation for individuals entering some particular area of the criminal justice field that does not require an A.A.S. or higher degree in criminal justice, or for persons already in the criminal justice field who wish to extend their knowledge/skill, or for those exploring the criminal justice field as a career alternative. Courses taken in the certificate program can be applied to the A.A.S. degree.

Special Curriculum Admission Requirements

Students are advised that many criminal justice and private/government security agencies require excellent moral character and a written record of conduct prior to consideration for employment.

One Year

Course	Title	Credits
1st Semester		
ADJ 100	Survey of Criminal Justice	3
ADJ 211	Crim Law, Evidence And Procedures I	3
ENG 111	College Composition I	3
Social/Behavioral Sciences Elective (p. 50)		3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
ADJ Elective (p. 140) [1]		3
ADJ 105 or ADJ 140	The Juvenile Justice System or Introduction to Corrections	3
ADJ 133	Ethics & The Criminal Justice Prof.	3
ADJ 212	Crim Law, Evidence And Procedures II	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**18**
	Total Credits	**31**

1. Consult with an advisor for ADJ course options.

Criminal Justice: Homeland Security Specialization, A.A.S.

Location(s): AN, MA, WO
NOVA Code: 456-01

Purpose

This program prepares students for entry-level opportunities as a local, state, or federal law enforcement officer; commercial and industrial security officer; police officer; or private or government investigator, particularly in the areas of homeland security.

Admission Requirements and Special Conditions

A high school diploma (or equivalent) and satisfactory scores on College placement tests (or equivalent) in English and mathematics are required. Students should consult with academic advisors during course selection. Persons entering the public or private sectors of criminal justice employment will be subject to intensive physical agility tests, background investigations, psychological testing, personal interviews, physical examinations, and polygraph examinations.

Two Years

Course	Title	Credits
1st Semester		
ADJ 100	Survey of Criminal Justice	3
ADJ 234	Terrorism And Counter-Terrorism	3
ENG 111	College Composition I	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
Select one of the following: [1]		3-4
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
Physical or Life Science Elective w/Lab (p. 50)		
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16-17**
2nd Semester		
ADJ Homeland Security Elective (p. 72)		3
ADJ 163	Crime Analysis and Intelligence	3
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
GEO 230 or ADJ 250	Political Geography or Global Security Concepts for Law Enforcement and National Security	3
SOC 200	Introduction to Sociology	3
	Credits	**15**
3rd Semester		
ADJ 201	Criminology	3
ADJ 212	Crim Law, Evidence And Procedures II	3
ADJ 228	Narcotics And Dangerous Drugs	3
ADJ 236	Principles of Criminal Investigation	3
ADJ 211	Crim Law, Evidence And Procedures I	3
	Credits	**15**
4th Semester		
ADJ 133	Ethics & The Criminal Justice Prof.	3
ADJ 227	Constitutional Law For Justice Personnel	3
ADJ 240	Techniques of Interviewing	3
ADJ Homeland Security Elective (p. 72)		3
ADJ Homeland Security Elective (p. 72)		3
REL 237	Religions of the East	3
	Credits	**18**
	Total Credits	**64-65**

[1] Students may take any higher-lever MTH. The science elective may be selected from physical and life science courses with a lab component.

Homeland Security Electives

Code	Title	Credits
ADJ 110	Introduction to Law Enforcement	3
ADJ 140	Introduction to Corrections	3
ADJ 159		
ADJ 160		
ADJ 163	Crime Analysis and Intelligence	3
ADJ 164	Case Studies in Murder/Violent Crimes	3
ADJ 211	Crim Law, Evidence And Procedures I	3
ADJ 212	Crim Law, Evidence And Procedures II	3
ADJ 216	Organized Crime And Corruption	3
ADJ 233	Multiculturalism in Policing	3
ADJ 228	Narcotics And Dangerous Drugs	3
ADJ 229	Community Policing in Modern Society	3
ADJ 250	Global Security Concepts for Law Enforcement and National Security	3
ADJ 252	Counterintelligence Concepts for Law Enforcement and National Security	3
ADJ 298	Seminar And Project (Faculty Approved)	1-5

Criminology and Criminal Justice, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 4710

Purpose

This program is designed to prepare students to transfer to a four-year college or university to complete a baccalaureate degree program in criminal justice, criminology, or related fields.

Transfer Information

Since four-year colleges can vary in their course and GPA requirements, please consult an advisor regarding specific requirements and course selection. The program is designed to transfer especially well to George Mason University.

Recommended Preparation

Satisfactory completion of the following high school units or equivalent: 4 units of English; 4 units of mathematics (algebra I-II, geometry and pre-calc); 1 unit of laboratory science; and 1 unit of social studies.

Two Years

Course	Title	Credits
1st Semester		
ADJ 100	Survey of Criminal Justice	3
ENG 111	College Composition I	3
HIS Elective (p. 50)		3
Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher) [1]	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
ADJ 201	Criminology	3
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
ENG 112	College Composition II	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
PSY 200	Principles of Psychology	3
	Credits	**15**
3rd Semester		
Select one of the following:		3
ADJ 105	The Juvenile Justice System	
ADJ 211	Crim Law, Evidence And Procedures I	
ADJ 234	Terrorism And Counter-Terrorism [2]	
ADJ 140	Introduction to Corrections	3
Physical or Life Science Elective w/Lab (p. 50)		4
SOC 200	Introduction to Sociology	3
Select one of the following:		3
SOC 268	Social Problems	

SOC 266	Race and Ethnicity	
General Education Elective (p. 49) [3]		
	Credits	**16**
4th Semester		
Physical or Life Science Elective w/Lab (p. 50)		4
Select one of the following:		3
ADJ 133	Ethics & The Criminal Justice Prof. [4]	
ADJ 110	Introduction to Law Enforcement	
ADJ 233	Multiculturalism in Policing	
ADJ 236 or ADJ 229	Principles of Criminal Investigation or Community Policing in Modern Society	3
Humanities/Fine Arts Elective (p. 49) [5]		3
Select one of the following: [6]		3
ENG 2XX - Literature Elective (p. 50)		
REL 237	Religions of the East	
REL 100	Introduction to the Study of Religion	
	Credits	**16**
	Total Credits	**60**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. Students who plan to take MTH 245 Statistics I should take MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I first. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I.
2. Students planning to attend George Mason University can take any of the courses listed. Students planning to attend different universities should consult transfer guides via www.transfervirginia.org (http://www.transfervirginia.org/) for additional information.
3. Students planning to attend George Mason University are encouraged to take CST 229 Intercultural Communication, PLS 241 Introduction to International Relations, or REL 100 Introduction to the Study of Religion. Consult transfer guides via www.transfervirginia.org (http://www.transfervirginia.org/) for additional information.
4. Prospective George Mason University students should consider enrolling in ADJ 133 Ethics & The Criminal Justice Prof. to fulfill core major requirements for the Criminology, Law, and Society degree program.
5. Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.
6. Any 200-level literature course with an ENG prefix satisfies this requirement.. Students planning to attend George Mason University are encouraged to take an approved ENG 225 or higher literature course.

Cybersecurity, A.A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 3450

Purpose

This curriculum is designed for those who seek employment in the field of Cybersecurity (information assurance), for those who are presently in IT or a security field and who desire to increase their knowledge and update their skills, and for those who must augment their abilities in other fields with knowledge and skills in information security. The curriculum is mapped to the NSA/DHS Knowledge Units necessary for NOVA's designation as a Center of Academic Excellence.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements and arrangements that facilitate the transfer of this degree to selected senior institutions. Students interested in transfer should contact their academic advisor early in the program for specific course requirements.

Recommended Preparation

The student should possess a proficiency in high school English, high school algebra and geometry, and computer keyboarding skills.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications [1]	3
ITN 106	Microcomputer Operating Systems	3
Select one of the following: [2]		3
ITN 101	Introduction to Network Concepts	
ITN 100	Intro to Telecommunications	
Select one of the following: [3]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
ITP 100	Software Design [1]	3
ITN 260	Network Security Basics	3
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
Select one of the following: [4]		3
ITN 107	Pers. Computer Hardware & Troubleshooting	
ITE 221	PC Hardware & O/S Architecture	
Select one of the following: [5]		3
ITN 170	LINUX System Administration	
ITN 171	UNIX I	
	Credits	**15**
3rd Semester		
ITN 200	Administration of Network Resources	3
ITN 261	Network Attacks, Computer Crime, & Hacking	4
ITN 262	Network Comm, Security & Authentication	4
Social/Behavioral Sciences Elective (p. 50)		3
Select one of the following:		4
ITP 120	JAVA Programming I	
ITP 132	C++ Programming I	
ITP 150	Python Programming	
ITP 160	Introduction to Game Design and Development	
ITP 225	Web Scripting Languages	
ITP 270	Programming For Cybersecurity	
	Credits	**18**
4th Semester		
Humanities/Fine Arts Elective (p. 49)		3
ITN 263	Inter/Intranet Firewalls/E-Comm. Sec	4
ITN 266	Network Security Layers	3
ITN 276	Computer Forensics I	3

Select one of the following Approved Electives:		3
ITN 264	Introduction to Malware Analysis	
ITN 267	Legal Topics in Network Security.	
ITN 277	Computer Forensics II	
ITN 290	Coord. Internship	
ITN 295	Topics In: (Cyber Operations and Analysis)	
ITN 295	Topics In: (Introduction to Payments Cybersecurity)	
ENG 112	College Composition II	
	Credits	**16**
	Total Credits	**65**

Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses used for this program may not be more than 10 years old as of the first day of the fall semester of the academic year in which a student graduates, unless approved by the pathway dean.

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 United States Naval Community College students may substitute an approved elective.
2 Credit will not be awarded for both ITN 100 Intro to Telecommunications or ITN 101 Introduction to Network Concepts.
3 May substitute a higher-level mathematics course. Consult with an academic advisor for appropriate selection.
4 Credit will not be awarded for both ITN 107 Pers. Computer Hardware & Troubleshooting or ITE 221 PC Hardware & O/S Architecture.
5 Credit will not be awarded for both ITN 170 LINUX System Administration or ITN 171 UNIX I.

Cybersecurity, C.S.C.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 221-732-09

Purpose

This program is designed as an enhanced competency module to provide expertise in security to networking specialists. This curriculum will prepare networking specialists for employment as network security specialists or Internet security specialists. This program also helps prepare students for the Security+ and the CISSP certification exams.

One Year

Course	Title	Credits
1st Semester		
ITE 152	Introduction to Digital and Information Literacy and Computer Applications [1]	3
ITN 260	Network Security Basics	3
Select one of the following: [2]		3
ITN 101	Introduction to Network Concepts	
ITN 100	Intro to Telecommunications	
Select one of the following ITN Electives:		3
ITN 264	Introduction to Malware Analysis	
ITN 267	Legal Topics in Network Security.	
ITN 290	Coord. Internship	
ITN 295	Topics In:	
	Credits	**12**
2nd Semester		
ITN 261	Network Attacks, Computer Crime, & Hacking	4
ITN 262	Network Comm, Security & Authentication	4
ITN 263	Inter/Intranet Firewalls/E-Comm. Sec	4
ITN 266	Network Security Layers	3
	Credits	**15**
	Total Credits	**27**

Information Technology (ITD, ITE, ITN, ITP) courses used for this program may not be more than 10 years old as of the first day of the fall semester of the academic year in which a student graduates, unless approved by the pathway dean.

1 United States Naval Community College students may substitute an approved elective.
2 Credit will not be awarded for both ITN 100 Intro to Telecommunications or ITN 101 Introduction to Network Concepts.

Dental Assisting, Certificate

Location(s): MEC
NOVA Code: 1200

Purpose

This curriculum is designed to prepare students to perform chairside assisting, minor laboratory, and basic office procedures. Students learn the theory and skills to assist in the dental operatory through course work in the areas of chairside assisting, radiology, dental materials, dental and biomedical sciences, as well as clinical practice. Graduates can perform certain additional tasks allowing them to become productive and valued members of the dental health team. Upon successful completion of this program, students are eligible to sit for the Dental Assisting National Board Examination (DANB). After successful completion of this examination, the credential Certified Dental Assistant (CDA) is awarded.

Special Accreditation Status

The Dental Assisting program maintains their status of accreditation by the Commission on Dental Accreditation. Students who successfully complete the program are considered to be graduates of an accredited program for purposes of certification and regulations as set forth by state licensing boards. The Commission is a specialized accrediting body recognized by the United States Department of Education.
The Commission on Dental Accreditation can be contacted at 312-440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611-2678 The Commission's web address is: https://coda.ada.org (https://coda.ada.org/).

Bloodborne Pathogens and Infectious Diseases Statement

By nature of the profession, students accepted into the Dental Assisting program may be exposed to blood and body fluids while practicing dental skills or providing services during clinical, preclinical, and laboratory sessions. Policies and procedures have been established to ensure the working environment is safe in order to minimize disease transmission. Prospective students may request a copy of the policy on bloodborne infectious diseases by calling 703-822-6627.

Admission Requirements

Students must:

- Comply with all General Admission Requirements for Allied Health Programs.
- Have a high school diploma or GED.

- Take or self-place (https://www.nvcc.edu/admissions/direct-enrollment.html) into MTH 133 Mathematics for Health Professions or Math Unit 3 or higher.
- Pass ENG 111 College Composition I and SDV 100 College Success Skills or SDV 101 Orientation to: with a grade of "B" or higher prior to admission into the program.
- BIO 145 Basic Human Anatomy & Physiology or BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II with a grade of "B" or higher prior to admission into the program. (Please note: BIO 141 Human Anatomy And Physiology I requires the completion of BIO 101 General Biology I, or NAS 2 Foundations of Life Sciences or a placement test as noted at the Nursing and Health Sciences Division (http://www.nvcc.edu/academics/divisions/health-sciences/). BIO 145 Basic Human Anatomy & Physiology or BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II must be completed within 10 years at time of application.
- Be willing to repeat courses or to complete evaluative testing for credits earned more than ten years ago.
- View an online information session (https://www.nvcc.edu/academics/programs/dental-assisting.html) located on the Dental Assisting web site.
- Have a minimum 2.5 cumulative GPA. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.

Continuation Requirements

All courses (including General Education courses) program must be completed with a grade of "C" or better before taking the next course in the sequence and to satisfy graduation requirements (note: some prerequisite requirements may require a higher grade).

One Year

Course	Title	Credits
Prerequisites		
ENG 111	College Composition I	3
BIO 145	Basic Human Anatomy & Physiology [1]	4
SDV 101 or SDV 100	Orientation to: (Healthcare) or College Success Skills	1
	Credits	**8**
1st Semester		
DNA 100	Introduction to Oral Health Professions	1
DNA 108	Dental Science	3
DNA 110	Dental Materials	3
DNA 113	Chairside Assisting I	3
DNA 134	Dental Radiology and Practicum	3
PSY 200	Principles of Psychology	3
	Credits	**16**
2nd Semester		
CST 229	Intercultural Communication	3
DNA 114	Chairside Assisting II	4
DNA 119	Dental Therapeutics	1
DNA 120	Community Health	1
DNA 130	Dental Office Management	2
DNA 140	Externship	5
	Credits	**16**
3rd Semester		
DNA 190	Coordinated Internship	3
	Credits	**3**
	Total Credits	**43**

[1] May substitute BIO 145 Basic Human Anatomy & Physiology by taking BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II.

Dental Hygiene, A.A.S.

Location(s): MEC
NOVA Code: 1180

Purpose

The program is designed to prepare students to serve in a dynamic and growing health profession as members of the dental health team. After successful completion of the program, the student will be eligible to take the National Board Dental Hygiene Examination and professional licensure examinations. Upon successful completion of the licensing process, the title "Registered Dental Hygienist" (R.D.H.) is awarded.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Special Accreditation Status

The Dental Hygiene Program is accredited by the American Dental Association's Commission on Dental Accreditation and has been granted the accreditation status of approval without reporting requirements. The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission on Dental Accreditation can be contacted at 312-440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611-2678. The Commission's web address is https://coda.ada.org (https://coda.ada.org/).

Bloodborne Pathogens and Infectious Diseases Statement

By nature of the profession, students accepted into the Dental Hygiene Program may be exposed to blood and body fluids while practicing dental hygiene skills or providing services during clinical, preclinical, and laboratory sessions. Policies and procedures have been established to ensure the working environment is safe in order to minimize disease transmission. Prospective students may request a copy of the policy on bloodborne infectious diseases by calling 703-822-6627.

Admission Requirements

Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- Be eligible to sit for the licensure exam, which will require the student to present documentation of legal status in the U.S.
- Pass BIO 141 Human Anatomy And Physiology I-BIO 142 Human Anatomy and Physiology II,with a grade of "B" or higher and must

be completed within 10 years at time of application. (Please note: BIO 141 Human Anatomy And Physiology I requires the completion of BIO 101 General Biology I, or NAS 2 Foundations of Life Sciences or a placement test as noted at: https://www.nvcc.edu/academics/divisions/health-sciences/).

- Pass BIO 150 Microbiology for Health Sciences with a grade of "B" or higher and must must be completed within 10 years at time of application.
- Pass ENG 111 College Composition I with a "C" or higher prior to being admitted to the program.
- Pass SDV 100 College Success Skills or SDV 101 Orientation to: Orientation to Healthcare with a "C" or higher prior to being admitted to the program.
- Be willing to repeat courses or to complete evaluative testing for credits earned more than ten years ago.
- Review the competitive admission and deadlines for applications on the dental hygiene website at https://www.nvcc.edu/academics/divisions/health-sciences/ (http://www.nvcc.edu/academics/divisions/health-sciences/).
- Successfully complete and achieve satisfactory scores on the TEAS (Test of Essential Academic Skills) test. Students may only take the test three times per year. The latest result must be within three years of application to the DNH Program.
- Have a minimum 2.5 cumulative GPA. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.

Completion Requirements

All courses (including General Education courses) must be completed with a grade of "C" or better before taking the next course in the sequence and to satisfy graduation requirements (note: some prerequisite requirements may require a higher grade).

Special Program Requirements

The Virginia Board of Dentistry reserves the right to deny licensure to any candidate who has been convicted of a crime involving moral turpitude or the use of drugs or alcohol to the extent that such use renders him/her unsafe to practice dental hygiene. Any applicant who has been found guilty of a misdemeanor or felony must consult with the Dental Hygiene program director prior to admission.

Two Years

Course	Title	Credits
Prerequisites		
BIO 141	Human Anatomy And Physiology I	4
BIO 142	Human Anatomy and Physiology II	4
BIO 150	Microbiology for Health Sciences	4
ENG 111	College Composition I	3
SDV 101 or SDV 100	Orientation to: or College Success Skills	1
	Credits	**16**
1st Semester		
DNH 111	Oral Anatomy	2
DNH 115	Histology/Head and Neck Anatomy	3
DNH 130	Oral Radiography for the Dental Hygienist	2
DNH 141	Dental Hygiene I	5
CST 229	Intercultural Communication	3
	Credits	**15**
2nd Semester		
DNH 120	Management of Emergencies	1
DNH 142	Dental Hygiene II	5
DNH 145	General And Oral Pathology	2
DNH 146	Periodontics For The Dental Hygienist	2
DNH 216	Pharmacology	2
	Credits	**12**
3rd Semester		
DNH 143	Dental Hygiene III	3
DNH 214	Practical Materials for Dental Hygiene	2
	Credits	**5**
4th Semester		
DNH 150	Nutrition	2
DNH 226	Public Health Dental Hygiene I	2
DNH 235	Management of Dental Pain and Anxiety in the Dental Office	2
DNH 244	Dental Hygiene IV	5
PSY 200	Principles of Psychology	3
	Credits	**14**
5th Semester		
DNH 227	Public Health Dental Hygiene II	1
DNH 230	Office Practice And Ethics	1
DNH 245	Dental Hygiene V	5
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**10**
	Total Credits	**72**

Students who graduate from the NOVA Dental Assisting Certificate Program within One Year of acceptance into the Dental Hygiene program may substitute DNA 110 Dental Materials for DNH 214 Practical Materials for Dental Hygiene. DNA 134 Dental Radiology and Practicum can be a substitute for DNH 130 Oral Radiography for the Dental Hygienist. It will be required to register and take DNH 196 On-Site Training, a 1 credit course, during the summer semester of the program to supplement the Dental Materials coursework. The DNH 196 On-Site Training course will cover aspects that are specific to the dental hygiene scope of practice and review materials and skills necessary for clinical treatment of patients in the program.

Diagnostic Medical Sonography: Abdominal Sonography-Extended and Obstetrics and Gynecology Sonography Specialization, A.A.S.

Location(s): MEC
NOVA Code: 1090

Purpose

To prepare competent entry-level abdominal sonographers and obstetrics and gynecology sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains for Abdominal Sonography - Extended and Obstetrics and Gynecology Sonography. This curriculum is designed to prepare students to produce diagnostic images of the human body using special equipment to direct high frequency sound waves into different anatomic structures in a patient's body. The sonographer is a central member of the healthcare team and assists the radiologist in gathering diagnostic data for interpretation. NOVA's program emphasizes didactic and "hands-on" practice of sonographic techniques in a well-equipped scanning laboratory at the Medical

Education Campus in Springfield, Virginia. Clinical experience is acquired at numerous area hospitals and private medical affiliates.

Students in the Diagnostic Medical Sonography degree program learn to perform an ultrasound of the Abdomen and Small Parts as well as Obstetric and Gynecologic sonography. Upon successful completion of the degree requirements, the student will be eligible to apply to take the American Registry for Diagnostic Medical Sonography (ARDMS) examination(s) leading to credentials as a Registered Diagnostic Medical Sonographer (RDMS®).

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Special Accreditation Status

The Diagnostic Medical Sonography program maintains their status of accreditation by the Commission on Accreditation of Allied Health Education Programs (CAAHEP).

Admission Requirements

Admission to the Diagnostic Medical Sonography program is competitive. Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- Review an online Diagnostic Medical Sonography information session (https://www.nvcc.edu/academics/programs/diagnostic-medical-sonography/).
- Complete BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II with a "B" or higher and completed within 5 years of application.
- Complete DMS 100 Orientation to the Sonography Profession with a grade of "B" or higher and completed within 5 years of application.
- Complete ENG 111 College Composition I with a grade of "B" or higher.
- Complete MTH 161 PreCalculus I or higher level math with a "B" or higher.
- Complete PHY 100 Elements of Physics with a "B" or higher and completed within 5 years of application.
- Complete SDV 100 College Success Skills or SDV 101 Orientation to: Orientation to Healthcare with a "B" or higher.
- Successfully complete and achieve satisfactory scores on the TEAS (Test of Essential Academic Skills) test. Students may only take the test three times per year. The latest result must be within three years of application to the DMS Program.
- Have a minimum 2.5 cumulative GPA. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.

Completion Requirements

All DMS program courses must be completed with a grade of "79.5%" or better before taking the next semester course sequence and to satisfy graduation requirements. A program placed student not achieving a "79.5%" or higher will be automatically academically dismissed from the DMS program. All prerequisite courses require a B or higher. General Education courses require a C or higher grade and may be completed prior to admission to the DMS program.

Special Program Requirements

The American Registry of Diagnostic Medical Sonography (ARDMS) applicants, candidates, and registrants are required to report their involvement in any incident that constitutes a violation of ARDMS discipline policies. First-time applicants must disclose information regarding all previous violations of ARDMS discipline policies to the ARDMS with their initial application for examination. Upon disclosing a violation of ARDMS discipline policies, all ARDMS applicants, candidates, and registrants are required to submit official documentation from the presiding court system or disciplinary body. Individuals must provide documentation that either verifies that all sentencing requirements were completed in full, or a letter from the presiding court system/disciplinary body verifying that this case is closed and all of the requirements have been satisfied.

AARDMS conducts a "pre-application review" for individuals who wish to determine the impact of a previous violation of ARDMS discipline policies on their eligibility to apply for ARDMS certification. The Pre-Application Review Process is recommended for individuals who are not yet ready to apply for an examination. Individuals may obtain additional information regarding the pre-application process along with the appropriate forms by visiting www.ardms.org (http://www.ardms.org/).

Two Years

Course	Title	Credits
Prerequisites		
BIO 141	Human Anatomy And Physiology I	4
BIO 142	Human Anatomy and Physiology II	4
DMS 100	Orientation to the Sonography Profession	1
ENG 111	College Composition I	3
MTH 161	PreCalculus I (or Higher)	3
PHY 100	Elements of Physics	4
SDV 101 or SDV 100	Orientation to: or College Success Skills	1
	Credits	**20**
1st Semester		
DMS 190	Coordinated Internship	2
DMS 206	Introduction to Sonography	3
DMS 207	Sectional Anatomy	2
DMS 208	Ultrasound Physics and Instrumentation I	2
DMS 217	Sectional Anatomy Laboratory	1
DMS 218	Ultrasound Physics and Instrumentation Laboratory I	1
HLT 141	Introduction to Medical Terminology	1
HLT 220	Concepts of Disease	3
	Credits	**15**
2nd Semester		
DMS 196	On-Site Training in:	3
DMS 209	Ultrasound Physics and Instrumentation II	2
DMS 211	Abdominal Sonography	4
DMS 212	Obstetrical and Gynecological Sonography	3
DMS 219	Ultrasound Physics and Instrumentation Laboratory II	1
	Credits	**13**
3rd Semester		
DMS 231	Clinical Education I	3
DMS 241	Advanced Abdominal Sonography	3
DMS 242	Advanced Obstetrical and Gynecological Sonography	3

Humanities/Fine Arts Elective (p. 49)		3
	Credits	**12**
4th Semester		
DMS 222	Sonography Registry Review	2
DMS 223	Introduction to Vascular Ultrasound	3
DMS 232	Clinical Education II	4
PSY Elective (p. 226)		3
	Credits	**12**
	Total Credits	**72**

Diagnostic Medical Sonography: Echocardiography Specialization, A.A.S.

Location(s): MEC
NOVA Code: 1091

Purpose

To prepare competent entry-level adult cardiac sonographers in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains. The curriculum prepares students to produce diagnostic images of the heart structures and motion to diagnose cardiovascular changes. The echocardiographer uses special equipment to direct high frequency sound waves into areas of the patient's body. The echocardiographer is a central member of the health care team and assists the radiologist in body image interpretation. Upon successful completion of degree requirements, the student will be eligible to apply to take the American Registry of Diagnostic Medical Sonography examinations leading to credentials as a Registered Diagnostic Cardiac Sonographer (RDCS®).

Admission Requirements

Students must:

- Comply with all general admission requirements for Health Sciences Programs.
- Review an online Diagnostic Medical Sonography information session (https://www.nvcc.edu/academics/programs/diagnostic-medical-sonography/).
- Complete BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II with a "B" or higher and completed within 5 years of application.
- Complete DMS 100 Orientation to the Sonography Profession with a grade of "B" or higher and completed within 5 years of application.
- Complete ENG 111 College Composition I with a grade of "B" or higher.
- Complete MTH 161 PreCalculus I or higher level math with a "B" or higher.
- Complete PHY 100 Elements of Physics with a "B" or higher and completed within 5 years of application.
- Complete SDV 100 College Success Skills or SDV 101 Orientation to: with a "B" or higher.
- Successfully complete and achieve satisfactory scores on the TEAS (Test of Essential Academic Skills) test. Students may only take the test three times per year. The latest result must be within three years of application to the DMS Program.
- Have a minimum 2.5 cumulative GPA. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.

Completion Requirements

All DMS program courses must be completed with a grade of "79.5%" or better before taking the next semester course sequence and to satisfy graduation requirements. A program placed student not achieving a "79.5%" or higher will be automatically academically dismissed from the DMS program. All prerequisite courses require a B or higher. General Education courses require a C or higher grade and may be completed prior to admission to the DMS program.

Two Years

Course	Title	Credits
Prerequisites		
BIO 141	Human Anatomy And Physiology I	4
BIO 142	Human Anatomy and Physiology II	4
DMS 100	Orientation to the Sonography Profession	1
ENG 111	College Composition I	3
MTH 161	PreCalculus I (or Higher)	3
PHY 100	Elements of Physics	4
SDV 101 or SDV 100	Orientation to: or College Success Skills	1
	Credits	**20**
1st Semester		
DMS 190	Coordinated Internship	2
DMS 206	Introduction to Sonography	3
DMS 207	Sectional Anatomy	2
DMS 208	Ultrasound Physics and Instrumentation I	2
DMS 217	Sectional Anatomy Laboratory	1
DMS 218	Ultrasound Physics and Instrumentation Laboratory I	1
HLT 141	Introduction to Medical Terminology	1
HLT 220	Concepts of Disease	3
	Credits	**15**
2nd Semester		
DMS 150	Echocardiography I	4
DMS 196	On-Site Training in:	3
DMS 209	Ultrasound Physics and Instrumentation II	2
DMS 219	Ultrasound Physics and Instrumentation Laboratory II	1
PSY Elective (p. 226)		3
	Credits	**13**
3rd Semester		
DMS 231	Clinical Education I	3
DMS 250	Echocardiography II	4
DMS 256	Echocardiography Case Study Review	1
	Credits	**8**
4th Semester		
DMS 223	Introduction to Vascular Ultrasound	3
DMS 232	Clinical Education II	4
DMS 255	Echocardiography Registry Review	2
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**12**
	Total Credits	**68**

Diagnostic Medical Sonography: Vascular Sonography Specialization, A.A.S.

Location(s): MEC

NOVA Code: 1092

Purpose

To prepare competent entry-level vascular technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains. The curriculum is designed to prepare students to produce diagnostic images of the blood and blood flow. The vascular sonographer uses special equipment to direct high frequency sound waves into areas of the patient's body. The vascular sonographer is a central member of the health care team and assists the radiologist in body image interpretation. Upon successful completion of degree requirements, the student will be eligible to apply to take the American Registry of Diagnostic Medical Sonography examinations leading to credentials as a Registered Diagnostic Medical Sonographer (RDMS®), Registered Diagnostic Cardiac Sonographer (RDCS®) and Registered Vascular Technologist (RVT®).

Admission Requirements

Students must:

- Comply with all general admission requirements for Health Sciences Programs.
- Review an online Diagnostic Medical Sonography information session (https://www.nvcc.edu/academics/programs/diagnostic-medical-sonography/).
- Complete BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II with a "B" or higher and completed within 5 years of application.
- Complete DMS 100 Orientation to the Sonography Profession with a grade of "B" or higher and completed within 5 years of application.
- Complete ENG 111 College Composition I with a grade of "B" or higher.
- Complete MTH 161 PreCalculus I or higher level math with a "B" or higher.
- Complete PHY 100 Elements of Physics with a "B" or higher and completed within 5 years of application.
- Complete SDV 100 College Success Skills or SDV 101 Orientation to: with a "B" or higher.
- Successfully complete and achieve satisfactory scores on the TEAS (Test of Essential Academic Skills) test. Students may only take the test three times per year. The latest result must be within three years of application to the DMS Program.
- Have a minimum 2.5 cumulative GPA. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.

Completion Requirements

All DMS program courses must be completed with a grade of "79.5%" or better before taking the next semester course sequence and to satisfy graduation requirements. A program placed student not achieving a "79.5%" or higher will be automatically academically dismissed from the DMS program. All prerequisite courses require a B or higher. General Education courses require a C or higher grade and may be completed prior to admission to the DMS program.

Two Years

Course	Title	Credits
Prerequisites		
BIO 141	Human Anatomy And Physiology I	4
BIO 142	Human Anatomy and Physiology II	4
ENG 111	College Composition I	3
DMS 100	Orientation to the Sonography Profession	1
MTH 161	PreCalculus I (or Higher)	3
PHY 100	Elements of Physics	4
SDV 101 or SDV 100	Orientation to: or College Success Skills	1
	Credits	**20**
1st Semester		
DMS 190	Coordinated Internship	2
DMS 206	Introduction to Sonography	3
DMS 207	Sectional Anatomy	2
DMS 208	Ultrasound Physics and Instrumentation I	2
DMS 217	Sectional Anatomy Laboratory	1
DMS 218	Ultrasound Physics and Instrumentation Laboratory I	1
HLT 141	Introduction to Medical Terminology	1
HLT 220	Concepts of Disease	3
	Credits	**15**
2nd Semester		
DMS 196	On-Site Training in:	3
DMS 209	Ultrasound Physics and Instrumentation II	2
DMS 219	Ultrasound Physics and Instrumentation Laboratory II	1
DMS 260	Vascular Sonography II	4
PSY Elective (p. 226)		3
	Credits	**13**
3rd Semester		
DMS 160	Vascular Sonography I	4
DMS 231	Clinical Education I	3
DMS 265	Vascular Case Study Review	1
	Credits	**8**
4th Semester		
DMS 204	Introduction to General Sonography	3
DMS 232	Clinical Education II	4
DMS 266	Vascular Ultrasound Registry Review	2
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**12**
	Total Credits	**68**

Driver Education Instructor, C.S.C.

Location(s): MA
NOVA Code: 221-882-01

Purpose

This program is designed for students who wish to become qualified teachers of driver education or maintain qualifications in the state of Virginia.

One Semester

Course	Title	Credits
1st Semester		
EDU 114	Driver Task Analysis [1]	3
EDU 214	Instructional Principles/Drivers Edu. [1]	3
Select one of the following CST/ENG Electives:		3
ENG 111	College Composition I (or other ENG courses approved by a student's advisor)	
CST 100	Principles of Public Speaking	

CST 110	Introduction to Human Communication	
	Credits	**9**
	Total Credits	**9**

[1] These classes are taught in eight-week sessions.

Early Childhood Development, A.A.S.

Location(s): AL, LO, MA
NOVA Code: 6360

Purpose

The curriculum is designed to prepare Early Childhood Professionals. This includes people presently employed in early learning settings, and those seeking employment in the field. It also provides seamless articulation for those who wish to continue their education at some four-year institutions in VA.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor with the Early Childhood Programs for further information.

Special Accreditation Status

The A.A.S. Early Childhood Development degree at Northern Virginia Community College *is accredited by the Commission on the Accreditation of Early Childhood Higher Education Programs of the* National Association for the Education of Young Children *(*https://www.naeyc.org/*).* The current accreditation term runs from March 2018 through March 2025.

NAEYC Outcome Measures (https://catalog.nvcc.edu/programs/early-childhood-development-aas/ead-accreditation/)

Outcomes-SLO/NAEYC Assessments (https://www.nvcc.edu/academics/programs/early-childhood-development.html#:~:text=The%20Early%20Childhood%20Development%20Program%20prepares%20candidates%20to%20be%20proficient)

Two Years

Course	Title	Credits
1st Semester		
EDU 235	Health, Safety, & Nutrition Education	3
CHD 120	Intro. Early Childhood Education	3
CHD 145	Teaching Art, Music, and Movement to Children	3
CHD 205	Guiding the Behavior of Children	3
ENG 111	College Composition I	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
CHD 118	Language Arts for Young Children	3
CHD 146	Math, Science & Social Studies for Children	3
CHD 165	Observation/Participation/Early Childhood	3
CHD 216	Early Learning, Family, Community, and Social Change	3
PSY 230	Developmental Psychology	3
	Credits	**15**
3rd Semester		
CHD 166	Infant And Toddler Programs	3
CHD 210	Children with Exceptionalities	3
EDU 200	Foundations of Education	3
ENG 112	College Composition II	3
Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
	Credits	**15**
4th Semester		
BIO 101	General Biology I	4
CHD 265	Advanced Observation and Participation in Early Childhood/Primary Settings	3
CHD 270	Administration of Childcare Programs	3
ENG 250 or ENG 246	Children's Literature or American Literature	3
HIS 121 or HIS 122	United States History to 1877 or United States History Since 1865	3
	Credits	**16**
	Total Credits	**62**

Early Childhood Development, C.S.C.

Location(s): AL, LO, MA, NOL
NOVA Code: 221-636-04

Purpose

This curriculum is designed to prepare individuals to work with young children in safe and healthy environments that are supportive of children's individual physical, cognitive, and social-emotional development. Job opportunities include employment as assistant teachers, teachers, group leaders, or family child care providers in programs for young children.

One Year

Course	Title	Credits
1st Semester		
CHD 120	Intro. Early Childhood Education	3
CHD 145	Teaching Art, Music, and Movement to Children	3
CHD 205	Guiding the Behavior of Children	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**10**
2nd Semester		
CHD 165	Observation/Participation/Early Childhood	3
EDU 235	Health, Safety, & Nutrition Education	3
	Credits	**6**
	Total Credits	**16**

Early Childhood Development, Certificate

Location(s): AL, LO, MA, NOL
NOVA Code: 6320

Purpose

The curriculum is designed to prepare individuals for employment in environments where the care and education of young children is the primary focus. Job opportunities include employment in child development programs and family child care homes and before and after school-age programs.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor with the Early Childhood Programs for further information.

One Year

Course	Title	Credits
1st Semester		
CHD 118	Language Arts for Young Children	3
CHD 120	Intro. Early Childhood Education	3
CHD 205	Guiding the Behavior of Children	3
EDU 235	Health, Safety, & Nutrition Education	3
ENG 111	College Composition I	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
CHD 145	Teaching Art, Music, and Movement to Children	3
CHD 146	Math, Science & Social Studies for Children	3
CHD 165	Observation/Participation/Early Childhood	3
CHD 216	Early Learning, Family, Community, and Social Change	3
PSY 230	Developmental Psychology	3
	Credits	**15**
	Total Credits	**31**

Early Childhood Development: Infant and Toddler Care, C.S.C.

Location(s): AL, LO, MA, NOL
NOVA Code: 221-636-06

Purpose

The curriculum is designed to prepare individuals to create developmentally appropriate learning environments for infants and toddlers. Job opportunities include employment in child development programs and family child care homes.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor with the Early Childhood Programs for further information.

One Year

Course	Title	Credits
1st Semester		
CHD 120	Intro. Early Childhood Education	3
CHD 166	Infant And Toddler Programs	3
EDU 235	Health, Safety, & Nutrition Education	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**10**
2nd Semester		
CHD 164	Working with Infants and Toddlers in Inclusive Settings	3
CHD 165	Observation/Participation/Early Childhood	3
	Credits	**6**
	Total Credits	**16**

Education, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 625

Purpose

This curriculum prepares students to transfer to any four-year college or university teacher preparation program. Courses in this degree are designed to satisfy some of the endorsement and professional course requirements of a Virginia teaching license. In EDU 200 Foundations of Education, students will identify the endorsement (content) courses they need to earn a teaching license. Students should meet with a Teacher Education faculty member or Education Field Placement Coordinator and Advising Specialist to select the correct courses for their area of licensure. EDU 200 Foundations of Education and EDU 204 Teaching in a Diverse Society both require 20-hour field placements in a K-12 public school. Students will be required to complete a background check before being placed in the schools. Students with criminal records should consult with the Teacher Education Field Placement Coordinator before enrolling in the courses. Students are strongly encouraged to take the VCLA after completing ENG 111 College Composition I, ENG 112 College Composition II, Eng-literature course, and CST 100 Principles of Public Speaking or CST 110 Introduction to Human Communication.

This program is aligned with the Transfer Virginia common curriculum. Students are strongly encouraged to consult their academic advisor and review transfer options using the Transfer Virginia Portal, Where Can This Degree Transfer (https://www.transfervirginia.org/degrees/0E2BD023E89911EEBFE30234F6702AD1#:~:text=Where%20Can%20This%20Degree%20Transfer).

Two Years

Course	Title	Credits
1st Semester		
EDU 200	Foundations of Education	3
ENG 111	College Composition I	3
Physical or Life Science Elective w/Lab (p. 82)		4
Select one of the following: [1]		3
MTH 154	Quantitative Reasoning	
MTH 161	PreCalculus I (or Higher)	
SDV 101 or SDV 100	Orientation to: or College Success Skills	1
	Credits	**14**
2nd Semester		
ENG 112	College Composition II	3
HIS 121 or HIS 122	United States History to 1877 or United States History Since 1865	3
Physical or Life Science Elective w/Lab (p. 82)		4
Select one of the following: [1, 2]		3
MTH 155	Statistical Reasoning	
MTH 245	Statistics I	
Education Elective (https://catalog.nvcc.edu/programs/education-as/#edu-elec)		
PSY 230 or EDU 207	Developmental Psychology or Human Growth and Development	3
	Credits	**16**
3rd Semester		
EDU 204	Teaching in a Diverse Society	3
Education Elective (https://catalog.nvcc.edu/programs/education-as/#edu-elec) [2]		3
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	

CST 110	Introduction to Human Communication	
Select one of the following ENG 2XX-Level Literature Electives:		3
ENG 245	British Literature	
ENG 246	American Literature	
ENG 250	Children's Literature	
ENG 255	World Literature	
ENG 258	African American Literature	
Select one of the following Social/Behavioral Sciences Electives:		3
ECO 150	Economic Essentials: Theory and Application	
ECO 201	Principles of Macroeconomics	
ECO 202	Principles of Microeconomics	
GEO 200	Introduction to Physical Geography	
GEO 210	People & the Land: Intro. to Cultural Geography	
GEO 220	World Regional Geography	
PLS 135	U.S. Government and Politics	
	Credits	**15**
4th Semester		
EDU 250	Foundations of Exceptional Education	3
Education Elective (https://catalog.nvcc.edu/programs/education-as/#edu-elec) [2]		3
Education Elective (https://catalog.nvcc.edu/programs/education-as/#edu-elec) [2]		3
Education Elective (https://catalog.nvcc.edu/programs/education-as/#edu-elec) [2]		3
Humanities/Fine Arts Elective (p. 49) [3]		3
	Credits	**15**
	Total Credits	**60**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I are preferred to meet the algebra requirement for elementary licensure in Virginia. Students are strongly advised to consult with the academic advisor/counselor in Teacher Education prior to making decisions regarding their academic pathway and carefully review and understand the specific requirements of their intended four-year Virginia institution to facilitate a smooth transition. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.

2 Please consult the list of electives in the table below and schedule a meeting with a Teacher Education Advisor.

3 Students must choose courses from the Art or Humanities area. Credit will not be awarded for taking two courses from the same area

Physical or Life Science Electives w/Lab

Code	Title	Credits
BIO 101	General Biology I	4
ENV 121	Foundations of Environmental Science	4
GOL 105	Physical Geology	4
GOL 106	Historical Geology	4
CHM 101	Introductory Chemistry I	4
PHY 100	Elements of Physics	4
PHY 150	Elements of Astronomy	4

The second science should be a different discipline than the first.

Education Electives

Students are strongly advised to consult with the Teacher Education Advisor, teachered@nvcc.edu, prior to making decisions regarding their academic pathway and carefully review and understand the specific requirements of their intended four-year Virginia institution to facilitate a smooth transition.

Elementary Education

Code	Title	Credits
HIS 101	Western Civilizations Pre-1600 CE	3
HIS 102	Western Civilizations Post-1600 CE	3
HIS 111	World Civilizations Pre-1500 CE	3
HIS 112	World Civilizations Post-1500 CE	3
HIS 121	United States History to 1877	3
HIS 122	United States History Since 1865	3
HIS 141	African-American History I	3
HIS 281	History of Virginia I	3
101 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl101)		
102 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl102)		
201 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl201)		
202 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl202)		
EDU 206	Classroom and Behavioral Management	3
EDU 270	Introduction to Autism Spectrum Disorders	3
EDU 280	Introduction to Instructional Technologies	3
A third Science or a third Math		3

Special Education

Code	Title	Credits
ASL 101	Beginning American Sign Language I	4
ASL 102	Beginning American Sign Language II	4
ASL 201	Intermediate American Sign Language I	3
ASL 202	Intermediate American Sign Language II	3
ASL 125	History of the U.S. Deaf Community	3
EDU 206	Classroom and Behavioral Management	3
EDU 270	Introduction to Autism Spectrum Disorders	3
EDU 280	Introduction to Instructional Technologies	3

Secondary Education - Math

Code	Title	Credits
MTH 245	Statistics I	3
MTH 263	Calculus I	4
MTH 264	Calculus II	4
MTH 265	Calculus III	4
MTH 266	Linear Algebra	3
MTH 288	Discrete Mathematics	3
CSC 221	Introduction to Problem Solving and Programming	3

Secondary Education - English

Code	Title	Credits
World Lit		
ENG 255	World Literature	3
British		
ENG 245	British Literature	3
American		
ENG 246	American Literature	3

Creative Writing		
ENG 211	Creative Writing I	3
ENG 212	Creative Writing II	3
ENG 215	Creative Writing - Fiction I	3
ENG 219	Creative Writing - Drama	3
Other Elective Options		
ENG 200	Introduction to Linguistics	3
ENG 210	Advanced Composition	3

Secondary Education - Science

Code	Title	Credits
BIO 101 & BIO 102	General Biology I and General Biology II	8
BIO 150	Microbiology for Health Sciences	4
BIO 256	General Genetics	4
CHM 111 & CHM 112	General Chemistry I and General Chemistry II	8
CHM 241 & CHM 245	Organic Chemistry I and Organic Chemistry I Laboratory	5
CHM 242 & CHM 246	Organic Chemistry II and Organic Chemistry II Laboratory	5
MTH 161 & MTH 162 & MTH 167	PreCalculus I and PreCalculus II and PreCalculus with Trigonometry	11
MTH 263	Calculus I	4
MTH 264	Calculus II	4
MTH 265	Calculus III	4
MTH 155/245	Statistical Reasoning	3
PHY 201 & PHY 202	General College Physics I and General College Physics II	8
PHY 241 & PHY 242	University Physics I and University Physics II	8
GOL 105	Physical Geology	4
GOL 106	Historical Geology	4
ENV 121 & ENV 122	Foundations of Environmental Science and Applications in Environmental Science	8
GEO 200	Introduction to Physical Geography	3
GOL 111	Oceanography I	4

Secondary Education - Social Science

Code	Title	Credits
HIS 121 & HIS 122	United States History to 1877 and United States History Since 1865	6
HIS 101 & HIS 102	Western Civilizations Pre-1600 CE and Western Civilizations Post-1600 CE	6
HIS 111 & HIS 112	World Civilizations Pre-1500 CE and World Civilizations Post-1500 CE	6
PLS 135 & PLS 136	U.S. Government and Politics and State and Local Government and Politics	6
PLS 140	Introduction to Comparative Politics	3
GEO 210	People & the Land: Intro. to Cultural Geography	3
ECO 150	Economic Essentials: Theory and Application	3
ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3
REL 230	Religions of the World	3
PSY 200	Principles of Psychology	3

Secondary Education Engineering

Code	Title	Credits
EGR 125	Introduction to Computer Programming for Engineers	4
EGR 121 & EGR 122	Foundations of Engineering and Engineering Design	5
EGR 240	Statics	3
CHM 111 & CHM 112	General Chemistry I and General Chemistry II	8
MTH 263 & MTH 264	Calculus I and Calculus II	8
PHY 201	General College Physics I	4
BIO 101 & BIO 102	General Biology I and General Biology II	8
MTH 245	Statistics I	3

K-12 Teaching - Art

Code	Title	Credits
ART 101	History of Art: Prehistoric to Gothic	3
ART 102	History of Art: Renaissance to Modern	3
ART 121	Foundations of Drawing	3
ART 223	Life Drawing	3
ART 131	Two-Dimensional Design	3
ART 132	Three-Dimensional Design	3

K-12 Teaching - World Language

Code	Title	Credits
101 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl101)		
102 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl102)		
201 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl201)		
202 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl202)		

K-12 Teaching - Physical Education

Code	Title	Credits
HLT 206	Introduction to Kinesiology	3
HLT 230	Principles of Nutrition	3
HLT 110	Personal and Community Health	3
BIO 101	General Biology I	4
BIO 102	General Biology II	4
BIO 141	Human Anatomy And Physiology I	4
BIO 142	Human Anatomy and Physiology II	4

K-12 Teaching - Music

Code	Title	Credits
MUS 111	Music Theory I	4
MUS 112	Music Theory II	4
MUS 121	Music in Society	3
MUS 221	History of Western Music pre-1750	3
MUS 222	History of Western Music 1750 to Present	3

MUS 145	Applied Music - Keyboard	1
MUS 155	Applied Music - Woodwinds	1
MUS 165	Applied Music - Strings	1
MUS 185	Applied Music - Percussion	1
MUS 211	Advanced Music Theory I	4
MUS 212	Advanced Music Theory II	4
MUS 241	Advanced Class Piano I	2

K-12 Teaching - Theater

Code	Title	Credits
CST 131	Acting I	3
CST 136	Theatre Workshop	1
CST 145	Technical Theatre	3

Education: Elementary Education Major, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 625-02

This curriculum is designed for students seeking licensure in either PreK-3rd Grade or PreK-6th Grade. Upon completion of endorsement courses, students should take the Praxis II: Elementary Education Multiple Subjects. This curriculum prepares students to transfer to any four-year college or university teacher preparation program. Courses in this degree are designed to satisfy some of the endorsement and professional course requirements of a Virginia teaching license. In EDU 200 Foundations of Education, students will identify the endorsement (content) courses they need to earn a teaching license.

Students should meet with a Teacher Education faculty member or Education Field Placement Coordinator and Advising Specialist to select the correct courses for their area of licensure. EDU 200 Foundations of Education and EDU 204 Teaching in a Diverse Society both require 20-hour field placements in a K-12 public school. Students will be required to complete a background check before being placed in the schools. Students with criminal records should consult with the Teacher Education Field Placement Coordinator before enrolling in the courses. Students are strongly encouraged to take the VCLA after completing ENG 111 College Composition I, ENG 112 College Composition II, Eng-literature course, and CST 100 Principles of Public Speaking or CST 110 Introduction to Human Communication.

Two Years

Course	Title	Credits
1st Semester		
EDU 200	Foundations of Education	3
EDU 207	Human Growth and Development	3
ENG 111	College Composition I	3
Select one of the following: [1]		3
MTH 154	Quantitative Reasoning	
MTH 161	PreCalculus I (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
EDU 204	Teaching in a Diverse Society	3
EDU 206	Classroom and Behavioral Management	3
EDU 250	Foundations of Exceptional Education	3
ENG 112	College Composition II	3
Select one of the following: [1]		3
MTH 245	Statistics I (or Higher)	
MTH 155	Statistical Reasoning	
	Credits	**15**
3rd Semester		
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
BIO 101 or ENV 121	General Biology I or Foundations of Environmental Science	4
EDU 280	Introduction to Instructional Technologies	3
ENG 250	Children's Literature	3
HIS 121 or HIS 122	United States History to 1877 or United States History Since 1865	3
	Credits	**16**
4th Semester		
Humanities/Fina Arts Elective (p. 84) [2]		3
Select one of the following:		4
CHM 101	Introductory Chemistry I	
GOL 105	Physical Geology	
GOL 106	Historical Geology	
PHY 150	Elements of Astronomy	
HIS 111 or HIS 112	World Civilizations Pre-1500 CE or World Civilizations Post-1500 CE	3
GEO 220	World Regional Geography	3
PLS 135 or PLS 136	U.S. Government and Politics or State and Local Government and Politics	3
	Credits	**16**
	Total Credits	**60**

Students are strongly advised to consult with the Teacher Education Advisor, teachered@nvcc.edu, (teachered@nvcc.edu) prior to making decisions regarding their academic pathway and carefully review and understand the specific requirements of their intended four-year Virginia institution to facilitate a smooth transition.

1. MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I are preferred to meet the algebra requirement for elementary licensure in Virginia. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.
2. Refer to the Virginia Department of Education (VDOE) endorsement requirements listed below.

Humanities/Fine Arts Elective

Students must select from the following Humanities/Fine Arts Elective options to meet VDOE endorsement requirements:

Code	Title	Credits
ART 100	Art Appreciation	3
ART 101	History of Art: Prehistoric to Gothic	3
ART 150	History of Film & Animation	3
ART 215	History of Modern Art	3
MUS 121	Music in Society	3
MUS 221	History of Western Music pre-1750	3
MUS 222	History of Western Music 1750 to Present	3
MUS 225	The History of Jazz	3
PHI 100	Introduction to Philosophy	3
PHI 111	Logic	3
PHI 220	Ethics and Society	3

PHI 227	Biomedical Ethics	3
REL 100	Introduction to the Study of Religion	3
REL 233	Introduction to Islam	3
REL 237	Religions of the East	3
REL 238	Religions of the West	3

Education: Emerging Educator, C.S.C.

Location(s): MA
NOVA Code: 221-625-02

The purpose of this certificate is to assist provisionally licensed teachers beginning the path to a 10-year renewable teaching license. Students will need to complete the remaining 3-4 professional courses, including Curriculum and Instruction, Assessment of Learning, and Reading Methods at a university.

One Semester

Course	Title	Credits
1st Semester		
EDU 200	Foundations of Education	3
EDU 206	Classroom and Behavioral Management	3
EDU 207	Human Growth and Development	3
	Credits	**9**
	Total Credits	**9**

Education: Grades 6-12 Social Studies Education Major, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 625-03

This curriculum is designed for students seeking licensure in 6-12 social studies education. This curriculum prepares students to transfer to any four-year college or university teacher preparation program. Courses in this degree are designed to satisfy some of the endorsement and professional course requirements of a Virginia teaching license. In EDU 200 Foundations of Education, students will identify the endorsement (content) courses they need to earn a teaching license. Students should meet with a Teacher Education faculty member or Education Field Placement Coordinator and Advising Specialist to select the correct courses for their area of licensure. EDU 200 Foundations of Education and EDU 204 Teaching in a Diverse Society both require 20-hour field placements in a K-12 public school. Students will be required to complete a background check before being placed in the schools. Students with criminal records should consult with the Teacher Education Field Placement Coordinator before enrolling in the courses. Students are strongly encouraged to take the VCLA after completing ENG 111 College Composition I, ENG 112 College Composition II, Eng-literature course, and CST 100 Principles of Public Speaking or CST 110 Introduction to Human Communication.

Two Years

Course	Title	Credits
1st Semester		
EDU 200	Foundations of Education	3
EDU 207 or PSY 230	Human Growth and Development or Developmental Psychology	3
ENG 111	College Composition I	3
MTH 154	Quantitative Reasoning (or Higher)	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
ECO 201	Principles of Macroeconomics	3
EDU 204	Teaching in a Diverse Society	3
EDU 250	Foundations of Exceptional Education	3
ENG 112	College Composition II	3
HIS 121	United States History to 1877	3
	Credits	**15**
3rd Semester		
BIO 101 or ENV 121	General Biology I or Foundations of Environmental Science	4
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
ENG 245 or ENG 246	British Literature or American Literature	3
HIS 111 or HIS 112	World Civilizations Pre-1500 CE or World Civilizations Post-1500 CE	3
HIS 122	United States History Since 1865	3
	Credits	**16**
4th Semester		
ECO 202	Principles of Microeconomics	3
Humanities/Fine Arts Elective (p. 49) [1]		3
Select one of the following:		3
GEO 210	People & the Land: Intro. to Cultural Geography	
GEO 200	Introduction to Physical Geography	
GEO 220	World Regional Geography	
Select one of the following:		4
CHM 101	Introductory Chemistry I	
GOL 105	Physical Geology	
GOL 106	Historical Geology	
PHY 150	Elements of Astronomy	
PLS 135 or PLS 136	U.S. Government and Politics or State and Local Government and Politics	3
	Credits	**16**
	Total Credits	**60**

Students are strongly advised to consult with the Teacher Education Advisor, teachered@nvcc.edu, prior to making decisions regarding their academic pathway and carefully review and understand the specific requirements of their intended four-year Virginia institution to facilitate a smooth transition.

[1] Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.

Education: K-12 Special Education Adapted and General Curriculum Major, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 625-04

This curriculum is designed for students seeking licensure in K-12 Special Education Adapted Curriculum or K-12 Special Education General Curriculum. This curriculum prepares students to transfer to any four-year college or university teacher preparation program. Courses in this degree are designed to satisfy some of the endorsement and professional course requirements of a Virginia teaching license. In EDU 200 Foundations of

Education, students will identify the endorsement (content) courses they need to earn a teaching license.

Students should meet with a Teacher Education faculty member or Education Field Placement Coordinator and Advising Specialist to select the correct courses for their area of licensure. EDU 200 Foundations of Education and EDU 204 Teaching in a Diverse Society both require 20-hour field placements in a K-12 public school.

Students will be required to complete a background check before being placed in the schools. Students with criminal records should consult with the Teacher Education Field Placement Coordinator before enrolling in the courses. Students are strongly encouraged to take the VCLA after completing ENG 111 College Composition I, ENG 112 College Composition II, English Literature course, and CST 100 Principles of Public Speaking or CST 110 Introduction to Human Communication.

Two Years

Course	Title	Credits
1st Semester		
EDU 200	Foundations of Education	3
EDU 207 or PSY 230	Human Growth and Development or Developmental Psychology	3
ENG 111	College Composition I	3
Select one of the following: [1]		3
MTH 154	Quantitative Reasoning	
MTH 161	PreCalculus I (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
EDU 204	Teaching in a Diverse Society	3
EDU 206	Classroom and Behavioral Management	3
EDU 250	Foundations of Exceptional Education	3
ENG 112	College Composition II	3
Select one of the following: [1]		3
MTH 245	Statistics I (or Higher)	
MTH 155	Statistical Reasoning	
	Credits	**15**
3rd Semester		
BIO 101 or ENV 121	General Biology I or Foundations of Environmental Science	4
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
EDU 280	Introduction to Instructional Technologies	3
HIS 121 or HIS 122	United States History to 1877 or United States History Since 1865	3
ENG 250	Children's Literature	3
	Credits	**16**
4th Semester		
EDU 270	Introduction to Autism Spectrum Disorders	3
GEO 220	World Regional Geography	3
PLS 135 or PLS 136	U.S. Government and Politics or State and Local Government and Politics	3
Humanities/Fine Arts Elective (p. 49) [2]		3
Select one of the following:		4
CHM 101	Introductory Chemistry I	
GOL 105	Physical Geology	
GOL 106	Historical Geology	
PHY 150	Elements of Astronomy	
	Credits	**16**
	Total Credits	**60**

Students are strongly advised to consult with the Teacher Education Advisor, teachered@nvcc.edu, prior to making decisions regarding their academic pathway and carefully review and understand the specific requirements of their intended four-year Virginia institution to facilitate a smooth transition.

1 MTH 154 Quantitative Reasoning **or** MTH 161 PreCalculus I are preferred. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.

2 Students must choose courses from Fine Arts and Humanities. Credit will not be awarded for two courses taken from the same area.

Education: Teaching Professional, C.S.C.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 221-625-01

Purpose

The purpose of this certificate is to allow for exploration of teaching as a career while providing the skills necessary for entry-level employment and meet some professional coursework required for provisionally licensed teachers in Virginia. In this certificate, students may receive Credit for Prior Learning for their work experiences. Students who would benefit from the program include career switchers, provisionally licensed educators, and undergraduates seeking to learn more about the field of education. Upon completion, job opportunities include Substitute Teachers and Instructional Assistants.

Recommended Prerequisites

There are no required prerequisites for this certificate. It is recommended that the student possess a proficiency in high school English, high school algebra and geometry.

One Year

Course	Title	Credits
1st Semester		
EDU 200	Foundations of Education	3
ENG 111	College Composition I	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**7**
2nd Semester		
EDU 204	Teaching in a Diverse Society	3
EDU 206	Classroom and Behavioral Management	3
EDU 290	Seminar & Project	1
	Credits	**7**
3rd Semester		
EDU 207	Human Growth and Development	3
EDU 250	Foundations of Exceptional Education	3
	Credits	**6**
	Total Credits	**20**

Emergency Medical Services, A.A.S.

Location(s): MEC

NOVA Code: 1460

Purpose

The curriculum is designed to develop the competencies needed to prepare the student to achieve National Registry Paramedic Certification (NRP).

Credit for Prior Learning

Students in this program who hold current EMS certification may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Reenrollment

Students must follow the reenrollment requirements for all Health Sciences students.

Special Accreditation Status

The Northern Virginia Community College EMS Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org (http://www.caahep.org/)) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

Commission on Accreditation of Allied Health Education Programs
25400 US Highway 19 N., Suite 158
Clearwater, FL 33763
727-210-2350
www.caahep.org (http://www.caahep.org/)

To contact CoAEMSP:
8301 Lakeview Parkway Suite 111-312
Rowlett, TX 75088
214-703-8445
FAX 214-703-8992
www.coaemsp.org (http://www.coaemsp.org/)

Admission Requirements

Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- Attend or view a mandatory EMS program information session. Contact Program Administrative Assistant or check the website (https://www.nvcc.edu/academics/programs/emergency-medical-services/) for further details.
- Be 16 years of age for the EMT training (first semester); Students may apply for dual enrollment for attendance during the first semester.
- Must be 18 years of age or older and hold at a minimum, a high school or general equivalency diploma for Paramedic training (second semester).
- During the 1st semester of the program, students must qualify for ENG 111 College Composition I or higher.
- Have attained a 2.0 GPA at the last school attended. Dual enrollment students must maintain a 2.0 GPA during concurrent high school courses.
- Have no physical or mental impairment that would render the student unable to perform all skills required for EMS training at any level.
- Complete a national background check, including a urine drug screening, ensuring no record of sexual crimes and at least five years since the final release of any felony or drug-related convictions. Visit https://portal.castlebranch.com/NG36, enter code “OR21,” and select the required items based on your certification level (EMT or Paramedic). This process must be completed annually.

Completion Requirements

- All courses, including General Education courses, must be completed with a grade of “C” or better to progress to the next course in the sequence.
- After successful completion of the first semester, the following additional requirements must be achieved and maintained throughout attendance in the second through fifth semesters:
  - Present proof of personal liability insurance, with a minimum of $1,000,000 coverage.
  - Students must carry proof of insurance at all times while on campus and clinical properties.
  - Provide health history and physical, including annual flu shot. Must be repeated annually.

Special Program Completion Requirements

- Before progressing to the Paramedic level (starting with their second semester) students must successfully attain their Virginia EMT certification.
- All EMS courses must be completed in the prescribed sequence, including any required corequisites courses. General studies courses may be taken in any order, except for BIO 145 Basic Human Anatomy & Physiology or BIO 141 Human Anatomy And Physiology I, which must be completed with a grade of “C” or higher before starting Paramedic-level studies in the second semester. Note: BIO 141 Human Anatomy And Physiology I requires the successful completion of BIO 101 General Biology I, NAS 2, or a placement test, as outlined at https://www.nvcc.edu/academics/divisions/health-sciences.
- Students who receive an “I” (incomplete) grade in any of the courses in the EMS sequence must resolve the incomplete before continuing in the EMS sequence.
- All clinical and internship requirements must be met prior to taking any Virginia and/or National Registry certifying examination(s).

To learn more about the Accelerated EMS Program, please click here (https://catalog.nvcc.edu/programs/emergency-medical-services-aas/ems-accelerated/).

Two Years

Course	Title	Credits
1st Semester		
Select one of the following: [1]		4
BIO 145	Basic Human Anatomy & Physiology	
BIO 141	Human Anatomy And Physiology I	
EMS 111	Emergency Medical Technician	7
EMS 120	Emergency Medical Technician - Clinical	1

SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
ENG 111	College Composition I	3
EMS 180	Advanced EMS Foundations	1
EMS 123	EMS Clinical Preparation	1
EMS 181	Advanced Airway and Shock Management	1
EMS 182	Advanced Airway and Shock Management Lab	1
EMS 183	Advanced Medical Care	2
EMS 184	Advanced Medical Care Laboratory	1
EMS 185	Advanced Trauma Care	2
EMS 186	Advanced Trauma Care Laboratory	1
EMS 170	ALS Internship I	1
	Credits	**14**
3rd Semester		
EMS 221	Paramedic Cardiovascular Care	3
EMS 222	Paramedic Cardiovascular Laboratory	1
EMS 223	Paramedic Patient Care I	3
EMS 224	Paramedic Patient Care I Laboratory	1
EMS 241	Paramedic Internship I	2
PSY 230	Developmental Psychology [2]	3
	Credits	**13**
4th Semester		
Select one of the following: [1]		3-4
General Education Elective (p. 49)		
BIO 142	Human Anatomy and Physiology II	
EMS 225	Paramedic Patient Care II	5
EMS 226	Paramedic Patient Care Laboratory II	2
EMS 246	Paramedic Internship II	2
	Credits	**12-13**
5th Semester		
EMS 163	Prehospital Trauma Life Support (PHTLS)	1
EMS 164	Advanced Medical Life Support (AMLS)	1
EMS 165	Advanced Cardiac Life Support (ACLS)	1
EMS 167	Emergency Pediatrics Course (EPC)	1
EMS 210	EMS Operations	1
EMS 212	Leadership and Professional Development	1
EMS 216	Paramedic Review	1
EMS 249	Paramedic Capstone Internship	2
PHI 220	Ethics and Society	3
	Credits	**12**
	Total Credits	**64-65**

1 If students initially select BIO 145 Basic Human Anatomy & Physiology, they should enroll in a General Education Electives (p. 49) during their fourth semester. Alternatively, if BIO 141 Human Anatomy And Physiology I is chosen, BIO 142 Human Anatomy and Physiology II is required for the third semester.

2 PSY 200 Principles of Psychology, PSY 205 Personal Conflict And Crisis Managem, SOC 247 Death And Dying, and SOC 268 Social Problems are approved substitutes for PSY 230 Developmental Psychology.

Engineering Technology, A.A.S.

Location(s): LO, MA
NOVA Code: 9680

Purpose

This program is designed to prepare students for employment as a technician, operator, and/or technologist in the fields of engineering technology, electrical technology, industrial technology, operational technology, sensor technology, automation technology, robotics and mechatronics.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Two Years

Course	Title	Credits
1st Semester		
ELE 150	A.C. and D.C. Circuit Fundamentals	3
ENG 115	Technical Writing	3
IND 123	Introduction to Lean Manufacturing and Six Sigma	1
IND 137	Team Concepts & Problem Solving	3
MEC 140	Introduction to Mechatronics [1]	3
SAF 130	Industrial Safety OSHA 10	1
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**15**
2nd Semester		
CAD 175	Schematics and Mechanical Diagrams	2
ELE 146	Electric Motor Control	4
ELE 233	Programmable Logic Controller Systems I	3
MTH 111	Basic Technical Mathematics (or Higher)	3
MEC 230	Mechatronics Process Control [1]	3
	Credits	**15**
3rd Semester		
CST 126	Interpersonal Communication	3
ETR 281	Digital Systems	3
INS 233	Process Control Integration	4
MEC 270	Computation for Engineering Technology	3
Technical Elective (https://catalog.nvcc.edu/programs/engineering-technology-aas/#techelec) [1]		3
	Credits	**16**
4th Semester		
ELE 211	Electrical Machines I	3
MEC 266	Application of Fluid Mechanics	3
Humanities/Fine Arts Elective (p. 49)		3
Social/Behavioral Sciences Elective (p. 50)		3
Technical Elective (https://catalog.nvcc.edu/programs/engineering-technology-aas/#techelec) [1]		3
	Credits	**15**
	Total Credits	**61**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 MEC 140 Introduction to Mechatronics, MEC 230 Mechatronics Process Control, MEC 266 Application of Fluid Mechanics, INS 233 Process Control Integration are only offered on the Manassas Campus, and ETR 281 Digital Systems is offered on the Loudon and Manassas Campus.

Approved Technical Electives

Code	Title	Credits
INS 230	Instrumentation I	3
BUS 204	Project Management	3
ELE 189	Data Cabling Communication	3
ELE 250	Fiber Optic Technology	3
ITP 170	Project Management	3

Engineering Technology: Data Center Operations Specialization, A.A.S.

Location(s): LO, MA
NOVA Code: 9684

Purpose

This program is designed to prepare students for employment in data centers or companies that support data center function as a technician, operator and/or technologist. Coursework will prepare students to earn BICSI Installer 1, Installer 2 (Copper) and Installer 2 (Fiber Optic) industry credentials.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Two Years

Course	Title	Credits
1st Semester		
ELE 150	A.C. and D.C. Circuit Fundamentals	3
ENG 115	Technical Writing	3
IND 123	Introduction to Lean Manufacturing and Six Sigma	1
IND 137	Team Concepts & Problem Solving	3
MTH 111	Basic Technical Mathematics (or Higher)	3
SAF 130	Industrial Safety OSHA 10	1
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**15**
2nd Semester		
CAD 175	Schematics and Mechanical Diagrams	2
ELE 146	Electric Motor Control	4
ELE 148	Power Distribution Systems [1]	3
ELE 233	Programmable Logic Controller Systems I	3
ENE 108	Intro to Data Center Operations	3
	Credits	**15**
3rd Semester		
CST 126	Interpersonal Communication	3
ELE 189	Data Cabling Communication	3
ENE 228	Building Automation & Energy Management Systems [1]	3
ETR 281	Digital Systems	3
MEC 270	Computation for Engineering Technology	3
	Credits	**15**
4th Semester		
ELE 211	Electrical Machines I	3
ENE 208	Critical Site Operations	3
Humanities/Fine Arts Elective (p. 49)		3
Social/Behavioral Sciences Elective (p. 50)		3
Select one of the following: [2]		3-4
ELE 250	Fiber Optic Technology	
AIR 121	Air Cond & Refrigeration I	
	Credits	**15-16**
	Total Credits	**60-61**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. ENE 108 Intro to Data Center Operations, ENE 228 Building Automation & Energy Management Systems, ENE 208 Critical Site Operations, ELE 148 Power Distribution Systems are only offered on the Manassas and Loudoun campuses.
2. AIR 121 Air Cond & Refrigeration I is offered on the Loudoun and Woodbridge campuses. ELE 250 Fiber Optic Technology is offered on the Loudoun and Manassas campuses.

Engineering Technology: Data Center Operations, C.S.C.

Location(s): LO, MA
NOVA Code: 221-299-16

Purpose

This program is designed to prepare students for entry-level employment in data centers or companies that support data center function as a technician, operator and/or technologist. Coursework will prepare students to earn the DICSI Installer 2 (Fiber Optic) and OSHA 10 industry credentials.

Recommended Prerequisites

There are no required prerequisites for this certificate. It is recommended that the student possess a proficiency in high school English, high school algebra and geometry, and possess the ability to utilize hand tools and instrumentation.

One Year

Course	Title	Credits
1st Semester		
CAD 175	Schematics and Mechanical Diagrams	2
ELE 150	A.C. and D.C. Circuit Fundamentals	3
IND 137	Team Concepts & Problem Solving	3
MTH 111	Basic Technical Mathematics (or Higher)	3
SAF 130	Industrial Safety OSHA 10	1
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
ELE 146	Electric Motor Control	4
ELE 148	Power Distribution Systems	3
ELE 250	Fiber Optic Technology	3
ENE 108	Intro to Data Center Operations	3
	Credits	**13**
	Total Credits	**26**

Engineering Technology: Engineering Technology Technician, C.S.C.

Location(s): MA
NOVA Code: 221-968-80

Purpose

This program is designed to prepare students for entry-level employment in technology companies and related industries that require technicians/technologists trained in engineering technology, mechatronics, automation, electronics and robotics. Coursework will prepare students to earn the BICSI Installer 2 (Fiber Optic) and OSHA 10 industry credentials.

Recommended Prerequisites

There are no required prerequisites for this certificate. It is recommended that the student possess a proficiency in high school English, high school algebra and geometry, and possess the ability to utilize hand tools and instrumentation.

One Year

Course	Title	Credits
1st Semester		
CAD 175	Schematics and Mechanical Diagrams	2
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
ELE 150	A.C. and D.C. Circuit Fundamentals	3
MTH 111	Basic Technical Mathematics (or Higher)	3
SAF 130	Industrial Safety OSHA 10	1
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
ELE 146	Electric Motor Control	4
ELE 250	Fiber Optic Technology	3
IND 123	Introduction to Lean Manufacturing and Six Sigma	1
IND 137	Team Concepts & Problem Solving	3
MEC 140	Introduction to Mechatronics	3
	Credits	**14**
	Total Credits	**27**

Engineering, A.S.

Location(s): AL, AN, LO, MA
NOVA Code: 8310

Purpose

The curriculum is designed to prepare the student to transfer to a bachelor's degree program in an Engineering discipline. Some of the Engineering disciplines are aerospace engineering, biomedical engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, mechanical engineering, and systems engineering. It is highly recommended that students consult with an Engineering faculty advisor prior to selecting their courses to ensure maximum transferability.

Transfer Information

Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully to meet requirements of the transfer institution. The responsibility for proper course selection rests with the student.

This program is aligned with the Transfer Virginia common curriculum. Students are strongly encouraged to consult their academic advisor and review transfer options using the Transfer Virginia Portal, Where Can This Degree Transfer (https://www.transfervirginia.org/degrees/F401E73069E411EDB960122FC3C6BCDE#:~:text=Where%20Can%20This%20Degree%20Transfer).

Recommended Preparation

High school courses: 4 units of English, 2 units of algebra, 1 unit of geometry, 1 unit of trigonometry, 1 unit of laboratory science (chemistry or physics).

Completion Requirements

Grades of "C" and above are required in courses intended to be transferred for credit to a baccalaureate degree-granting college/university.

Two Years

Course	Title	Credits
1st Semester		
ECO 202	Principles of Microeconomics	3
EGR 121	Foundations of Engineering	2
ENG 111	College Composition I	3
MTH 263	Calculus I [1]	4
Physical or Life Science Elective w/Lab (p. 50) [2]		4
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**17**
2nd Semester		
ENG 112	College Composition II	3
MTH 264	Calculus II	4
Humanities/Fine Arts Elective (p. 49) [3]		3
Physical or Life Science Elective w/Lab (p. 50) [2]		4
Engineering/Technical Elective (p. 91) [4]		3-4
	Credits	**17-18**
3rd Semester		
MTH 267	Differential Equations	3
HIS Elective (p. 50)		3
Engineering/Technical Elective (p. 91) [4]		4
Engineering/Technical Elective (p. 91) [4]		3-4
Engineering/Technical Elective (p. 91) [4]		3-4
	Credits	**16-18**
4th Semester		
Select one of the following: [5]		3-4
MTH 265	Calculus III	
MTH 266	Linear Algebra	
MTH 288	Discrete Mathematics	
Engineering/Technical Elective (p. 91) [4]		3-4
Engineering/Technical Elective (p. 91) [4]		3-4
Engineering/Technical Elective (p. 91) [6]		3-4
Humanities/Fine Arts Elective (p. 49) [3]		3
	Credits	**15-19**
	Total Credits	**65-72**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] Students who do not directly place into MTH 263 Calculus I will begin with MTH 167 PreCalculus with Trigonometry (or MTH 161 PreCalculus I and MTH 162 PreCalculus II).

[2] Plan to take two courses out of these three (CHM 111 General Chemistry I, PHY 241 University Physics I, PHY 242 University Physics II). For most engineering disciplines, all three are required. The third science will be taken as part of the Engineering/Technical Electives. If your engineering discipline does not require CHM 111 General Chemistry I, then take PHY 241 University Physics I in the second semester.

[3] Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.

[4] There should be 22 to 26 credits of Engineering/Technical electives which results in six or seven classes. These Engineering/Technical Electives (p. 91) should be chosen carefully in conjunction with an advisor. Consult the requirements of the transfer institution.

[5] Math course should be chosen based on engineering discipline and transfer institution. For most engineering disciplines, more than one course will be required. MTH 283 Probability and Statistics may be substituted as Engineering/Technical Elective. Please contact a faculty or academic advisor to request a course substitute. The additional math courses needed will fall under the Engineering/Technical Elective.

[6] Select any course listed under footnote #3. This elective is not needed if selections for all other requirements total 65 credits or more.

Engineering/Technical Electives

Code	Title	Credits
BIO 101	General Biology I	4
BIO 206	Cell Biology	4
CHM 111	General Chemistry I	4
CHM 112	General Chemistry II	4
CHM 241	Organic Chemistry I	3
CHM 242	Organic Chemistry II	3
CHM 245	Organic Chemistry I Laboratory	2
CHM 246	Organic Chemistry II Laboratory	2
CIV 240	Fluid Mechanics and Hydraulics	3
CIV 225	Soil Mechanics	3
CIV 226	Soil Mechanics Laboratory	1
CIV 280	Introduction To Environmental Engineering	3
CSC 221	Introduction to Problem Solving and Programming	3
CSC 222	Object Oriented Programming	4
CSC 223	Data Structures and Analysis of Algorithms	4
CST 100	Principles of Public Speaking	3
CST 110	Introduction to Human Communication	3
EGR 122	Engineering Design	3
EGR 125	Introduction to Computer Programming for Engineers	4
EGR 206	Engineering Economics	3
EGR 240	Statics	3
EGR 245	Dynamics	3
EGR 246	Mechanics of Materials	3
EGR 248	Thermodynamics For Engineering	3
EGR 270	Fundamentals of Computer Engineering	4
EGR 271	Electric Circuits I	4
EGR 272	Electric Circuits II	4
EGR 280	Foundations of Environmental Engineering	3
EGR 282	Hydraulics for Civil and Environmental Engineering	3
GOL 105	Physical Geology	4
MTH 265	Calculus III	4
MTH 266	Linear Algebra	3
MTH 288	Discrete Mathematics	3
PHY 242	University Physics II	4
PHY 243	Modern Physics	3

General Studies, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 6990

Purpose

This program is a flexible associate degree for students who plan to transfer to a 4-year university, but are not yet sure of their intended major. The degree parallels the first two years of a four-year bachelor's degree program, providing maximum transfer elective options for exploration.

Transfer Information

Students are advised to work closely with the faculty and advising personnel for program and course scheduling. Electives should be chosen carefully to meet specific requirements of the intended transfer institution. The responsibility for proper course selection rests with the student. Students are encouraged to complete the A.S. degree before transferring. Some Virginia colleges and universities exclude General Studies graduates from participating in guaranteed admission programs.

Two Years

Course	Title	Credits
1st Semester		
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
ENG 111	College Composition I	3
ITE 152 or CSC 110	Introduction to Digital and Information Literacy and Computer Applications or Principles of Computer Science	3
Select one of the following: [1]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
ENG 112	College Composition II	3
Humanities/Fine Arts Elective (p. 49) [3]		3
Physical or Life Science Elective w/Lab (p. 50)		4
Social/Behavioral Sciences Elective (p. 50) [4]		3
Select one of the following HIS Electives: [2]		3
HIS 101	Western Civilizations Pre-1600 CE	
HIS 102	Western Civilizations Post-1600 CE	
HIS 111	World Civilizations Pre-1500 CE	
HIS 112	World Civilizations Post-1500 CE	
HIS 121	United States History to 1877	
HIS 122	United States History Since 1865	
	Credits	**16**

3rd Semester	
ENG 2XX - Literature Elective (p. 50)	3
Physical or Life Science Elective w/Lab (p. 50)	4
Transfer Electives (https://catalog.nvcc.edu/list-of-transfer-electives/) [5]	3
Transfer Electives (https://catalog.nvcc.edu/list-of-transfer-electives/) [5]	6
Credits	**16**
4th Semester	
Social/Behavioral Sciences Elective (p. 50)	3
Transfer Electives (https://catalog.nvcc.edu/list-of-transfer-electives/) [5]	12
Credits	**15**
Total Credits	**60**

Courses eligible for UCGS can be found on the General Education Electives (p. 49) page, marked with an asterisk (*). It's recommended to choose electives with the guidance of an academic advisor to ensure they fulfill the requirements of the transfer institution.

1. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I. Students who plan to take MTH 245 Statistics I should take MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I first.
2. Consult your specific degree or transfer pathway and chose based on the topic that most interests you.
3. Students must choose courses from two of the following areas: Fine Arts and Humanities. Credit will not be awarded for taking two courses from the same area.
4. Select a class which is not a History course.
5. Students can take another General Education Electives (p. 49) or select from a List of Transfer Electives (https://catalog.nvcc.edu/list-of-transfer-electives/) for acceptable courses. The majority of four-year institutions require a foreign language through intermediate (202) level for Bachelor of Arts degree. Waivers or credit by exam for previous experience is available for some languages. See the 'World Language Credit and Waiver' section of the [Credit for Prior Learning Manual] (https://www.nvcc.edu/admissions/cpl.html).

Geographic Information Systems (GIS), C.S.C.

Location(s): LO
NOVA Code: 221-719-71

Purpose

This program is designed to help students develop both the theoretical knowledge and a practical facility with GIS. Students who already hold a baccalaureate or master's degree will acquire the requisite skills and knowledge to switch careers, or to apply spatial analysis in their present workplaces. Students will be positioned to pursue additional coursework toward an associate degree and/or transfer to a four-year institution for further study in the geospatial, environmental, or physical sciences; in civil engineering; in information technology; or in business/marketing at a four-year institution.

Preparation

Students are expected to understand fundamental computer applications and concepts before enrolling in GIS courses.

One Year

Course	Title	Credits
1st Semester		
GEO 220	World Regional Geography	3
GIS 200	Geographic Information Systems I (GIS)	4
	Credits	**7**
2nd Semester		
GIS 201	Geographic Information Systems II (GIS)	4
GIS 203	Cartography for GIS	3
GIS 255	Exploring Our Earth: Introduction to Remote Sensing	3
	Credits	**10**
3rd Semester		
GIS 205	GIS 3-Dimensional Analysis	4
GIS 290	Coordinated Internship	1
ITP 150	Python Programming	4
	Credits	**9**
	Total Credits	**26**

To be credited toward the certificate, a minimum grade of "C" for each class is required.

Graphic Design, A.A.S.

Location(s): AL, LO
NOVA Code: 5110

Purpose

The curriculum is designed for individuals who seek full-time employment in the graphic design field. Job opportunities include graphic designer, art director, illustrator, production artist, package designer and web content developer, among others in the graphic design marketplace.

Recommended Preparation

Proficiency in high school English and a satisfactory aptitude for drawing.

Equipment and Supplies

Graphic Design students are required to purchase certain basic equipment and materials necessary to achieve professionally oriented objectives. Most of the equipment is purchased in the beginning class, ART 140 Introduction to Graphic Skills, and can be used throughout the two-year program.

Two Years

Course	Title	Credits
1st Semester		
ART 121	Foundations of Drawing	3
ART 131	Two-Dimensional Design	3
ART 140	Introduction to Graphic Skills	3
ENG 111	College Composition I	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**16**
2nd Semester		
ART 116	Design For The Web I	3
ART 135	Visual Communications	3
ART 141	Typography I	3
Select one of the following: [1]		3
ART 132	Three-Dimensional Design	

ART 209	Creative Concepts and Writing	
ART 223	Life Drawing	
Select one of the following: [2]		3
ART 251	Communication Design I	
PHT 270	Digital Imaging I	
	Credits	**15**
3rd Semester		
ART 142	Typography II	3
ART 217	Graphic Design I	3
ART 265	Graphic Techniques	3
ART 281	Illustration for Designers	3
Select one of the following: [3]		3-4
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
Physical or Life Science Elective w/Lab (p. 50)		
	Credits	**15-16**
4th Semester		
ART 218	Graphic Design II	3
ART 250	History of Design	3
ART 268	Professional Practices In Communication Design	3
ART 287	Portfolio And Resume Preparation	3
CST 110	Introduction to Human Communication	3
Humanities/Fine Arts Elective (p. 49) [4]		3
	Credits	**18**
	Total Credits	**64-65**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. Division approval for other ART courses. For students double majoring in both the Graphic Design and Graphic Design Interactive Specialization A.A.S. degrees there must be a total of 25% difference in ART credits between the degrees.
2. PHT 270 Digital Imaging I will teach digital imaging from a photography perspective, whereas ART 251 Communication Design I provides a design perspective.
3. Division approval required for substitution. The science elective may be selected from biology, chemistry, ENV 121 Foundations of Environmental Science - ENV 122 Applications in Environmental Science, physics, geology, or natural science courses with a lab component, listed under General Education Electives (p. 49). Some four-year colleges require a two-semester sequence.
4. Select a class which is not an Art course.

Graphic Design: Interactive Design Specialization, A.A.S.

Location(s): AL, LO
NOVA Code: 5113

Purpose

The curriculum is designed for individuals who seek full-time employment in the communication design profession. Upon completion, an individual would be prepared to work in the field of web-based interactive design including multimedia techniques specific to the web. Job opportunities include web designer, UX designer, web content developer and motion graphic designer, among others in the graphic design marketplace.

Recommended Preparation

Proficiency in high school English and a satisfactory aptitude for drawing.

Equipment and Supplies

Graphic Design students are required to purchase certain basic equipment and materials necessary to achieve professionally oriented objectives. Most of the equipment is purchased in the beginning class, ART 140 Introduction to Graphic Skills, and can be used throughout the two-year program.

Two Years

Course	Title	Credits
1st Semester		
ART 121	Foundations of Drawing	3
ART 131	Two-Dimensional Design	3
ART 140	Introduction to Graphic Skills	3
ENG 111	College Composition I	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**16**
2nd Semester		
ART 116	Design For The Web I	3
ART 130	Introduction to Multimedia	3
ART 135	Visual Communications	3
Select one of the following: [1]		3
ART 150	History of Film & Animation	
ART 204	Animation II (or other ART courses with division approval)	
Select one of the following: [2]		3
ART 251	Communication Design I	
PHT 270	Digital Imaging I	
Humanities/Fine Arts Elective (p. 49) [3]		3
	Credits	**18**
3rd Semester		
ART 141	Typography I	3
ART 250	History of Design	3
ART 263	Interactive Design I	3
ART 270	Motion Graphics I	3
Select one of the following: [4]		3-4
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning	
Physical or Life Science Elective w/Lab (p. 50)		
	Credits	**15-16**
4th Semester		
ART 142	Typography II	3
ART 203	Animation I	3
ART 264	Interactive Design II	3
ART 287	Portfolio And Resume Preparation	3
CST 110	Introduction to Human Communication	3
	Credits	**15**
	Total Credits	**64-65**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. For students double majoring in both the Graphic Design and Graphic Design Interactive Specialization A.A.S. degrees, there must be a total of 25% difference in ART credits between the degrees.

[2] PHT 270 Digital Imaging I will teach digital imaging from a photography perspective, whereas ART 251 Communication Design I provides a design perspective.
[3] Select a class which is not an Art course.
[4] Division approval required for substitution. The science elective may be selected from biology, chemistry, ENV 121 Foundations of Environmental Science-ENV 122 Applications in Environmental Science, physics, geology, or natural science courses with a lab component, listed under General Education Electives (p. 49). Some four-year colleges require a two-semester sequence.

Health Information Management, A.A.S.

Location(s): MEC, NOL
NOVA Code: 1520

Purpose

The curriculum is designed to provide training in the management of systems to collect, store, process, retrieve, analyze, disseminate, and communicate information related to the research, planning, provision, and evaluation of healthcare services. It provides students with a unique blend of courses in information technology, business management, and clinical knowledge. Students who possess an interest in studying diseases and therapies but who prefer not to work in a direct patient care setting find this career very rewarding. An interest in using computers to manage data is also important. Health information management professionals are experts on patient data that doctors, nurses, and other providers rely on to perform their jobs. Employment opportunities exist in all types of healthcare delivery organizations (hospitals, ambulatory care centers, home health services, and long-term care facilities) plus managed care, consulting firms, claims and reimbursement companies, and research firms. Graduates of the program are eligible to take a national certifying examination. The Registered Health Information Technician (RHIT) Certification is recognized nationwide as proof of proficiency in health information management.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Mode of Delivery

For students program-placed into the NOVA Health Information Management Program, course content will be delivered 100% online. However, students are required to attend a 40-hour in-person clinical practicum at a healthcare facility in the local area that is assigned by the program's Clinical Coordinator. Also, some courses will be delivered asynchronous through NOVA Online and other courses will be delivered virtually via a synchronous Zoom format.

Special Accreditation Status

The Health Information Management Program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM).

Clinical Requirements

Students are required to complete one nonpaid professional practice experiences (PPEs)/Clinical prior to graduation. Students will be assigned a site for each clinical and will not be allowed to complete a clinical at a hospital where they are employed if they work within the HIM Department. For additional information on completion of clinicals, please see the HIM Program Office.

Admission Requirements

Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- Complete the prerequisite courses with a grade of "C" or higher in each course.
- Complete the Health Information Management online information session (https://www.nvcc.edu/dist/files/sites/academics/programs/him/health-information-management-online-information-session-nova-2026.pdf).
- Complete or self-place (https://www.nvcc.edu/admissions/direct-enrollment.html) into MTH 154 Quantitative Reasoning or higher or completion of unit 5 in a developmental math. (Students cannot use MTH 155 Statistical Reasoning for this requirement)
- Complete ENG 111 College Composition I with a grade of "C" or higher.
- Provide evidence of good physical and mental health by submitting a physical exam form. The form must be completed before the start of clinical experience.
- BIO 141 Human Anatomy And Physiology I Human Anatomy And Physiology I must be completed within 10 years at time of application. If BIO 142 Human Anatomy and Physiology II is completed prior to application, then BIO 142 (https://catalog.nvcc.edu/search/?P=BIO%20142) Human Anatomy and Physiology II must also be completed within 10 years at the time of admission.
- Complete SDV 100 College Success Skills or SDV 101 Orientation to: with a grade of "C" or higher.
- Have minimum 2.5 cumulative GPA. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.

Continuation Requirements

All courses (including General Education courses) must be completed with a grade of "C" or better before taking the next course in the sequence and to satisfy graduation requirements.

Two Years

Course	Title	Credits
Prerequisites		
BIO 141	Human Anatomy And Physiology I	4
CST 229	Intercultural Communication	3
ENG 111	College Composition I	3
HIM 111	Medical Terminology	3
SDV 100 or SDV 101	College Success Skills (Healthcare) or Orientation to:	1
	Credits	**14**
1st Semester		
BIO 142	Human Anatomy and Physiology II	4

HIM 110	Introduction to Human Pathology	3
HIM 130	Healthcare Information Systems	3
HIM 141	Fundamentals of Health Information Systems I	3
PED 116	Lifetime Fitness And Wellness	1
	Credits	**14**
2nd Semester		
HIM 142	Fundamentals of Health Information Systems II	3
HIM 220	Health Statistics	3
HIM 226	Legal Aspects/Health Record Documentation	2
HIM 250	Health Data Classification Systems	4
HIM 260	Pharmacology For Health Info Management	3
	Credits	**15**
3rd Semester		
HIM 229	Performance Improvement in Health Care Settings	2
HIM 230	Information Systems and Technology in Health Care	3
HIM 249	Supervision & Mgt. Practices For HIM	3
HIM 251	Clinical Practice I	3
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**14**
4th Semester		
HIM 233	Electronic Health Records Management	3
HIM 252	Clinical Practice II	3
HIM 254	Advanced Coding & Reimbursement	3
HIM 255	Health Data Class. Systems II/CPT	2
HIM 280	HIM Capstone	1
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**15**
	Total Credits	**72**

Health Information Management: Clinical Data Coding, C.S.C.

Location(s): MEC, NOL
NOVA Code: 221-152-01

Purpose

The curriculum is designed for persons who seek entry-level employment as clinical data coding specialists in healthcare organizations by providing them with knowledge in anatomy and medical terminology, skill development in ICD-10-CM/PCS and CPT coding classification systems, database management, and clinical data abstracting processes, prospective payment systems, and reimbursement strategies. Clinical data coding specialists are in demand across the spectrum of healthcare organizations including hospitals, physician offices, insurance companies, managed care organizations, contracting groups, and accounting firms. Graduates of the certificate program are eligible to take one of three national certifying examinations administered by the American Health Information Management Association (AHIMA) to become a Certified Coding Associate (CCA), Certified Coding Specialist (CCS), or Certified Coding Specialist-Physician Office setting (CCS-P).

Mode of Delivery

For students program-placed into the NOVA Clinical Data Coding Program, course content will be delivered 100% online. Some courses will be delivered asynchronous through NOVA Online and other courses will be delivered virtually via a synchronous Zoom format.

Admission Requirements

Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- View a Clinical Data Coding information session (https://www.nvcc.edu/dist/files/sites/academics/programs/him/health-information-management-online-information-session-nova-2026.pdf) online.
- Have a NOVA application on file.
- Present evidence of a high school diploma or GED.
- Complete BIO 145 Basic Human Anatomy & Physiology with a "C" or higher (or BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II with a "C" or higher).
  - BIO 145 must be completed within 10 years at the time of admission. If completing BIO 141 and/or BIO 142, each course must also have been completed within 10 years at the time of admission.
- Have a minimum 2.0 cumulative GPA. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.

Continuation Requirements

All courses (including General Education courses) must be completed with a grade of "C" or better before taking the next course in the sequence and to satisfy graduation requirements.

The curriculum includes one coordinated practice course. Students are expected to complete the courses in the sequence outlined below.

One Year

Course	Title	Credits
Prerequisites		
BIO 145 or BIO 141 ***and*** BIO 142	Basic Human Anatomy & Physiology [1] or Human Anatomy And Physiology I ***and*** Human Anatomy and Physiology II	4-8
	Credits	**4-8**
1st Semester		
ENG 111	College Composition I	3
HIM 111	Medical Terminology	3
HIM 141	Fundamentals of Health Information Systems I	3
HIM 250	Health Data Classification Systems	4
	Credits	**13**
2nd Semester		
HIM 110	Introduction to Human Pathology	3
HIM 199	Supervised Study	1
HIM 254	Advanced Coding & Reimbursement	3
HIM 255	Health Data Class. Systems II/CPT	2
HIM 260	Pharmacology For Health Info Management	3
	Credits	**12**
	Total Credits	**29-33**

Health Sciences, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 620

Purpose

The academic foundation in this degree will allow students to continue their education by applying to a competitive program at the Medical Education Campus or prepare for entry to a variety of allied health or

health sciences baccalaureate programs. Students should consult an academic advisor in selecting electives to this curriculum.

Transfer Information

Since four-year colleges can vary in their course and GPA requirements for a health science major, please consult a counselor or an academic advisor regarding specific requirements and course selection.

Recommended Preparation

Satisfactory completion of the following high school units or equivalent: 4 units of English; 2 units of mathematics (algebra and geometry); 1 unit of laboratory science; and 1 unit of social studies.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
BIO 101 or BIO 141	General Biology I or Human Anatomy And Physiology I	4
Select one of the following: [1]		3
MTH 154	Quantitative Reasoning	
MTH 161	PreCalculus I (or Higher)	
PSY 200 or PSY 230	Principles of Psychology or Developmental Psychology	3
SDV 101 or SDV 100	Orientation to: (Healthcare) or College Success Skills	1
	Credits	**14**
2nd Semester		
HIM 111	Medical Terminology [2]	3
BIO 102 or BIO 142	General Biology II or Human Anatomy and Physiology II	4
ENG 112	College Composition II	3
Transfer Elective (https://catalog.nvcc.edu/programs/health-sciences-as/#transfer)		2-4
Select one of the following CST Electives:		3
CST 229	Intercultural Communication	
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
	Credits	**15-17**
3rd Semester		
MTH 245	Statistics I (or Higher)	3
Humanities/Fine Arts Elective (p. 49) [3]		3
Social/Behavioral Sciences Elective (p. 50)		3
Transfer Elective (https://catalog.nvcc.edu/programs/health-sciences-as/#transfer)		3
Transfer Elective (https://catalog.nvcc.edu/programs/health-sciences-as/#transfer)		3
	Credits	**15**
4th Semester		
HIS Elective (p. 50)		3
Humanities/Fine Arts Elective (p. 49) [3]		3
Physical or Life Science Elective w/Lab (p. 50)		4
Transfer Elective (https://catalog.nvcc.edu/programs/health-sciences-as/#transfer)		3
Transfer Elective (https://catalog.nvcc.edu/programs/health-sciences-as/#transfer)		3
	Credits	**16**
	Total Credits	**60-62**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. MTH 155 Statistical Reasoning is not available for credit since MTH 245 Statistics I is a required course for this degree program, as credit will not be awarded for both courses.
2. May substitute HLT 141 Introduction to Medical Terminology or HLT 143 Medical Terminology I. However, transfer elective should be added, if total degree credits do not equal at least 60.
3. Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.

Transfer Electives

Requirement may be met by a General Education (p. 49) course or the following:

Code	Title	Credits
BIO 145	Basic Human Anatomy & Physiology	4
BIO 150	Microbiology for Health Sciences	4
BIO 206	Cell Biology	4
CHM 241	Organic Chemistry I	3
CHM 245	Organic Chemistry I Laboratory	2
CST 229	Intercultural Communication	3
DIT 121	Nutrition I	3
DMS 100	Orientation to the Sonography Profession	1
HLT 206	Introduction to Kinesiology	3
HLT 110	Personal and Community Health	3
HLT 230	Principles of Nutrition	3
HLT 250	General Pharmacology	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
PSY 240	Health Psychology	3
RAD 105	Introduction to Radiology, Protection and Patient Care	2
RTH 120	Fundamental Theory for Respiratory Care	2
MTH 133	Mathematics for Health Professions	3
SUR 100	Introduction to Surgical Technology	2
VET 111	Anatomy & Physiology of Domestic Anim (for those interested in the Veterinary Technology only.)	4

Health Sciences: Public Health Major, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 620-01

Purpose

This curriculum is designed for students seeking to pursue a transfer degree in Public Health-related field, designed for transfer. Students will be introduced to public health principles, practices, and policies. Students will be provided with an overview of public health systems globally to better understand the trends within public health and the public health effects on individuals and populations. They will learn about social determinants of health, the influence of culture on health, learn about

health disparities, and will learn about the impact of effective health education and health promotion.

After completing this major, students will be prepared to continue their education at a partnering four-year university.

Two Years

Course	Title	Credits
1st Semester		
BIO 101	General Biology I	4
ENG 111	College Composition I	3
HLT 143	Medical Terminology I [1]	3
PSY 200	Principles of Psychology	3
Select one of the following:		3
MTH 154	Quantitative Reasoning [2]	
MTH 161	PreCalculus I	
SDV 101 or SDV 100	Orientation to: (Healthcare) or College Success Skills	1
	Credits	**17**
2nd Semester		
BIO 141	Human Anatomy And Physiology I	4
ENG 112	College Composition II	3
HLT 228	Introduction to Public Health	3
MTH 245	Statistics I (or Higher)	3
Humanities/Fine Arts Elective (p. 49) [3]		3
	Credits	**16**
3rd Semester		
BIO 142	Human Anatomy and Physiology II	4
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
HLT 230	Principles of Nutrition	3
Humanities/Fine Arts Elective (p. 49) [3]		3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**16**
4th Semester		
Transfer Elective (https://catalog.nvcc.edu/programs/health-sciences-public-health-major-as/#transfer)		3
Transfer Elective (https://catalog.nvcc.edu/programs/health-sciences-public-health-major-as/#transfer)		3
Select one of the following HIS Electives:		3
HIS 101	Western Civilizations Pre-1600 CE	
HIS 102	Western Civilizations Post-1600 CE	
HIS 112	World Civilizations Post-1500 CE	
Select one of the following:		3
HLT 110	Personal and Community Health	
Transfer Elective (https://catalog.nvcc.edu/programs/health-sciences-public-health-major-as/#transfer)		
	Credits	**12**
	Total Credits	**61**

1. Depending on the transfer institution's requirements, either HIM 111 Medical Terminology or HLT 241 Global Health Perspectives may be accepted as a substitute for HLT 143 Medical Terminology I.
2. MTH 155 Statistical Reasoning is not available for credit since MTH 245 Statistics I is a required course for this degree program, as credit will not be awarded for both courses.
3. Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.

Transfer Elective

Code	Title	Credits
General Education Elective (p. 49)		
BIO 150	Microbiology for Health Sciences	4
BIO 205	General Microbiology	4
BIO 206	Cell Biology	4
BIO 256	General Genetics	4
HLT 143	Medical Terminology I	3
HLT 145	Ethics For Healthcare Personnel	2
ITE 100	Introduction to Information Systems	3
PHI 227	Biomedical Ethics	3

Horticulture Technology, A.A.S.

Location(s): LO
NOVA Code: 3350

Purpose

The curriculum is designed to prepare students for full-time employment within the field of commercial horticulture as well as for those presently working who seek further knowledge and advancement.

Graduates of the program are prepared for managerial/supervisory level positions in areas which include landscape design and installation, grounds maintenance, floristry, greenhouse and nursery management, garden center operation, and sales and marketing in related industries.

Students in this program have an opportunity to gain career-related work experience through Cooperative Education or an internship in their area of emphasis.

Related Specialization

Landscape Design (p. 98)

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
HRT 100	Introduction to Horticulture	3
HRT 127	Horticultural Botany	3
HRT 160	Applied Mathematics for the Green Industry	2
HRT 201	Landscape Plants I	3
Select one of the following:		3-4
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
Physical or Life Science Elective w/Lab (p. 50)		
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**18-19**
2nd Semester		
HRT 115	Plant Propagation	3
HRT 120	History of Garden Design	3
HRT 202	Landscape Plants II	3
Select one of the following Business Electives:		3
BUS 100	Introduction to Business	
BUS 116	Entrepreneurship	
BUS 117	Leadership Development	
BUS 165	Small Business Management	
BUS 200	Principles of Management	

BUS 260	Planning for Small Business	
Select one of the following CST Electives: [3]		
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 115	Small Group Communication	
CST 126	Interpersonal Communication	
CST 227	Business and Professional Communication	
CST 229	Intercultural Communication	
	Credits	**12**
3rd Semester		
HRT 231	Planting Design I	3
HRT 245	Woody Plants	3
Humanities/Fine Arts Elective (p. 49)		3
HRT 259 or HRT 269	Arboriculture or Professional Turf Care	3
Select one of the following:		3-4
HRT 135	Training for Commercial Pesticide Application	
HRT 125	Chemicals in Horticulture	
CHM 101	Introductory Chemistry I [1]	
CHM 111	General Chemistry I [1]	
	Credits	**15-16**
4th Semester		
HRT Elective [2]		3
HRT 205	Soils	3
HRT 207	Plant Pest Management	3
HRT 275	Landscape Construction & Maintenance	3
HRT 290 or HRT 297	Coordinated Internship or Cooperative Education	1
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**16**
	Total Credits	**61-63**

Elective should be selected with advice of a counselor or academic advisor to meet requirements of the transfer institution.

1 Students cannot receive credit for both CHM 101 Introductory Chemistry I and CHM 111 General Chemistry I. If students use CHM 101 Introductory Chemistry I or CHM 111 General Chemistry I for the Physical or Life Science w/Lab (3-4) credit they cannot use it also for the Horticulture Chemistry requirement.

2 Course chosen must align with Coordinated Internship or Cooperative Education focus.

Horticulture Technology: Landscape Design Specialization, A.A.S.

Location(s): LO
NOVA Code: 3353

Purpose

This program is designed to prepare the student for full-time employment within the field of landscape design as well as assisting those who are presently working and who wish to further their knowledge and upgrade their skills.

Graduates of this degree are prepared to work in the field of landscape design, in nurseries and garden centers, and as institutional horticultural staff. Students in this degree have the opportunity to gain career-related work experience through a Coordinated Internship, Cooperative Education, or Special Studio Project in the area of design.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
HRT 100	Introduction to Horticulture	3
HRT 160	Applied Mathematics for the Green Industry	2
HRT 201	Landscape Plants I	3
HRT 230	Site Analysis	2
HRT 231	Planting Design I	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**17**
2nd Semester		
Select one of the following Communication Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 115	Small Group Communication	
CST 126	Interpersonal Communication	
CST 227	Business and Professional Communication	
CST 229	Intercultural Communication	
Humanities/Fine Arts Elective (p. 49)		3
HRT 120	History of Garden Design	3
HRT 202	Landscape Plants II	3
HRT 232	Planting Design II	3
HRT 250	Plant Composition	2
	Credits	**17**
3rd Semester		
HRT Elective [1]		3
HRT 244	Computer Aided Drafting and Design (CADD) for Landscape Designers	3
HRT 245	Woody Plants	3
HRT 259	Arboriculture	3
Select one of the following:		3-4
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
Physical or Life Science Elective w/Lab (p. 50)		
	Credits	**15-16**
4th Semester		
Select one of the following Business Electives:		3
BUS 100	Introduction to Business	
BUS 116	Entrepreneurship	
BUS 117	Leadership Development	
BUS 165	Small Business Management	
BUS 200	Principles of Management	
BUS 260	Planning for Small Business	
Select one of the following:		2
HRT 290	Coordinated Internship	
HRT 297	Cooperative Education	
HRT 298	Seminar & Project	
HRT 275	Landscape Construction & Maintenance	3
HRT 233	Landscape Drawing Applications	3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**14**
	Total Credits	**63-64**

1 Course chosen must align with Coordinated Internship or Cooperative Education focus.

Information Systems Technology, A.A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 2990

Purpose

This curriculum is designed for those who seek employment in the field of information technology, for those who are presently in that field and who wish to increase their knowledge and update their skills, and for those who must augment their abilities in other fields with knowledge and skills in information technology.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Recommended Preparation

The student should possess a proficiency in high school English, high school algebra and geometry, and computer keyboarding skills.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
ITD 110	Web Page Design I	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
ITN 100 or ITN 101	Intro to Telecommunications [1] or Introduction to Network Concepts	3
Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 101 or SDV 100	Orientation to: (Information Technology) or College Success Skills	1
	Credits	**16**
2nd Semester		
ITE 170	Multimedia Software	3
ITN 170	LINUX System Administration	3
ITN 260	Network Security Basics	3
ITP 100	Software Design	3
IT Elective [2]		6
	Credits	**18**
3rd Semester		
ITD 256	Advanced Database Management	3
ITN 107 or ITE 221	Pers. Computer Hardware & Troubleshooting [3] or PC Hardware & O/S Architecture	3
IT Elective [2]		6
Select one of the following ITP Programming Electives:		4
ITP 120	JAVA Programming I	
ITP 132	C++ Programming I	
ITP 150	Python Programming	
ITP 160	Introduction to Game Design and Development	
ITP 225	Web Scripting Languages	
	Credits	**16**
4th Semester		
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
Approved Elective [2]		3
Humanities/Fine Arts Elective (p. 49)		3
Social/Behavioral Sciences Elective (p. 50)		6
	Credits	**15**
	Total Credits	**65**

Information Technology (ITD, ITE, ITN, ITP) courses used for this program may not be more than 10 years old as of the first day of the fall semester of the academic year in which a student graduates, unless approved by the pathway dean.

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 Credit will not be awarded for both ITN 100 Intro to Telecommunications or ITN 101 Introduction to Network Concepts.
2 The total of 15 credit hours of IT Electives and Approved Elective must be met through any combination of IT courses (ITD, ITE, ITN, ITP) that are not already included in the degree and or ENG 112 College Composition II.
3 Credit will not be awarded for both ITN 107 Pers. Computer Hardware & Troubleshooting and ITE 221 PC Hardware & O/S Architecture.

Information Systems Technology: Application Programming, C.S.C.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 221-299-06

Purpose

This program prepares the student to design and implement traditional/legacy stand-alone and client-server applications using procedural and object-oriented development techniques. Upon completion, graduates are prepared to study for one of the following industry certifications: MCP-Programming or the Sun Certified Programming for Java 2.

One Year

Course	Title	Credits
1st Semester		
ITP 100	Software Design	3
Select one of the following: [1]		3
ITD Elective		
ITP Elective		
ITN Elective		
	Credits	**6**
2nd Semester		
ITP 120 or ITP 150	JAVA Programming I or Python Programming	4
	Credits	**4**

3rd Semester		
ITP 220 or ITP 250	Java Programming II or Advanced Python Programming	4
	Credits	**4**
	Total Credits	**14**

Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses used for this program may not be more than 10 years old as of the first day of the fall semester of the academic year in which a student graduates, unless approved by the pathway dean.

[1] May select any ITN, ITD, or ITP course to fulfill this requirement.

Information Systems Technology: Artificial Intelligence and Data Analytics, C.S.C.

Location(s): AN, LO, WO
NOVA Code: 221-299-34

Purpose

This program is designed to provide students with skills that support the newest capabilities and advances in digital data analytics. These new features in digital data analytics technology enable the data analyst to collect, analyze and make data accessible for making business decisions. This program focuses on training data analytics specialists who can provide these advantages to their employers and stay on the leading edge of technology. Upon completion, graduates are prepared to study for data analytics exams such as CompTIA Data+, Microsoft Certified: Data Analyst Associate and Google Data Analytics Certificate.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

One Year

Course	Title	Credits
1st Semester		
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
ITP 150	Python Programming	4
ITD 132	Structured Query Language	3
ITD 145	Applied Data Science Techniques	3
	Credits	**13**
2nd Semester		
ITD 245	Advanced Applied Data Science Techniques	3
ITD 140	Machine Learning I	3
ITD 256	Advanced Database Management	3
	Credits	**9**
	Total Credits	**22**

Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses used for this program may not be more than 10 years old as of the first day of the fall semester of the academic year in which a student graduates, unless approved by the pathway dean.

Information Systems Technology: Cloud Computing Specialization, A.A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 2995

Purpose

This curriculum is designed for those who seek employment in the field of cloud computing, for those who are presently in that field and who desire to increase their knowledge and update their skills, and for those who must augment their abilities in other fields with knowledge and skills in cloud computing.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Recommended Preparation

The student should possess a proficiency in high school English, high school algebra and geometry, and computer keyboarding skills.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
ITN 100 or ITN 101	Intro to Telecommunications [1] or Introduction to Network Concepts	3
ITN 257	Cloud Computing: Infrastructure and Services	3
Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 101 or SDV 100	Orientation to: (Information Technology) or College Success Skills	1
	Credits	**16**
2nd Semester		
ITD 256	Advanced Database Management	3
ITN 107 or ITE 221	Pers. Computer Hardware & Troubleshooting [2] or PC Hardware & O/S Architecture	3
ITN 200	Administration of Network Resources	3
ITN 260	Network Security Basics	3
ITP 100	Software Design	3
	Credits	**15**
3rd Semester		
Select one of the following Approved IT Electives: [3]		3
ITN 106	Microcomputer Operating Systems	
ITN 290	Coord. Internship	
ITN 295	Topics In:	
ENG 112	College Composition II	

ITD 110	Web Page Design I	3
ITN 170	LINUX System Administration	3
ITN 213	Information Storage & Management	3
Select one of the following IT Programming Electives:		4
ITP 120	JAVA Programming I	
ITP 132	C++ Programming I	
ITP 150	Python Programming	
ITP 160	Introduction to Game Design and Development	
ITP 225	Web Scripting Languages	
ITP 270	Programming For Cybersecurity	
	Credits	**16**
4th Semester		
Select one of the following CST electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 115	Small Group Communication	
CST 126	Interpersonal Communication	
CST 227	Business and Professional Communication	
CST 229	Intercultural Communication	
ITN 254	Virtual Infrastructure: Installation and Configuration	4
Humanities/Fine Arts Elective (p. 49)		3
Social/Behavioral Sciences Elective (p. 50)		6
	Credits	**16**
	Total Credits	**63**

Students in Information Technology, Computer Science, or Information Systems Technology programs must have Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses no more than ten years old, as of the first day of the fall semester of the academic year in which they graduate, unless approved by the pathway dean.

Electives should be chosen with advice of an academic advisor to meet the requirements of the transfer institution.

1 Credit will not be awarded for both ITN 100 Intro to Telecommunications or ITN 101 Introduction to Network Concepts.
2 Credit will not be awarded for both ITN 107 Pers. Computer Hardware & Troubleshooting and ITE 221 PC Hardware & O/S Architecture.
3 Students should discuss ITN 295 Topics In: options with their academic advisor.

Information Systems Technology: Cloud Computing, C.S.C.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 221-299-50

Purpose

This curriculum is designed for those who seek employment in the field of cloud computing, for those who are presently in that field and who desire to increase their knowledge and update their skills, and for those who must augment their abilities in other fields with knowledge and skills in cloud computing.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

Recommended Preparation

The student should possess a proficiency in high school English, familiarity with computer functions and hardware, and possess computer keyboarding skills. It is recommended that students be placed into MTH 154 Quantitative Reasoning or higher although this program includes no math courses.

One Year

Course	Title	Credits
1st Semester		
ITD 256	Advanced Database Management	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
ITN 101	Introduction to Network Concepts	3
ITN 257	Cloud Computing: Infrastructure and Services	3
SDV 101 or SDV 100	Orientation to: (Information Technology) or College Success Skills	1
	Credits	**13**
2nd Semester		
ITN 170	LINUX System Administration	3
ITN 213	Information Storage & Management	3
ITN 254	Virtual Infrastructure: Installation and Configuration	4
ITN 260	Network Security Basics	3
	Credits	**13**
	Total Credits	**26**

Students in Information Technology, Computer Science, or Information Systems Technology programs must have Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses no more than ten years old, as of the first day of the fall semester of the academic year in which they graduate, unless approved by the pathway dean.

A total of 26 credits is required for graduation with the Cloud Computing Career Studies Certificate. Individuals who believe they might qualify for credit for prior learning must submit their requests for credit prior to applying for graduation.

Students with active industry certifications may qualify for credit for prior learning. Please contact an advisor or review section two of the Credit for Prior Learning Manual (https://catalog.nvcc.edu/cpl-manual/) to see if you qualify.

Information Systems Technology: Database Specialist, C.S.C.

Location(s): AL, AN, MA, NOL
NOVA Code: 221-299-11

Purpose

This program is designed to provide students with skills that support the newest capabilities and advances in database technology. These new features in database technology enable databases to increase in scale and provide higher security and greater reliability. This program focuses on training database technologists who can provide these advantages to their employers and stay on the leading edge of database technology. Upon completion, graduates are prepared to study for some of the exams for the Oracle Database Administrator Certified Associate.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

One Year

Course	Title	Credits
1st Semester		
ITD 132	Structured Query Language	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
ITD 260 or ITD 256	Data Modeling and Design or Advanced Database Management	3
SDV 101 or SDV 100	Orientation to: (Information Technology) or College Success Skills	1
	Credits	**10**
2nd Semester		
ITD 134	PL/SQL Programming	3
Select one of the following ITP Programming Electives:		4
ITP 120	JAVA Programming I	
ITP 132	C++ Programming I	
ITP 137	Programming IOS Devices	
ITP 140	Client Side Scripting	
ITP 150	Python Programming	
ITP 160	Introduction to Game Design and Development	
ITP 165	Gaming and Simulation	
ITP 225	Web Scripting Languages	
ITP 226	Mobile Java Development	
	Credits	**7**
	Total Credits	**17**

Students in Information Technology, Computer Science, or Information Systems Technology programs must have Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses no more than ten years old, as of the first day of the fall semester of the academic year in which they graduate, unless approved by the pathway dean.

Information Systems Technology: Fiber and Network Technician, C.S.C.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 221-299-27

Purpose

This program prepares students for entry-level employment in data centers and related industries that require technicians/technologists trained in engineering technology, information technology, fiber optics, electronics, and data processing. Coursework will prepare students to earn the A+ Hardware, A+ Software, Network Troubleshooting, ETA FOI (Fiber Optic), and OSHA 10 industry credentials.

Recommended Prerequisites

There are no required prerequisites for this certificate. It is recommended that the student possess proficiency in high school English, high school algebra, and geometry and possess the ability to utilize hand tools and instrumentation.

One Year

Course	Title	Credits
1st Semester		
ELE 150	A.C. and D.C. Circuit Fundamentals	3
ENE 108	Intro to Data Center Operations	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
ITN 101	Introduction to Network Concepts	3
SAF 130	Industrial Safety OSHA 10	1
	Credits	**13**
2nd Semester		
ELE 250	Fiber Optic Technology	3
MEC 270 or ITE 140	Computation for Engineering Technology or Spreadsheeting for Business	3
ITN 106	Microcomputer Operating Systems	3
ITN 200	Administration of Network Resources	3
	Credits	**12**
	Total Credits	**25**

Information Systems Technology: IT Technical Support, C.S.C.

Location(s): AL, LO, MA, NOL, WO
NOVA Code: 221-299-09

Purpose

This program is designed for individuals seeking employment in a technical support center and for those persons employed who wish to update their skills in the help desk field. This curriculum will prepare students for employment as help desk specialists/technicians, desktop support specialists, and technical support specialists. Upon completion, graduates are prepared to study for the A+ Software, A+ Hardware, Network+, Security+ and AWS Certified Cloud Practitioner exams.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

One Year

Course	Title	Credits
1st Semester		
ITE 152	Introduction to Digital and Information Literacy and Computer Applications [1]	3
ITN 101	Introduction to Network Concepts	3
ITN 106	Microcomputer Operating Systems	3
SDV 101 or SDV 100	Orientation to: (Information Technology) or College Success Skills	1
	Credits	**10**
2nd Semester		
ITN 107	Pers. Computer Hardware & Troubleshooting	3
ITN 257	Cloud Computing: Infrastructure and Services	3
ITN 260	Network Security Basics	3
	Credits	**9**
	Total Credits	**19**

Students in Information Technology, Computer Science, or Information Systems Technology programs must have Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses no more than ten

years old, as of the first day of the fall semester of the academic year in which they graduate, unless approved by the pathway dean.

[1] United States Naval Community College students may substitute an approved elective.

Information Systems Technology: Mobile Application Development, C.S.C.

Location(s): AL, LO, MA
NOVA Code: 221-299-45

Purpose

This program is designed for individuals seeking employment in either a mobile application software development firm or large organization with a mobile application development team as well as for those persons already employed who wish to update their skills in mobile application development and testing. This curriculum will prepare students for employment as junior mobile application developers as well as quality assurance test engineers for native mobile applications. Upon completion, graduates are prepared to study for the Google Associate Android Developer certification.

Recommended Preparation

The student should possess a proficiency in high school English, high school algebra and geometry, and computer keyboarding skills.

One Year

Course	Title	Credits
1st Semester		
ITP 100	Software Design	3
SDV 101 or SDV 100	Orientation to: (Information Technology) or College Success Skills	1
	Credits	**4**
2nd Semester		
ITP 137	Programming IOS Devices	4
ITP 226	Mobile Java Development	4
	Credits	**8**
3rd Semester		
ITP 150	Python Programming	4
ITP 227	Advanced Android Application Development	4
	Credits	**8**
	Total Credits	**20**

Students in Information Technology, Computer Science, or Information Systems Technology programs must have Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses no more than ten years old, as of the first day of the fall semester of the academic year in which they graduate, unless approved by the pathway dean.

Information Systems Technology: Network Administration, C.S.C.

Location(s): AL, AN, MA, NOL, WO
NOVA Code: 221-732-01

Purpose

This program provides the student with a broad background in networking technologies, administration, and support. The material presented in the certificate provides the basic knowledge covered in the Windows Server, Security+, Linux+ and Network+ Certification. It is recommended that students complete the A+ Certification before the Network+ Certification.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

One Year

Course	Title	Credits
1st Semester		
ITE 152	Introduction to Digital and Information Literacy and Computer Applications [1]	3
ITN 100 or ITN 101	Intro to Telecommunications [2] or Introduction to Network Concepts	3
	Credits	**6**
2nd Semester		
ITN 170 or ITN 171	LINUX System Administration [3] or UNIX I	3
ITN 200	Administration of Network Resources	3
ITN 260	Network Security Basics	3
	Credits	**9**
	Total Credits	**15**

Students in Information Technology, Computer Science, or Information Systems Technology programs must have Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses no more than ten years old, as of the first day of the fall semester of the academic year in which they graduate, unless approved by the pathway dean.

[1] United States Naval Community College students may substitute an approved elective.
[2] Credit will not be awarded for both ITN 100 Intro to Telecommunications or ITN 101 Introduction to Network Concepts.
[3] Credit will not be awarded for both ITN 170 LINUX System Administration or ITN 171 UNIX I.

Information Systems Technology: Network Engineering (Specialist), C.S.C.

Location(s): AL, AN, MA, NOL, WO
NOVA Code: 221-732-04

Purpose

This program is designed to provide the student with the training necessary to obtain several different CISCO certifications as outlined below. These certifications prepare the student to install and/or configure networks, including wide area networks (WANs) and local area networks (LANs). They prepare students to optimize WANs through internet access solutions that reduce bandwidth and lower WAN costs, and provide remote access by integrating remote dial-up access with remote LAN to LAN access, as well as supporting higher levels of performance required for new applications such as internet commerce and multimedia. This

career studies certificate also prepares the student to sit for the CISCO Certified Networking Associate (CCNA) certification exam.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning. See an academic advisor or counselor for further information.

One Year

Course	Title	Credits
1st Semester		
ITN 154	Introduction to Networks - CISCO	4
ITN 155	Switching, Wireless, And Wireless Essentials - Cisco	4
	Credits	**8**
2nd Semester		
ITN 156	Enterprise Networking, Security, and Automation - Cisco	4
ITN 295 or ITN 157	Topics In: (Cyber Operations and Analysis) or WAN Technologies - CISCO	4
	Credits	**8**
	Total Credits	**16**

Students in Information Technology, Computer Science, or Information Systems Technology programs must have Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses no more than ten years old, as of the first day of the fall semester of the academic year in which they graduate, unless approved by the pathway dean.

Information Systems Technology: Web Design and Development, C.S.C.

Location(s): AL, AN, LO, WO
NOVA Code: 221-352-03

Purpose

This program provides the student with the aesthetic, technical, and management knowledge required for the creation and management of well-designed and well-organized websites.

Credit for Prior Learning (CPL)

Students in this program may be eligible for credit for prior learning (https://www.nvcc.edu/admissions/cpl.html).

One Year

Course	Title	Credits
1st Semester		
ITD 110	Web Page Design I	3
ITP 100	Software Design	3
ITE 170	Multimedia Software	3
SDV 101 or SDV 100	Orientation to: (Information Technology) or College Success Skills	1
	Credits	**10**
2nd Semester		
ITD 210	Web Page Design II	3
ITE 270	Advanced Multimedia Development	3
ITP 140 or ITP 225	Client Side Scripting or Web Scripting Languages	4
	Credits	**10**
	Total Credits	**20**

Students in Information Technology, Computer Science, or Information Systems Technology programs must have Information Technology (ITD, ITE, ITN, ITP) and or Computer Science (CSC) courses no more than ten years old, as of the first day of the fall semester of the academic year in which they graduate, unless approved by the pathway dean.

Information Technology, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 3400

Purpose

This curriculum is designed for persons who plan to transfer to a four-year college or university to complete a baccalaureate degree program in information technology.

Transfer Information

Since four-year colleges can vary in their course and GPA requirements, please consult a counselor or academic advisor regarding specific requirements and course selection.

Recommended Preparation

Satisfactory completion of the following high school units or equivalent: 4 units of English; 4 units of mathematics (Algebra I-II, geometry and precalculus); 1 unit of laboratory science; and 1 unit of social studies.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
MTH 161	PreCalculus I (or Higher) [1]	3
Select one of the following HIS Electives:		3
HIS 101	Western Civilizations Pre-1600 CE	
HIS 102	Western Civilizations Post-1600 CE	
HIS 111	World Civilizations Pre-1500 CE	
HIS 112	World Civilizations Post-1500 CE	
HIS 121	United States History to 1877	
HIS 122	United States History Since 1865	
SDV 101 or SDV 100	Orientation to: (Information Technology) or College Success Skills	1
Social/Behavioral Sciences Elective (p. 50) [2]		3
	Credits	**16**
2nd Semester		
ENG 112	College Composition II	3
MTH 261	Applied Calculus I [1]	3
Technical Elective (https://catalog.nvcc.edu/programs/information-technology-as/#techelec)		3
Technical Elective (https://catalog.nvcc.edu/programs/information-technology-as/#techelec)		3
Technical Elective (https://catalog.nvcc.edu/programs/information-technology-as/#techelec)		3
	Credits	**15**
3rd Semester		
CST 110	Introduction to Human Communication [3]	3
Select one of the following Programming Electives:		4
ITP 120	JAVA Programming I	
ITP 220	Java Programming II	
ITP 132	C++ Programming I	
ITP 150	Python Programming	

Humanities/Fine Arts Elective (p. 49) [4]	3
Physical or Life Science Elective w/Lab (p. 50)	4
Credits	**14**
4th Semester	
Humanities/Fine Arts Elective (p. 49) [4]	3
Physical or Life Science Elective w/Lab (p. 50)	4
Social/Behavioral Sciences Elective (p. 50)	3
Technical Elective (https://catalog.nvcc.edu/programs/information-technology-as/#techelec)	3
Technical Elective (https://catalog.nvcc.edu/programs/information-technology-as/#techelec)	3
Credits	**16**
Total Credits	**61**

Information Systems Technology programs must have Information Technology (ITD, ITE, ITN, ITP) courses no more than ten years old, as of the first day of the fall semester of the academic year in which they graduate, unless approved by the pathway dean.

1 Credit will not be awarded for both MTH 261 Applied Calculus I and MTH 263 Calculus I. Credit will not be awarded for both MTH 262 Applied Calculus II and MTH 264 Calculus II.
2 Select a class which is not a History course.
3 Students should consult an academic advisor to select the CST appropriate course, CST 100 Principles of Public Speaking, CST 110 Introduction to Human Communication, CST 126 Interpersonal Communication, and CST 229 Intercultural Communication.
4 Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.

Technical Electives

Consult with an academic advisor and align elective choices with the intended transfer institution's requirements.

Code	Title	Credits
ACC 211	Principles of Accounting I	3
ACC 212	Principles of Accounting II	3
BUS 100	Introduction to Business	3
BUS 224	Business Statistics	3
ITD 132	Structured Query Language	3
ITD 140	Machine Learning I	3
ITD 145	Applied Data Science Techniques	3
ITD 240	Machine Learning II	3
ITD 245	Advanced Applied Data Science Techniques	3
ITD 256	Advanced Database Management	3
ITE 140	Spreadsheeting for Business	3
ITE 170	Multimedia Software	3
ITE 221	PC Hardware & O/S Architecture [1]	3
ITN 100	Intro to Telecommunications [1]	3
ITN 101	Introduction to Network Concepts [1]	3
ITN 106	Microcomputer Operating Systems	3
ITN 107	Pers. Computer Hardware & Troubleshooting [1]	3
ITN 170	LINUX System Administration [1]	3
ITN 171	UNIX I [1]	3
ITN 257	Cloud Computing: Infrastructure and Services	3
ITN 260	Network Security Basics	3
ITN 261	Network Attacks, Computer Crime, & Hacking	4
ITN 262	Network Comm, Security & Authentication	4
ITN 266	Network Security Layers	3
MTH 245	Statistics I	3
MTH 262	Applied Calculus II	3

1 Credit will not be awarded for both ITN 100 Intro to Telecommunications and ITN 101 Introduction to Network Concepts, or ITN 170 LINUX System Administration and ITN 171 UNIX I, or ITE 221 PC Hardware & O/S Architecture and ITN 107 Pers. Computer Hardware & Troubleshooting.

Interior Design, A.A.S.

Location(s): LO
NOVA Code: 5200

Purpose

The Interior Design program provides quality education to prepare students for entry level employment in the interior design field or to transfer to an accredited university for further education. The curriculum provides a foundation education covering a broad range of topics in interior design, art history, furniture history, and basic design. Computer aided drafting, rendering and business practices round out the curriculum. Career opportunities exist in a diverse array of fields including retail marketing, residential design, commercial design, space planning, kitchen and bath design and design support for designers specializing in these fields. The curriculum can be completed in two years; however, students may enroll on a part-time basis. There are no entry requirements, but many Interior Design courses have prerequisites to ensure that students are properly prepared for advanced coursework.

Two Years

Course	Title	Credits
1st Semester		
ART 101	History of Art: Prehistoric to Gothic	3
ART 131	Two-Dimensional Design	3
ENG 111	College Composition I	3
IDS 100	Theory & Techniques of Interior Design	3
IDS 105	Arch Drafting For Interior Design	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
ART 102	History of Art: Renaissance to Modern	3
CST 110	Introduction to Human Communication	3
IDS 106	3-D Drawing & Rendering	3
IDS 245	Comp. Aided Drafting/Int. Designers	3
Select one of the following ART Electives:		3
ART 121	Foundations of Drawing	
ART 132	Three-Dimensional Design	
ART 140	Introduction to Graphic Skills	
BUS 100	Introduction to Business	
BUS 116	Entrepreneurship	
IDS 130	Introduction to Kitchen and Bath Design Systems	
	Credits	**15**
3rd Semester		
IDS 109	Styles of Furniture And Interiors	3
IDS 205	Materials And Sources	3
IDS 215	Theory & Research in Commercial Design	3
PSY 200	Principles of Psychology	3

Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
	Credits	**15**
4th Semester		
IDS 206	Lighting Design for Interiors	3
IDS 221 or IDS 285	Designing Commercial Interiors I or Portfolio and Resume Preparation for Interior Designers	3-4
IDS 225	Business Procedures	3
Social/Behavioral Sciences Elective (p. 50)		3
Select one of the following IDS Electives:		3
IDS 290	Coordinated Internship	
ART 217	Graphic Design I	
ART 251	Communication Design I	
ARC 200	History of Architecture	
BUS 201	Organizational Behavior	
HRT 260	Introduction to Floral Design	
IDS 235	Antiques	
IDS 246	Advanced CADD for Interior Designers	
MKT 201	Introduction to Marketing	
MKT 215	Sales and Marketing Management	
	Credits	**15-16**
	Total Credits	**61-62**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

Liberal Arts, A.A.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 648

Purpose

An Associate of Arts degree in Liberal Arts is designed to provide an understanding and appreciation for the ideas and ideals that are the basis of human civilization. It offers a foundation in the arts and sciences and prepares students for transfer into a Bachelor of Arts program. Liberal arts BA degrees prepare graduates for careers in a wide array of professions by enabling them to write well, critically analyze issues, place problems in a variety of contexts, and work competently with diverse groups of colleagues.

Recommended Preparation

Satisfactory completion of the following high school units or equivalent: 4 units of English, 2 units of mathematics (algebra and geometry), 2 units of laboratory science, 1 unit of history, and 3 to 4 units of foreign language.

Transfer Information

Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully to meet requirements of the transfer institution. The responsibility for proper course selection rests with the student.

Two Years

Course	Title	Credits
1st Semester		
Select one of the following: [1]		3-4
101 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl101)		
General Education Elective (p. 49)		
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
ENG 111	College Composition I	3
Select one of the following: [2]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13-14**
2nd Semester		
Select one of the following: [1]		3-4
102 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl102)		
General Education Elective (p. 49)		
ENG 112	College Composition II	3
Physical or Life Science Elective w/Lab (p. 50)		4
Social/Behavioral Sciences Elective (p. 50) [3]		3
Select one of the following: [2]		3
MTH 245	Statistics I (Higher)	
General Education Elective (p. 49)		
ART 103	History of Far Eastern Art I	
ART 200	History of Non-Western Art	
CST 229	Intercultural Communication	
HIS 203	History of African Civilizations	
HIS 231	Introduction to Latin American History	
HIS 241	History of Russia I	
HIS 251	History of Middle East Civilization I	
HIS 254	History of Modern East Asian Civilizations	
REL 237	Religions of the East	
REL 238	Religions of the West	
	Credits	**16-17**
3rd Semester		
Select one of the following: [1]		3-4
201 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl201)		
General Education Elective (p. 49)		
ENG 2XX - Literature Elective (p. 182) [4]		3
HIS Elective (p. 50)		3
Social/Behavioral Sciences Elective (p. 50) [3]		3
Select one of the following: [5]		3-4
Physical or Life Science Elective w/Lab (p. 50)		
General Education Elective (p. 49)		
	Credits	**15-17**
4th Semester		
Select one of the following: [1]		3-4
202 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl202)		
General Education Elective (p. 49)		
Select one of the following HIS Electives: [6]		3
HIS 101	Western Civilizations Pre-1600 CE	
HIS 102	Western Civilizations Post-1600 CE	
HIS 111	World Civilizations Pre-1500 CE	
HIS 112	World Civilizations Post-1500 CE	
HIS 121	United States History to 1877	
HIS 122	United States History Since 1865	
HIS 203	History of African Civilizations	
HIS 231	Introduction to Latin American History	
HIS 251	History of Middle East Civilization I	

HIS 254	History of Modern East Asian Civilizations	
HUM 298	Seminar And Project	1
Humanities/Fine Arts Elective (p. 49)		3
Open Elective [7, 8]		3
Open Elective [7, 8]		3
	Credits	**16-17**
	Total Credits	**60-65**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. Placement testing determines initial foreign language level. Students who place directly into intermediate level foreign language or ASL may take any General Education course(s) to meet the required number of credits. Waivers or credit by exam for prior experience is available for some languages. See the 'World Language Credit and Waiver' section of the [Credit for Prior Learning Manual (https://www.nvcc.edu/prior-learning/)]. Students must earn 60 unique and applicable credits to be awarded the Liberal Arts degree.
2. Students who plan to take MTH 245 Statistics I should take MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I first. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.
3. Select a class which is not a History course.
4. ENG 225 or higher literature course (p. 182) satisfies this requirement.
5. Check transfer institution requirements to confirm if a second lab science is required.
6. Transfer to selected universities with a major in Public History and Historic Preservation should take HIS 183 Survey of Museum Practice or HIS 187 Interpreting Material Culture. Meet with an academic advisor for guidance on course substitutions.
7. Open electives should be selected from the approved courses listed under General Education Electives (p. 49). A second open elective is not needed if selections for all other requirements total 60 credits or more. Students who receive a language waiver generally must complete a second open elective to reach the minimum of 60 unique, applicable credits required for graduation.
8. Students planning to transfer to selected Public History and Historic Preservation program should take HIS 180 Historical Archaeology and HIS 181 Introduction to Historic Preservation.

Liberal Arts: Philosophy Advising Guide

This advising guide is intended for students aiming to transfer into a Philosophy program of study at a four-year institution. Students may also view Philosophy transfer guides through the Transfer Virginia Portal Resource Center (https://www.transfervirginia.org/) for further information about transferring to specific Virginia institutions. Students following this guide must be program placed in the A.A. Liberal Arts degree, which is the degree that will be awarded upon completion.

Course	Title	Credits
1st Semester		
Select one of the following: [1]		3-4
101 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl101)		
General Education Elective (p. 49)		
Select one of the following: [2]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
CST 110	Introduction to Human Communication	3
ENG 111	College Composition I	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13-14**
2nd Semester		
Select one of the following: [1]		3-4
102 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl102)		
General Education Elective (p. 49)		
ENG 112	College Composition II	3
PHI 100 or PHI 111	Introduction to Philosophy or Logic	3
Physical or Life Science Elective w/Lab (p. 50)		4
Social/Behavioral Sciences Elective (p. 50) [3]		3
	Credits	**16-17**
3rd Semester		
Select one of the following: [1]		3-4
201 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl201)		
General Education Elective (p. 49)		
ENG 2XX - Literature Elective (p. 50) [4]		3
HIS Elective (p. 50) [5]		3
Social/Behavioral Sciences Elective (p. 50) [3]		3
Select one of the following:		3-4
Physical or Life Science Elective w/Lab (p. 50)		
General Education Elective (p. 49)		
	Credits	**15-17**
4th Semester		
Select one of the following: [1]		3-4
202 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl202)		
General Education Elective (p. 49)		
Select one of the following: [6]		3
PHI 100	Introduction to Philosophy	
PHI 111	Logic	
PHI 200	The History of Western Philosophy	
PHI 227	Biomedical Ethics	
HIS Elective (p. 50) [5]		3
HUM 298	Seminar And Project	1
Open Electives [7]		3
PHI 220	Ethics and Society	3
	Credits	**16-17**
	Total Credits	**60-65**

1. Placement testing determines initial foreign language level. Students who place directly into intermediate level foreign language or ASL may take any General Education course(s) to meet the required number of credits. Waivers or credit by exam for prior experience is available for some languages. See the 'World Language Credit and Waiver' section of the [Credit for Prior Learning Manual (https://www.nvcc.edu/prior-learning/)]. Students must earn 60 unique and applicable credits to be awarded the Liberal Arts degree.
2. Students who plan to take MTH 245 Statistics I should take MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I first. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.

[3] See social/behavioral science courses listed under General Education Electives (https://catalog.nvcc.edu/general-education-electives/). At least one class must be non-HIS course.
[4] ENG 225 or higher literature course (https://catalog.nvcc.edu/courses/eng/) satisfies this requirement.
[5] Select any UCGS HIS course.
[6] PHI 100 and PHI 111 may only be taken once each. Students who have already taken PHI 100 should select from PHI 111, PHI 200, or PHI 227. Students who have already taken PHI 111 should select from PHI 100, PHI 200, or PHI 227. PHI 200 and PHI 227 are not UCGS passport courses, so students should consult the 4-year college transfer guides for guidance on course selection.
[7] Student should select any UCGS (p. 49) course. This elective is not needed if selections for all other requirements total 60 credits or more.

Liberal Arts: Art History Major, A.A.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 648-01

Purpose

The Art History major, which falls within the Liberal Arts parent degree, provides students with an understanding and appreciation of the multiple facets of human civilization, in addition to fostering intellectual growth and exploration. The major offers a foundation in the arts and sciences to best prepare students for transfer into a Bachelor of Arts program. This degree develops critical thinking skills, writing and editing abilities, creative problem solving, and cultural sensitivity, which enables students to work with a diverse group of colleagues. These skills prepare students for a wide range of professions from non-profit management to grant writing and work in the traditional art-historical institutions of museums and galleries, in addition to being applicable to inter-disciplinary studies in the sciences and beyond.

Transfer Information

Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully to meet requirements of the transfer institution. The responsibility for proper course selection rests with the student.

Two Years

Course	Title	Credits
1st Semester		
Select one of the following: [1]		3-4
101 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl101)		
General Education Elective (p. 49)		
ART 101	History of Art: Prehistoric to Gothic	3
ENG 111	College Composition I	3
Select one of the following: [2]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13-14**
2nd Semester		
Select one of the following: [1]		3-4
102 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl102)		
General Education Elective (p. 49)		
ART 102	History of Art: Renaissance to Modern	3
CST 110 or CST 100	Introduction to Human Communication or Principles of Public Speaking	3
ENG 112	College Composition II	3
Select one of the following:		3
MTH 245	Statistics I (or Higher) [2]	
Transfer Elective [3]		
	Credits	**15-16**
3rd Semester		
Select one of the following: [1]		3-4
201 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl201)		
General Education Elective (p. 49)		
ART 215	History of Modern Art	3
ENG 2XX - Literature Elective (p. 50) [4]		3
Physical or Life Science Elective w/Lab (p. 50)		4
Social/Behavioral Sciences Elective (p. 50) [5]		3
	Credits	**16-17**
4th Semester		
Select one of the following: [1]		3-4
202 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl202)		
General Education Elective (p. 49)		
Select one of the following ART Electives: [6]		3
ART 100	Art Appreciation	
ART 103	History of Far Eastern Art I	
ART 200	History of Non-Western Art	
HIS Elective (p. 50)		3
Humanities/Fine Arts Elective (p. 49) [7]		3
Select one of the following:		4-3
Physical or Life Science Elective w/Lab (p. 50)		
General Education Elective (p. 49)		
	Credits	**16**
	Total Credits	**60-63**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] Placement testing determines initial foreign language level. Students who place directly into intermediate level foreign language or ASL may take any General Education course(s) to meet the required number of credits. Waivers or credit by exam for prior experience is available for some languages. See the 'World Language Credit and Waiver' section of the [Credit for Prior Learning Manual]. Students must earn 60 unique and applicable credits to be awarded the degree.
[2] Students who plan to take MTH 245 Statistics I should take MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I first. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.
[3] Select any course listed under General Education Electives (p. 49) or any ART (p. 147) course.
[4] Select any ENG 200-level UCGS literature course listed under General Education Electives; UCGS courses are designated with an asterisk (*).
[5] Select a class which is not a History course.
[6] If following the VCCS Art History Pathway Curriculum, consider: ART 121 Foundations of Drawing, ART 131 Two-Dimensional Design, or ART 132 Three-Dimensional Design. Meet with an academic advisor for guidance on course substitutions.

[7] This elective is not needed if selections for all other requirements total 60 credits or more.

Liberal Arts: Communication Studies Major, A.A.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 648-02

Purpose

This program is designed for students who wish to study speech communication at the college level or who wish to transfer to a four-year institution for a baccalaureate degree.

Transfer Information

Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully to meet requirements of the transfer institution. The responsibility for proper course selection rests with the student.

Two Years

Course	Title	Credits
1st Semester		
Select one of the following: [1]		3-4
101 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl101)		
General Education Elective (p. 49)		
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
ENG 111	College Composition I	3
Select one of the following: [2]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13-14**
2nd Semester		
Select one of the following: [1]		3-4
102 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl102)		
General Education Elective (p. 49)		
CST 114	Survey of Mass Media	3
CST 126	Interpersonal Communication [3]	3
ENG 112	College Composition II	3
Humanities/Fine Arts Elective (p. 49) [4]		3
	Credits	**15-16**
3rd Semester		
Select one of the following: [1]		3-4
201 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl201)		
General Education Elective (p. 49)		
Select one of the following: [5]		3
CST 115	Small Group Communication	
Transfer Elective (p. 49)		
CST 229	Intercultural Communication	3
ENG 2XX - Literature Elective (p. 50) [6]		3
Social/Behavioral Sciences Elective (https://catalog.nvcc.edu/programs/liberal-arts-communication-studies-major-aa/#sbliberalcom)		3
	Credits	**15-16**
4th Semester		
Select one of the following: [1]		3-4
202 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl202)		
General Education Elective (p. 49)		
Select one of the following HIS Electives:		3
HIS 101	Western Civilizations Pre-1600 CE	
HIS 102	Western Civilizations Post-1600 CE	
HIS 111	World Civilizations Pre-1500 CE	
HIS 112	World Civilizations Post-1500 CE	
HIS 121	United States History to 1877	
HIS 122	United States History Since 1865	
CST 201	Introduction to Communication Theory	3
HUM 298	Seminar And Project	1
Physical or Life Science Electives w/Lab (https://catalog.nvcc.edu/programs/liberal-arts-communication-studies-major-aa/#plsliberalcomm)		4
Humanities/Fine Arts Elective (p. 49) [7]		3
	Credits	**17-18**
	Total Credits	**60-64**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] Placement testing determines initial foreign language level. Students who place directly into intermediate level foreign language or ASL may take any General Education course(s) to meet the required number of credits. Waivers or credit by exam for prior experience is available for some languages. See the 'World Language Credit and Waiver' section of the [Credit for Prior Learning Manual]. Students must earn 60 unique and applicable credits to be awarded the Liberal Arts degree.

[2] Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I.

[3] ENG 121 Introduction to Journalism, CST 115 Small Group Communication, are acceptable alternatives. Refer to the Transfer Virginia Guide (https://www.transfervirginia.org/resources/) for guidance on your transfer institution.

[4] Select a class which is not an English literature course.

[5] Select any course listed under General Education Electives (p. 49) or any course listed in footnote #3. Consult with an academic advisor and align elective choices with the intended transfer institution's requirements or consult the Transfer Virginia Guide (https://www.transfervirginia.org/resources/) for acceptable electives.

[6] Select any ENG 200-level UCGS literature course listed under General Education Electives (p. 49). UCGS courses are designated with an asterisk (*).

[7] This elective is not needed if selections for all other requirements total 60 credits or more.

Physical or Life Sciences Electives w/ Lab

Select one of the following:

Code	Title	Credits
BIO 101	General Biology I	4
BIO 102	General Biology II	4
CHM 101	Introductory Chemistry I	4
CHM 111	General Chemistry I	4
CHM 112	General Chemistry II	4
ENV 121	Foundations of Environmental Science	4
ENV 122	Applications in Environmental Science	4
GOL 105	Physical Geology	4

GOL 106	Historical Geology	4
PHY 100	Elements of Physics	4
PHY 201	General College Physics I	4
PHY 202	General College Physics II	4
PHY 241	University Physics I	4
PHY 242	University Physics II	4

Social/Behavioral Sciences Electives

Select one of the following:

Code	Title	Credits
ECO 150	Economic Essentials: Theory and Application	3
ECO 201	Principles of Macroeconomics	3
ECO 202	Principles of Microeconomics	3
GEO 210	People & the Land: Intro. to Cultural Geography	3
GEO 220	World Regional Geography	3
PLS 135	U.S. Government and Politics	3
PLS 140	Introduction to Comparative Politics	3
PLS 241	Introduction to International Relations	3
PSY 200	Principles of Psychology	3
SOC 200	Introduction to Sociology	3
SOC 211	Cultural Anthropology	3
SOC 268	Social Problems	3

Liberal Arts: Deaf Studies Major, A.A.

Location(s): AN
NOVA Code: 648-05

Purpose

The goal of the Deaf Studies Major is to introduce students to the multidisciplinary study of human culture, language, experience, society, and history, with a focus on analyzing and understanding the contributions of Deaf people in America and around the globe. This curriculum is designed to provide students with conversational-level fluency in ASL to allow them to engage with members of the Deaf community in a variety of settings. Graduates may use their skills to work in human service fields. Graduates from the program can also transfer to a four-year college or university to complete a program that requires a background in American Sign Language and the Deaf community. Possible majors include a wide variety of fields, such as ASL instruction, Deaf education (parent-infant programs, elementary education, secondary), linguistics, Deaf studies (e.g. history, literature, research, etc.), speech-language pathology and audiology, sociology, communication sciences and disorders, media, government, and social work.

Students may be able to waive the ASL requirement if they have prior experience in ASL. To demonstrate ASL competency, students must receive a score on the Sign Communication Proficiency Interview (SCPI) or the Gallaudet University American Sign Language Proficiency Interview (GU-ASLPI) of "Intermediate" or higher.

Two Years

Course	Title	Credits
1st Semester		
ASL 101	Beginning American Sign Language I [1]	4
ENG 111	College Composition I	3
Select one of the following CST Electives:		3
CST 110	Introduction to Human Communication	
CST 100	Principles of Public Speaking	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
Select one of the following: [2]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**14**
2nd Semester		
ASL 102	Beginning American Sign Language II [1]	4
ENG 112	College Composition II	3
Select one of the following: [2, 3]		3
MTH 245	Statistics I (or Higher)	
General Education Elective (p. 49)		
ART 103	History of Far Eastern Art I	
ART 200	History of Non-Western Art	
HIS 231	Introduction to Latin American History	
HIS 241	History of Russia I	
HIS 251	History of Middle East Civilization I	
Physical or Life Science Elective w/Lab (p. 50)		4
	Credits	**14**
3rd Semester		
ASL 201	Intermediate American Sign Language I	3
ASL 202	Intermediate American Sign Language II	3
	Credits	**6**
4th Semester		
ASL 125	History of the U.S. Deaf Community	3
ASL 261	Advanced American Sign Language I	4
ENG 2XX - Literature Elective (p. 182) [4]		3
Select one of the following:		3-4
Physical or Life Science Elective w/Lab (p. 50)		
General Education Elective (p. 49)		
	Credits	**13-14**
5th Semester		
ASL 220	Comparative Linguistics: ASL/English	3
ASL 262	Advanced American Sign Language II	4
HIS Elective (p. 50)		3
HUM 298	Seminar And Project	1
Social/Behavioral Sciences Elective (p. 50) [5]		3
	Credits	**14**
	Total Credits	**61-62**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. Placement testing determines initial foreign language level. Students who place directly into intermediate level foreign language or ASL may take any General Education course(s) to meet the required number of credits. Waivers or credit by exam for prior experience is available for some languages. See the 'World Language Credit and Waiver' section of the [Credit for Prior Learning Manual]. Students must earn 60 unique and applicable credits to be awarded the Liberal Arts degree.
2. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I.
3. Students may choose any course listed under General Education Electives (p. 49) or from the additional courses provided.
4. ENG 225 or higher literature course satisfies this requirement.
5. Select a class which is not a History course.

Liberal Arts: English Major, A.A.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 648-03

Purpose

This program is designed for students who plan to transfer to a college or university for a Bachelor of Arts or a Bachelor of Science in English, Creative Writing or Writing and/or Rhetoric as an entry-level professional writer.

Transfer Information

Students are advised to work closely with the English faculty and counseling staff for program and course scheduling. Electives should be chosen carefully to meet requirements of the transfer institution. The responsibility for proper course selection rests with the student.

Recommended Preparation

Satisfactory completion of high school units or equivalent: 4 units of English, 2 units of Mathematics (Algebra and Geometry), 2 units of Laboratory Science, 1 unit of History, and 3 to 4 units of World Languages.

Two Years

Course	Title	Credits
1st Semester		
Select one of the following: [1]		3-4
101 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl101)		
General Education Elective (p. 49)		
ENG 111	College Composition I	3
Select one of the following: [2]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
Physical or Life Science Elective w/Lab (p. 50)		4
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**14-15**
2nd Semester		
Select one of the following: [1]		3-4
102 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl102)		
General Education Elective (p. 49)		
ENG 112	College Composition II	3
Select one of the following: [2, 3]		3
MTH 245	Statistics I (or Higher)	
Transfer Elective (https://catalog.nvcc.edu/programs/liberal-arts-english-major-aa/#transfer)		
Physical or Life Science Elective w/Lab (p. 50)		4
Social/Behavioral Sciences Elective (p. 50) [4]		3
	Credits	**16-17**
3rd Semester		
Select one of the following: [1]		3-4
201 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl201)		
General Education Elective (p. 49)		
CST 110 or CST 100	Introduction to Human Communication or Principles of Public Speaking	3
Humanities/Fine Arts Elective (p. 49) [5]		3
ENG 2XX - Elective (https://catalog.nvcc.edu/programs/liberal-arts-english-major-aa/#eng200)		3
HIS Elective (p. 50)		3
	Credits	**15-16**
4th Semester		
Select one of the following: [1]		3-4
202 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl202)		
General Education Elective (p. 49)		
Select one of the following: [3]		3
EDU 200	Foundations of Education	
Transfer Elective (https://catalog.nvcc.edu/programs/liberal-arts-english-major-aa/#transfer)		
ENG 2XX - Elective (https://catalog.nvcc.edu/programs/liberal-arts-english-major-aa/#eng200)		3
ENG 2XX - Literature Elective (p. 50)		3
Social/Behavioral Sciences Elective (p. 50) [6]		3
	Credits	**15-16**
	Total Credits	**60-64**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 Placement testing determines initial foreign language level. Students who place directly into intermediate level foreign language or ASL may take any General Education course(s) to meet the required number of credits. Waivers or credit by exam for prior experience is available for some languages. See the 'World Language Credit and Waiver' section of the [Credit for Prior Learning Manual]. Students must earn 60 unique and applicable credits to be awarded the Liberal Arts degree.

2 Students who plan to take MTH 245 Statistics I should take MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I first. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.

3 For Transfer Elective, students may choose any course listed under General Education Electives (p. 49) or from the additional courses provided in the Transfer Electives list below.

4 Select a class which is not a History course.

5 Select a class which is not an English literature course.

6 This elective is not needed if selections for all other requirements total 60 credits or more.

Transfer Electives

Code	Title	Credits
Select one of the following:		
General Education Elective (p. 49)		
ART 103	History of Far Eastern Art I	
ART 200	History of Non-Western Art	
CST 229	Intercultural Communication	
HIS 203	History of African Civilizations	
HIS 231	Introduction to Latin American History	
HIS 241	History of Russia I	
HIS 251	History of Middle East Civilization I	
HIS 254	History of Modern East Asian Civilizations	
REL 237	Religions of the East	
REL 238	Religions of the West	

English 2XX Electives

Code	Title	Credits
Students Interested in Literature		
ENG 225	Reading Literature: Culture and Ideas	3
ENG 230	Mystery in Literature & Film	3
ENG 236	Introduction to the Short Story	3
ENG 237	Introduction to Poetry	3
ENG 245	British Literature	3
ENG 246	American Literature	3
ENG 250	Children's Literature	3
ENG 255	World Literature	3
ENG 256	Literature of Science Fiction	3
ENG 257	Mythological Literature	3
ENG 258	African American Literature	3
ENG 271	The Works of Shakespeare I	3
ENG 275	Women in Literature	3
ENG 279	Film And Literature	3
Students Interested in Creative Writing		
ENG 211	Creative Writing I	3
ENG 212	Creative Writing II	3
ENG 215	Creative Writing - Fiction I	3
ENG 261	Advanced Creative Writing I	3
Students Interested in Writing and Rhetoric		
ENG 210	Advanced Composition	3
Students Interested in Linguistics		
ENG 200	Introduction to Linguistics	3
ASL 220	Comparative Linguistics: ASL/English	3

Liberal Arts: International Studies Major, A.A.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 648-04

Purpose

This curriculum is designed to prepare students who intend to transfer to a four-year institution to complete a bachelor's degree in international studies. This major will broaden the student's education and awareness to include emphasis on comparative cultures, international regimes, and the dynamics of complex interdependence.

Transfer Information

Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully to meet requirements of the transfer institution. The responsibility for proper course selection rests with the student.

Two Years

Course	Title	Credits
1st Semester		
Select one of the following: [1]		3-4
101 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl101)		
General Education Elective (p. 49)		
ENG 111	College Composition I	3
Physical or Life Science Elective w/Lab (p. 50)		4
Select one of the following: [2]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**14-15**
2nd Semester		
Select one of the following: [1]		3-4
102 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl102)		
General Education Elective (p. 49)		
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
ENG 112	College Composition II	3
HIS Elective (p. 50)		3
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**15-16**
3rd Semester		
Select one of the following: [1]		3-4
201 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl201)		
General Education Elective (p. 49)		
Select one of the following:		3-4
Physical or Life Science Elective w/Lab (p. 50)		
General Education Elective (p. 49)		
ECO 201	Principles of Macroeconomics	3
Global Understanding (https://catalog.nvcc.edu/programs/liberal-arts-international-studies-major-aa/#gu)		3
PLS 241	Introduction to International Relations	3
	Credits	**15-17**
4th Semester		
Select one of the following: [1]		3-4
202 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl202)		
General Education Elective (p. 49)		
Select one of the following: [2,3]		3
MTH 245	Statistics I	
Transfer Elective		
ECO 202	Principles of Microeconomics	3
ENG 2XX - Literature Elective (p. 50) [4]		3
Global Understanding (https://catalog.nvcc.edu/programs/liberal-arts-international-studies-major-aa/#gu)		3
HUM 298	Seminar And Project	1
	Credits	**16-17**
	Total Credits	**60-65**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 Placement testing determines initial foreign language level. Students who place directly into intermediate level foreign language or ASL may take any General Education course(s) to meet the required number of credits. Waivers or credit by exam for prior experience is available for some languages. See the 'World Language Credit and Waiver' section of the [Credit for Prior Learning Manual]. Students must earn 60 unique and applicable credits to be awarded the Liberal Arts degree.

2 Students who plan to take MTH 245 Statistics I should take MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I first. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245

Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.

3 Select any course listed under General Education Electives (p. 49) or any Global Understanding (p. 113) course. This elective is not needed if selections for all other requirements total 60 credits or more.

4 ENG 225 or higher literature (p. 182) course satisfies this requirement.

Global Understanding

Select one of the following:

Code	Title	Credits
ART 103	History of Far Eastern Art I	3
ART 200	History of Non-Western Art	3
GEO 220	World Regional Geography	3
HIS 203	History of African Civilizations	3
HIS 231	Introduction to Latin American History	3
HIS 241	History of Russia I	3
HIS 251	History of Middle East Civilization I	3
HIS 254	History of Modern East Asian Civilizations	3
REL 237	Religions of the East	3
REL 238	Religions of the West	3

Liberal Arts: Theatre, C.S.C.

Location(s): AL, MA, WO
NOVA Code: 221-529-02

Purpose

This program is designed to meet the needs of individuals seeking to further develop skills in acting, directing, arts management, technical theatre, and theatre scholarship. It extends theatre opportunities outside of the classroom and into community, educational, and professional theatres.

One Year

Course	Title	Credits
1st Semester		
CST 110 or CST 100	Introduction to Human Communication or Principles of Public Speaking	3
CST 130 or CST 141	Introduction to The Theatre or Theatre Appreciation I	3
CST 131	Acting I	3
CST 136	Theatre Workshop	1
	Credits	**10**
2nd Semester		
CST 136	Theatre Workshop	1
CST Elective (https://catalog.nvcc.edu/programs/liberal-arts-theatre-csc/#lacst)		3
CST Elective (https://catalog.nvcc.edu/programs/liberal-arts-theatre-csc/#lacst)		3
	Credits	**7**
	Total Credits	**17**

CST Elective

Code	Title	Credits
CST 111	Voice And Diction I	3
CST 132	Acting II	3
ART 160	Film Production	3
CST 195	Topics In: (Topics in: Playwriting/Screenwriting)	3
CST 195	Topics In: (Topics in: Technical Theatre)	1-5
CST 241	Introduction to Directing I	3
CST 251	Stage Lighting And Sound	3
CST 299	Supervised Study	1-5

Medical Laboratory Technology, A.A.S.

Location(s): MEC
NOVA Code: 1510

Purpose

The curriculum is designed to prepare students to perform essential laboratory testing on blood and body fluids that is critical to the detection, diagnosis, and treatment of disease. In a medical laboratory, the medical laboratory technician (MLT) is part of a team of highly skilled pathologists, technologists, and phlebotomists working together to determine the presence, extent or absence of disease, and helping to evaluate the effectiveness of treatment. This program emphasizes “hands-on” practice of laboratory methods in a state-of-the-art laboratory at the Medical Education Campus in Springfield, followed by clinical experience at various affiliating healthcare organizations.

Upon completion of the program, graduates will be eligible to take the American Society for Clinical Pathology (ASCP) Board of Certification examination and other national certification examinations offered at the technician level.

Credit for Prior Learning

Students in this program who have completed a military laboratory training program and hold Medical Laboratory Technician (MLT) Certification from the American Society for Clinical Pathology (ASCP) Board of Certification (BOC) are eligible for credit for prior learning in the major coursework. See an academic advisor for further information.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but transfer may be an option for certified MLTs. Students interested in transfer should contact an academic advisor early in their program.

Career Opportunities

Employment for medical laboratory technicians is available in hospital laboratories, private laboratories, physicians’ office laboratories, health department laboratories, and industrial medical laboratories.

Special Accreditation Status

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS); 5600 North River Road, Suite 720, Rosemont, Illinois 60018; Phone: 773-714-8880; Fax: 773-714-8886; www.naacls.org (http://www.naacls.org/).

Admission Requirements

Admission to the Medical Laboratory Technology program is competitive. Applicants must do the following:

- Comply with all general admission program requirements.
- View the online Medical Laboratory Technology information session.

- Be eligible for MTH 161 PreCalculus I or higher: See Enrollment and Self-Placement (https://www.nvcc.edu/academics/placement/).
- Complete with a grade of "C" or higher: CHM 111 General Chemistry I or CHM 241 Organic Chemistry I and CHM 242 Organic Chemistry II and must be completed within 10 years at time of application.
- Complete BIO 141 Human Anatomy And Physiology I-BIO 231 Human Anatomy & Physiology I with a "C" or higher and completed within 10 years of application. (Please note: BIO 141 Human Anatomy And Physiology I requires the completion of BIO 101 General Biology I, or NAS 2 Foundations of Life Sciences, or a placement test as noted at the Nursing and Health Sciences Division (https://www.nvcc.edu/academics/divisions/health-sciences/)).
- Complete with a grade of "C" or higher: ENG 111 College Composition I, and SDV 100 College Success Skills or SDV 101 Orientation to: Healthcare.
- Document a GPA of at least 2.0 at the last school attended. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.

Continuation Requirements

All courses (including General Education courses) must be completed with a grade of "C" or better before taking the next course in the sequence and to satisfy graduation requirements.

Two Years

Course	Title	Credits
Prerequisites		
BIO 141	Human Anatomy And Physiology I [1]	4
CHM 111	General Chemistry I [2]	4
ENG 111	College Composition I	3
SDV 101 or SDV 100	Orientation to: (Healthcare) or College Success Skills	1
	Credits	**12**
1st Semester		
BIO 142	Human Anatomy and Physiology II [3]	4
MDL 101	Intro to Med Lab Techniques	3
MDL 125	Clinical Hematology I	3
MDL 140	Clinical Urinalysis	2
MDL 261	Clinical Chem and Instrumentation I	4
	Credits	**16**
2nd Semester		
Select one of the following CST Electives:		3
CST 229	Intercultural Communication	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
MDL 130	Basic Clinical Microbiology	3
MDL 215	Immunology	2
MDL 225	Clinical Hematology II	3
MDL 265	Advanced Clinical Chemistry	2
	Credits	**13**
3rd Semester		
MDL 266	Clinical Chemistry Techniques	3
MDL 276	Clinical Hematology Techniques	3
	Credits	**6**
4th Semester		
MDL 216	Blood Banking	4
MDL 236	Parasitology and Virology	2
MDL 251	Clinical Microbiology I	3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**12**
5th Semester		
MDL 277	Clinical Blood Banking Techniques	4
MDL 278	Clinical Microbiology Techniques II	4
MDL 281	Clinical Correlations	1
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**12**
	Total Credits	**71**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1 May substitute BIO 231 Human Anatomy & Physiology I.
2 May substitute CHM 241 Organic Chemistry I and CHM 242 Organic Chemistry II.
3 May substitute BIO 232 Human Anatomy & Physiology II.

Medical Laboratory Technology: Medical Laboratory Assistant (MLA), C.S.C.

Location(s): MEC
NOVA Code: 221-151-10

Purpose

The program is designed to prepare personnel who collect, process, and perform selected tests on samples for medical laboratory analysis. Medical Laboratory Assistants (MLAs) work in hospitals, medical clinics, and reference laboratories. The curriculum includes learning experiences: on-campus, online, and, in partnership, with affiliated clinical laboratories. Graduates are eligible to sit for the **American Medical Technologists** certification to become certified as a Medical Laboratory Assistant (MLA).

Credit for Prior Learning

Students in this program who have been certified as a phlebotomy technician by the American Society for Clinical Pathology (ASCP) Board of Certification (BOC) are eligible for credit for prior learning in MDL 105 Phlebotomy and MDL 106 Clinical Phlebotomy. See an academic advisor for further information.

Admission Requirements

Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- Attend or view a MLA information session.
- Have a NOVA application on file.
- Hold a high school diploma or GED.
- Have completed or qualify for ENG 111 College Composition I.
- Have minimum 2.0 curricular GPA. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.`

Continuation Requirements

Each course in this program (MDL courses only) must be completed with a grade of "C" or better before taking the next course in the sequence.

One Year

Course	Title	Credits
1st Semester		
MDL 105	Phlebotomy	3
	Credits	**3**
2nd Semester		
ENG 111	College Composition I [1]	3
HLT 141	Introduction to Medical Terminology [2]	1
MDL 100	Intro. to Medical Laboratory Tech.	2
MDL 106	Clinical Phlebotomy	4
MDL 140	Clinical Urinalysis	2
	Credits	**12**
3rd Semester		
CST 229	Intercultural Communication	3
HLT 145	Ethics For Healthcare Personnel	2
MDL 130	Basic Clinical Microbiology	3
MDL 196	On-Site Training	1-5
MDL 260	Laboratory Instrumentation	2
	Credits	**11-15**
	Total Credits	**26-30**

1 May substitute ENG 112 College Composition II or higher.
2 May substitute HIM 111 Medical Terminology.

Medical Laboratory Technology: Phlebotomy, C.S.C.

Location(s): MEC
NOVA Code: 221-151-02

Purpose

The program is designed to prepare personnel who collect and process blood and other samples for medical laboratory analysis. Phlebotomists work in hospitals, medical clinics, commercial laboratories, and in other settings where blood is collected from patients. The curriculum includes learning experiences in both on-campus laboratories and affiliated clinical laboratories. Graduates are eligible to sit for the national examination to become certified as a phlebotomy technician.

Credit for Prior Learning

Students in this program who have been certified as a phlebotomy technician by the American Society for Clinical Pathology (ASCP) Board of Certification (BOC) and/or who have documented extensive experience in phlebotomy are eligible for credit for prior learning in the major clinical course. See an academic advisor for further information.

Admission Requirements

Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- Attend a Phlebotomy information session.
- Have a NOVA application on file.
- Hold a high school diploma or GED.
- Have completed or qualify for ENG 111 College Composition I.
- Have minimum 2.0 curricular GPA. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.

Continuation Requirements

Each course in this program (MDL courses only) must be completed with a grade of "C" or better before taking the next course in the sequence.

One Semester

Course	Title	Credits
1st Semester		
CST 229	Intercultural Communication	3
ENG 111	College Composition I [1]	3
HLT 141	Introduction to Medical Terminology [2]	1
HLT 145	Ethics For Healthcare Personnel	2
MDL 105	Phlebotomy	3
MDL 106	Clinical Phlebotomy	4
	Credits	**16**
	Total Credits	**16**

1 May substitute ENG 112 College Composition II or higher.
2 May substitute HIM 111 Medical Terminology.

Music Recording Technology, Certificate

Location(s): LO
NOVA Code: 5570

Purpose

This curriculum is designed for individuals who wish to set up their own studio or seek employment as music recording technicians. Occupational objectives include development for positions as assistants and aides in recording studios, broadcast studios, myriad other recording enterprises, and countless private studios in the recording industry. Training in digital audio is emphasized using industry standard software.

Recommended Preparation

A personal interview with a program faculty member.

One Year

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
MUS 130	Overview of The Recording Industry	1
MUS 140	Introduction to Recording Techniques	3
MUS 157	Sound Studio Design	3
MUS 158	Recording Studio Electronics	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**17**

2nd Semester		
BUS 165	Small Business Management	3
Select one of the following CST Electives:		3
CST 110	Introduction to Human Communication	
CST 115	Small Group Communication	
CST 126	Interpersonal Communication	
CST 227	Business and Professional Communication	
CST 229	Intercultural Communication	
MUS 179	Music Copyright Law	1
MUS 227	Editing And Mixdown Techniques	3
MUS 235	Advanced Recording Techniques	3
MUS 288	Recording Problems Seminar	2
	Credits	**15**
3rd Semester		
MUS 290	Coordinated Internship	3
	Credits	**3**
	Total Credits	**35**

Music, A.F.A.

Location(s): AL, AN, LO
NOVA Code: 560

Purpose

This program is designed to provide students with the foundational knowledge and skills to make them competitive for admission and transfer to a four-year college or university to pursue a baccalaureate degree in Music. As part of the curriculum, students will study and receive training in performance on a major instrument or voice and take courses that cover topics such as musicianship skills and analysis, music composition and improvisation, and music history and repertory.

Entering students should possess a basic understanding of reading sheet music notation, as determined prior to enrollment in Music Theory I through a content review examination. Students who pursue the Music major must successfully complete a number of performances to meet program learning objectives. During the second semester of the first year, students will perform two musical selections of contrasting style (applied instruction jury). In the second year as students near graduation, they must successfully perform in a recital (capstone recital). Applied Music courses will require additional fees/studio charges.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
MUS 111	Music Theory I [1]	4
MUS 141	Class Piano I	2
Music Ensemble Elective (https://catalog.nvcc.edu/programs/music-afa/#muen)		1
MUS 2XX Advanced Applied Instruction on Major Instrument (https://catalog.nvcc.edu/programs/music-afa/#mu2)		2
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
ENG 112	College Composition II	3
MUS 112	Music Theory II	4
MUS 142	Class Piano II	2
Music Ensemble Elective (https://catalog.nvcc.edu/programs/music-afa/#muen)		1
MUS 2XX Advanced Applied Instruction on Major Instrument (https://catalog.nvcc.edu/programs/music-afa/#mu2)		2
Physical or Life Science Elective w/Lab (p. 50)		4
	Credits	**16**
3rd Semester		
MUS 211	Advanced Music Theory I	4
MUS 221	History of Western Music pre-1750	3
MUS 241	Advanced Class Piano I	2
Music Ensemble Elective (https://catalog.nvcc.edu/programs/music-afa/#muen)		1
MUS 2XX Advanced Applied Instruction on Major Instrument (https://catalog.nvcc.edu/programs/music-afa/#mu2)		2
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**15**
4th Semester		
Select one of the following ENG 2 Literature Electives:		3
ENG 225	Reading Literature: Culture and Ideas	
ENG 245	British Literature	
ENG 246	American Literature	
ENG 250	Children's Literature	
ENG 255	World Literature	
ENG 258	African American Literature	
ENG 275	Women in Literature	
MUS 212	Advanced Music Theory II	4
MUS 222	History of Western Music 1750 to Present	3
MUS 242	Advanced Class Piano II	2
Music Ensemble Elective (https://catalog.nvcc.edu/programs/music-afa/#muen)		1
MUS 2XX Advanced Applied Instruction on Major Instrument (https://catalog.nvcc.edu/programs/music-afa/#mu2)		2
MUS 276	Portfolio and Career Preparation for Performing Arts	1
	Credits	**16**
	Total Credits	**63**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] Music Theory students are required to have a fundamental comprehension of sheet music notation. A content review exam will be administered during the first week of MUS 111 Music Theory I. Those who are not prepared for MUS 111 Music Theory I are recommended to take MUS 101 Fundamentals of Music. NOVA offers the MUS 111 ABLE Exam for students with prior experience in music theory, ear training, and musicianship who wish to test out of the course and earn credit (see the Credit for Prior Learning Manual (https://www.nvcc.edu/admissions/cpl.html) for details).

MUS Ensemble

Code	Title	Credits
MUS 135	Jazz Ensemble	1
MUS 137	Chorus	1
MUS 138	Small Vocal Ensemble	1
MUS 143	Chamber Ensemble	1
MUS 144	Jazz Chamber Ensemble	1
MUS 148	Orchestra	1
MUS 149	Band Ensemble	1

MUS 2XX Advanced Applied Instruction on Major Instrument

Code	Title	Credits
MUS 136	Applied Music-Voice	1
MUS 145	Applied Music - Keyboard	1
MUS 147	Applied Music Composition	1
MUS 155	Applied Music - Woodwinds	1
MUS 165	Applied Music - Strings	1
MUS 175	Applied Music - Brass	1
MUS 185	Applied Music - Percussion	1
MUS 236	Advanced Applied Music - Voice	2
MUS 243	Advanced Applied Music Composition	2
MUS 245	Advanced Applied Music - Keyboard	2
MUS 255	Advanced Applied Music - Woodwinds	2
MUS 265	Advanced Applied Music - Strings	2
MUS 275	Advanced Applied Music - Brass	2
MUS 285	Advanced Applied Music - Percussion	2

Nursing, A.A.S.

Location(s): MEC
NOVA Code: 1560

Purpose

The program is designed to prepare students to participate as contributing members of the healthcare team, rendering direct care to patients in a variety of healthcare facilities and agencies. Upon satisfactory completion of the program, students will be eligible to apply to take the National Council Licensure Examination (NCLEX-RN®) leading to state licensure as a registered nurse (RN) and are qualified to assume registered nurse positions in hospitals, nursing homes, clinics, physicians' offices, HMOs, and other community-based settings.

NOVA has adopted the VCCS Common Nursing Curriculum which was fully approved by VBON and ACEN in Spring of 2017. The nursing program is a 5-semester program: first semester students take the pre-requisite course work to prepare the student for applying to the program and for the study of the nursing courses. Then there are 4 semesters of nursing course work (LEVELS 1-4).

Information about the nursing program and the application process can be found online (https://www.nvcc.edu/academics/divisions/nursing/). Admission to the Nursing program is competitive.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program; however, NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Special Program Requirements

Once enrolled in the Nursing program all students must maintain a grade of "C" (80% or higher) in all nursing courses to continue in the program. This includes lecture, nursing lab and clinical components. In addition, students must achieve a "C" or higher in all general education courses.

Accreditation & Approval Status

The NOVA Nursing Curriculum is fully approved by the Virginia Board of Nursing (VBON) Perimeter Center, 9960 Mayland Drive, Suite 300, Henrico, Virginia 23233 and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3390 Peachtree Road, NE, Suite 1400, Atlanta, Georgia, 30326. Telephone 404-975-5000. View NCLEX-RN pass rates for the last five years go to online.

Licensure Requirements

The Virginia Board of Nursing reserves the right to deny licensure to any candidate who has been found guilty of a misdemeanor or felony.

Credit for Prior Learning (CPL)

Students who hold a current unrestricted Licensed Practical Nurse (LPN) license in VA complete NSG 115 Healthcare Concepts for Transition are eligible to receive credit for prior learning for the following courses: NSG 106 Competencies for Nursing Practice, NSG 130 Professional Nursing Concepts, NSG 152 Health Care Participant, and NSG 170 Health/Illness Concepts. These students must complete the prerequisites (BIO 141 Human Anatomy And Physiology I, ENG 111 College Composition I, PSY 230 Developmental Psychology, SDV 101 Orientation to: prior to applying to the A.A.S. Nursing Program and must complete BIO 142 Human Anatomy and Physiology II as a prerequisite to NSG 115 Healthcare Concepts for Transition. Credit for prior learning will be applied to students' academic records after successful completion of NSG 230 Advanced Professional Nursing Concepts, NSG 252 Complex Health Care Concepts, and NSG 270 Nursing Capstone.

Readmission

Students who leave the Nursing program and wish to be re-admitted must meet the current Catalog's requirements for admission. Any developmental studies that were prescribed at the time the student left the program must have been satisfactorily completed. Students wishing to be readmitted to NOVA's nursing program will be required to seek approval of the Dean or their designee. Readmission is competitive and based on space availability.

Transfer from Other Institutions

Nursing credits earned at other institutions are reviewed by the Dean or their designee to determine if the courses in question apply to the curriculum and/or if substitutions may be made within the curriculum. Students who transfer to NOVA with prior nursing courses may be required to demonstrate skills competencies.

Nursing Program (Common Curriculum Program)

Classes are taken on campus and via a combination of synchronous (live) and asynchronous (anytime) online activities including in-person nursing laboratory and clinical practice. Nursing courses must be taken in the order outlined below.

Admission Requirements

- Be admitted to NOVA.
- Be 18 years of age or older.
- Comply with all general admission requirements for Allied Health and Nursing Programs listed for the Medical Education programs section.
- Complete an online Nursing information session.

- Meet the specific requirements for admission to the Nursing Program. The program admission process is competitive. To be considered for admission, applicants must
  - Hold a high school diploma or General Educational Development Test certification (GED®).
  - Have completed one unit of high school-level algebra and two units of science (1 unit of biology and 1 unit of chemistry) with a grade of "C" or higher.
  - Qualify for MTH 154 Quantitative Reasoning through acceptable scores on the College math placement test. This requirement must be met prior to the student sitting for the Nursing Pre-Admission Test.
  - Complete PSY 230 Developmental Psychology with a "C" or higher.
  - Complete BIO 141 Human Anatomy And Physiology I with a "C" or higher.
  - Complete ENG 111 College Composition I with a grade of "C" or higher.
  - Complete SDV 101 Orientation to: Healthcare or SDV elective with a grade of "C" or higher. (grades for these courses must be posted prior to applying)
  - Have minimum 2.5 cumulative GPA.
- Successfully complete and achieve satisfactory scores on the Nursing Pre-Admission Test. Students must take all 4 sections of the ATI-TEAS tests®: Reading, Math, Science and English. See the Nursing Division website (https://www.nvcc.edu/academics/divisions/health-sciences/nursing/) for score requirements.
- Successfully complete the American Heart Association Healthcare Provider CPR course prior to registering for the first nursing course.
- Submit a completed health examination/physical form signed by a licensed physician or nurse practitioner with all required immunizations prior to beginning the Nursing Program.

Special Program Requirements

Once enrolled in the Nursing program all students must maintain a grade of "C" (80% or higher) in all nursing courses to continue in the program. This includes lecture, nursing lab and clinical components. In addition, students must achieve a "C" or higher in all general education courses.

Special Notation for Admission

The state of Virginia may prohibit anyone from sitting for the Nursing Licensing Examination who has been convicted of a felony or of crimes(s) involving theft, drug offenses or physical harm to another, or misdemeanors as designated by VBON, therefore NOVA will not consider persons convicted of the above offenses for admission to the NOVA Nursing program.

Two Years

Course	Title	Credits
Prerequisites		
BIO 141	Human Anatomy And Physiology I [1]	4
ENG 111	College Composition I	3
Open Elective		3
PSY 230	Developmental Psychology	3
SDV 101	Orientation to:	1
	Credits	**14**
1st Semester		
BIO 142	Human Anatomy and Physiology II [1]	4
NSG 100	Introduction to Nursing Concepts	4
NSG 106	Competencies for Nursing Practice	2
NSG 130	Professional Nursing Concepts	1
NSG 200	Health Promotion And Assessment	3
	Credits	**14**
2nd Semester		
BIO 150	Microbiology for Health Sciences	4
NSG 152	Health Care Participant	3
NSG 170	Health/Illness Concepts	6
	Credits	**13**
3rd Semester		
Select one of the following CST Electives:		3
CST 110	Introduction to Human Communication	
CST 115	Small Group Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
NSG 210	Health Care Concepts I	5
NSG 211	Health Care Concepts II	5
	Credits	**13**
4th Semester		
NSG 230	Advanced Professional Nursing Concepts	2
NSG 252	Complex Health Care Concepts	4
NSG 270	Nursing Capstone	4
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**13**
	Total Credits	**67**

[1] Students may use one of the following course sequences to meet the BIO 141 Human Anatomy And Physiology I/BIO 142 Human Anatomy and Physiology II/BIO 150 Microbiology for Health Sciences requirement: BIO 141 Human Anatomy And Physiology I, BIO 142 Human Anatomy and Physiology II, and BIO 205 General Microbiology, or BIO 231 Human Anatomy & Physiology I, BIO 232 Human Anatomy & Physiology II, and BIO 150 Microbiology for Health Sciences, or BIO 231 Human Anatomy & Physiology I, BIO 232 Human Anatomy & Physiology II, and BIO 205 General Microbiology.

Occupational Therapy Assistant, A.A.S.

Location(s): MEC
NOVA Code: 1260

Purpose

The program is designed to provide students with the philosophical, theoretical, and clinical knowledge necessary to provide quality occupational therapy. This curriculum is designed to prepare students to assist and collaborate with occupational therapists in providing occupational therapy treatments and procedures. Students will participate in classroom and fieldwork experiences in this program. Upon successful completion of the program, graduates must take and pass a national board exam and complete the licensing process in order to begin a career as an Occupational Therapy Assistant. Graduates may, in accordance with state laws, assist in development of treatment plans; carry out routine functions, direct activity programs, and document the progress of treatments.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Transfer Placement

OTA credits earned at other institutions will be reviewed by the program director of the OTA program to determine if any course substitutions may be warranted within the curriculum. Students wishing to transfer into the NOVA OTA program will be required to satisfactorily complete a skill competency assessment before being accepted into the OTA program. Transfer students must additionally be in good academic standing and must provide a written reference from the program director of the previous institution as well as from a clinical educator as applicable. All transfer students must meet all of the OTA program application and admission requirements before being considered in the competitive admissions process.

Special Accreditation Status

The Occupational Therapy Assistant Program at Northern Virginia Community College is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE®) of the American Occupational Therapy Association (AOTA), located at 7501 Wisconsin Ave, Suite 510E, Bethesda, MD 20814. ACOTE's telephone number c/o AOTA is 301-652-6611. ACOTE can be found online at www.acoteonline.org (http://www.acoteonline.org/). Upon graduation, students will be eligible to sit for the national certification examination for the occupational therapy assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this exam, the individual will be a Certified Occupational Therapy Assistant (COTA). In addition, all states require licensure in order to practice and one component of licensure generally includes the results of the NBCOT Certification Examination. Note that a felony conviction could affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

Admission Requirements

Applicants must do the following:

- Comply with all general admission requirements for Health Science Programs.
- Attend an in-person or virtual Occupational Therapy Assistant information session (https://www.nvcc.edu/academics/programs/occupational-therapy-assistant/) within one year of application.
- Be a high school graduate or have obtained a GED.
- Complete ENG 111 College Composition I, HLT 141 Introduction to Medical Terminology, and SDV 100 College Success Skills or SDV 101 Orientation to: Healthcare with a "C" or higher.
- Complete BIO 145 Basic Human Anatomy & Physiology or BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II with a "C" or higher (Please note: BIO 141 Human Anatomy And Physiology I requires the completion of BIO 101 General Biology I, or NAS 2 Foundations of Life Sciences or a placement test within 10 years at time of application).
- BIO 145 Basic Human Anatomy & Physiology or BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II must be completed within 10 years at time of application.
- Complete or self-place (https://www.nvcc.edu/admissions/direct-enrollment.html) into MTH 154 Quantitative Reasoning or higher. (MTH 155 Statistical Reasoning may be substituted for MTH 154 Quantitative Reasoning. Please contact a faculty or academic advisor to request a course substitution.)
- Maintain a curricular GPA of 2.5 or higher at the last school or college attended (with a minimum of 13 credits). For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.
- Assure that all previous transcripts are accounted for and are on file at NOVA prior to the program application deadline date. These transfer credits must be evaluated before any transfer credit is granted. Application acceptance dates will be posted on the website once established. Admission will be on a competitive placement basis of fully qualified candidates. Students will also receive special consideration if they have documented work experience as a rehabilitation technician or an OT aide.
- Students are notified in writing of acceptance into the program following the timely submission of a completed application. Once accepted, students must have current CPR certification; must complete a basic first aid course, a documented medical examination, criminal background check, and a 12-panel drug screen; and must maintain a 2.5 GPA or higher to remain in good standing.

Highly qualified students can apply during the next application period. In the meantime, students interested in the OTA program must attend a face-to-face or virtual information session (https://www.nvcc.edu/academics/programs/occupational-therapy-assistant/). Follow the steps in preparation for competitive placement into the OTA program. Competitive eligibility for the OTA program does not guarantee admission.

Continuation Requirements

Students must comply with all continuation requirements for Health Sciences and Occupational Therapy Assistant students. All courses (including General Education courses) must be completed with a grade of "C" or better before taking the next course in the sequence and to satisfy graduation requirements.

Two Years

Course	Title	Credits
Prerequisites		
BIO 145 or BIO 141 ***and*** BIO 142	Basic Human Anatomy & Physiology or Human Anatomy And Physiology I ***and*** Human Anatomy and Physiology II	4-8
ENG 111	College Composition I	3
HLT 141	Introduction to Medical Terminology	1
SDV 101 or SDV 100	Orientation to: (Healthcare) or College Success Skills	1
	Credits	**9-13**
1st Semester		
OCT 100	Introduction to Occupational Therapy	3
OCT 205	Therapeutic Media	2
OCT 206	Dyadic and Group Dynamics	3
OCT 225	Neurological Concepts for Occupational Therapy Assistants	4
PSY 200	Principles of Psychology	3
	Credits	**15**

2nd Semester		
OCT 190	Coordinated Internship (Pediatrics)	1
OCT 203	Occupational Therapy with Developmental Disabilities	4
OCT 207	Therapeutic Skills	3
PSY 215	Psychopathology	3
PSY 230	Developmental Psychology	3
	Credits	**14**
3rd Semester		
OCT 190	Coordinated Internship (Psychosocial Dysfunction)	1
OCT 195	Topics in: (Evidence Based Practice in Occupational Therapy)	1
OCT 201	Occupational Therapy with Psychosocial Dysfunction	3
	Credits	**5**
4th Semester		
OCT 190	Coordinated Internship (Physical Dysfunction)	1
OCT 202	Occupational Therapy with Physical Disabilities	4
OCT 208	Occupational Therapy Service Management	3
OCT 210	Assistive Technology in Occupational Therapy	2
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**13**
5th Semester		
OCT 290	Coordinated Internship (in OT)	4
OCT 290	Coordinated Internship (in OT)	4
OCT 295	Topics in: (Trends in Professional Issues in Occupational Therapy Practice)	1
	Credits	**9**
	Total Credits	**65-69**

Paralegal Studies, A.A.S.

Location(s): AL
NOVA Code: 2600

Purpose

The curriculum is designed to provide an individual with a sufficient level of knowledge, understanding, and proficiency to perform the tasks associated with meeting a client's needs. These tasks can be performed by a trained, non-lawyer assistant working under the direction and supervision of a lawyer. A paralegal or legal assistant will have a basic understanding of the general processes of American law, along with the knowledge and proficiency required to perform specific tasks under the supervision of a lawyer in the fields of civil and criminal law. Occupational objectives include employment in corporate law firms, government agencies, and any of the varied law-related fields. Paralegals or legal assistants are prohibited by law from offering legal services directly to members of the public.

Advising Note

It is strongly recommended that students meet with an advisor before enrolling in classes or as early as possible in their first semester of enrollment.

Completion Requirements

To remain in the program, students must complete each of the legal specialty (LGL) courses in the program with a "C" or higher. Students must complete LGL 110 Introduction to Law And The Paralegal Assistant during their first semester of enrollment and complete the other legal specialty (LGL) courses in the order outlined. Course substitutions are made on a case-by-case basis. In all cases, the grade for substituted courses must be a "C" or higher.

Special Approval Status

The Paralegal Studies Program is approved by the American Bar Association.

Transfer from Other Institutions

Students must complete 25 percent (17 credits) of their coursework at NOVA. Program guidelines require that at least 50 percent of legal specialty (LGL) credits be completed at NOVA. In addition, ABA guidelines require that at least 9 of those credits be taken in traditional (face-to-face) or synchronous remote (Zoom) format. The Paralegal Studies Program accepts the transfer of legal specialty courses completed at other institutions as long as those institutions are regionally accredited and the program director determines that the course objectives and practical skills are comparable to the courses offered in NOVA's Paralegal Studies Program. In all cases, the grade for transfer courses must be a "C" or higher.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
LGL 110	Introduction to Law And The Paralegal	3
LGL 117	Family Law	3
LGL 125	Legal Research	3
PHI 111	Logic [1]	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
ENG 112	College Composition II	3
LGL 126	Legal Writing	3
LGL 215	Torts	3
LGL 218	Criminal Law	3
Select one of the following: [2]		3-4
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
Physical or Life Science Elective w/Lab (p. 50)		
	Credits	**15-16**
3rd Semester		
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
LGL 115	Real Estate Law	3
LGL 217	Trial Practice & Law of Evidence	3
LGL 235	Legal Aspects of Bus. Organizations	3
PSY 200 or SOC 200	Principles of Psychology or Introduction to Sociology	3
	Credits	**15**
4th Semester		
Select one of the following Approved Electives: [3]		3
LGL 250	Immigration Law	
LGL 295	Topics in (Constitutional Law)	
LGL 298	Seminar And Project (Capstone in Paralegal Studies)	
LGL 290	Coordinated Internship	
CST 110	Introduction to Human Communication	3
LGL 225	Estate Planning & Probate	3
LGL 230	Legal Transactions	3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**15**
	Total Credits	**61-62**

[1] May substitute with a humanities/fine arts courses listed under General Education Electives (p. 49).
[2] May substitute any higher-level mathematics course or a science course (BIO, CHM, ENV, GOL, NAS, PHY).
[3] Students may also consider the following non-program electives: ADJ 105 The Juvenile Justice System or ITN 267 Legal Topics in Network Security.

Personal Training, C.S.C.

Location(s): AL, AN, LO, MA, WO
NOVA Code: 221-460-01

Purpose

This program is based on the standards of the American Council on Exercise (ACE) and prepares students to become knowledgeable fitness professionals in health clubs, recreation departments, and fitness facilities in private, commercial, corporate, or government settings. Emphasis is placed on preparing students to sit for a nationally recognized certification exam in Personal Training.

Recommended Preparation

Students are expected to attain high levels of fitness during this program and, consequently, should be in good health to participate in vigorous workouts.

Special Admission Information

No classes will be waived without permission of a Personal Training advisor.

Completion Requirements

The following must be met to obtain the Personal Training Studies Certificate:

- Achieve a grade of "C" or better in all certificate courses
- Hold a current CPR certification

One Year

Course	Title	Credits
1st Semester		
HLT 105	Cardiopulmonary Resuscitation [1]	1
Select one of the following CST Electives:		3
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
PED 111	Weight Training I	1
PED 116 or HLT 110	Lifetime Fitness And Wellness [2] or Personal and Community Health	2-3
Select one of the following BUS, FIN, or MKT Electives:		3
BUS 100	Introduction to Business	
BUS 116	Entrepreneurship	
BUS 165	Small Business Management	
BUS 201	Organizational Behavior	
FIN 107	Personal Finance	
MKT 215	Sales and Marketing Management	
BIO 141	Human Anatomy And Physiology I [3]	4
	Credits	**14-15**
2nd Semester		
Select one of the following Approved PED Electives:		1
PED 103	Aerobic Fitness I	
PED 107	Exercise/Nutrition	
PED 109	Yoga	
HLT 206	Introduction to Kinesiology	3
DIT 121 or HLT 230	Nutrition I or Principles of Nutrition	3
PED 168	Basic Personal Trainer Preparation	3
PED 220	Adult Health And Development [4]	2-3
	Credits	**12-13**
	Total Credits	**26-28**

[1] HLT 105 Cardiopulmonary Resuscitation requirement may be met with proof of current certification in CPR through a recognized organization such as the American Heart Association or the American Red Cross.
[2] HLT 110 Personal and Community Health is recommended for transfer to George Mason University.
[3] BIO 142 Human Anatomy and Physiology II is recommended in addition to BIO 141 Human Anatomy And Physiology I for transfer into a 4-year program and for students interested in a more thorough understanding of the systems of the human body.
[4] PED 190 Coordinated Internship Coordinated Internship (2-3 cr.) may be substituted with approval of a Personal Training advisor.

Photography and Media, A.A.S.

Location(s): AL, WO
NOVA Code: 5020

Purpose

The curriculum is designed to prepare students for diverse career options within the field of professional photography and imaging. Students will learn to solve a wide range of visual problems with imagination and originality through the study of technique, history, theory, and aesthetics.

Recommended Preparation

Proficiency in high school English, basic computer skills, and satisfactory aptitude in visual art.

Equipment and Supplies

Photography students are required to purchase certain basic equipment and materials necessary to achieve professionally oriented objectives. Most of the equipment is purchased in the first photography class and can be used throughout the two-year program.

Two Years

Course	Title	Credits
1st Semester		
ART 121 or ART 131	Foundations of Drawing or Two-Dimensional Design	3
ENG 111	College Composition I	3
CST 110	Introduction to Human Communication	3
PHT 101	Photography I	3
PHT 110	History of Photography	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
Select one of the following:		3

ART 101	History of Art: Prehistoric to Gothic	
Humanities/Fine Arts Elective (p. 122)		
PHT 102	Photography II	3
PHT 130	Video I	3
PHT 270	Digital Imaging I	3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**15**
3rd Semester		
PHT 201	Advanced Photography I	3
PHT 221	Studio Lighting I	3
PHT Elective (p. 122)		3
Select one of the following:		3-4
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
Physical or Life Science Elective w/Lab (p. 50)		
Select one of the following:		3
Humanities/Fine Arts Elective (p. 122)		
ART Elective (p. 122)		
PHT Elective (p. 122)		
	Credits	**15-16**
4th Semester		
PHT Elective (p. 122)		6
PHT 202	Advanced Photography II	3
PHT 227 or PHT 228	Careers in Photography and Media or Professional Practices for Photographers	3
Humanities/Fine Arts Elective (p. 49) [1]		3
	Credits	**15**
	Total Credits	**61-62**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] Select a class which is not an Art course.

Approved Humanity/Fine Arts Electives

Code	Title	Credits
ART 102	History of Art: Renaissance to Modern	3
ART 215	History of Modern Art	3
ART 150	History of Film & Animation	3
ART 250	History of Design	3
or division approval for other humanities/fine arts courses listed under General Education Electives		

Approved ART Electives

Code	Title	Credits
ART 116	Design For The Web I	3
ART 121	Foundations of Drawing	3
ART 130	Introduction to Multimedia	3
ART 131	Two-Dimensional Design	3
ART 140	Introduction to Graphic Skills	3
ART 153	Ceramics Handbuilding I	3
ART 223	Life Drawing	3
or division approval for other ART courses		

Approved PHT Electives

Code	Title	Credits
PHT 103	Black and White Darkroom Photography I	3
PHT 104	Black and White Darkroom Photography II	3
PHT 106	Visual Literacy: The Photographic Image	3
PHT 131	Video II	3
PHT 206	Large Format Photography	3
PHT 211	Color Photography I	3
PHT 222	Studio Lighting II	3
PHT 231	Photojournalism I	3
PHT 235	Documentary Photography	3
PHT 247	Alternative Photographic Processes	3
PHT 249	Night and Low Light Photography	3
PHT 271	Digital Imaging II	3
PHT 274	Digital Film Editing and Post Production	3

Physical Therapist Assistant, A.A.S.

Location(s): MEC
NOVA Code: 1800

Purpose

The program is designed to prepare students to utilize exercise, specialty equipment, and other treatment procedures to prevent, identify, correct, and alleviate movement dysfunction. The program design provides students with the philosophical, theoretical, and clinical knowledge necessary to deliver high-quality patient care. Ultimately, students are prepared as skilled technical healthcare providers who work under the direction and supervision of a physical therapist to provide selected components of physical therapy treatments. Upon successful completion of the program, students must take and pass a licensing examination to begin their career as a physical therapist assistant (PTA). Students are prepared for employment in a variety of healthcare settings, including acute care hospitals, outpatient clinics, extended care facilities, rehabilitation centers, contract agencies, and schools.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Special Accreditation Status

The Physical Therapist Assistant program at Northern Virginia Community College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 3030 Potomac Ave., Suite 100, Alexandria, Virginia; 22305-3085 telephone: 703-706-3245; email: accreditation@apta.org; website: www.capteonline.org (http://www.capteonline.org). If needing further information regarding the PTA program at NOVA please go to the program webpage at https://www.nvcc.edu/academics/programs/physical-therapist-assistant.html.

Program Application Requirements

Completion of the above steps constitutes a completed PTA program application. Completed PTA program applications will be accepted electronically to the Medical Education Student Services Center from

March 1 through March 15 for the following semester. Students are notified in writing of acceptance into the program following submission of a completed application.

Professional Standards Requirements

Students are expected to consistently demonstrate professional behavior in the classroom, laboratory, and during clinical affiliations. Professional behavior must be consistent with the APTA Standards of Ethical Conduct for the Physical Therapist Assistant and the Professional Abilities outlined in the *PTA Program Handbook*. Behavior inconsistent with the Standards of Ethical Conduct for the Physical Therapist Assistant and/or the Professional Abilities will result in dismissal from the program.

Additional Requirements

In addition to the admission requirements for Health Sciences Programs, upon acceptance students must complete a basic first aid course and a CPR for Health Providers course prior to admission into the Physical Therapist Assistant Program.

Transfer Placement

PTA credits earned at another CAPTE accredited PTA program in the last 12 months are reviewed by the program director to determine if any course substitutions may be made within the curriculum. Students who wish to transfer to Nova's PTA program will be required to satisfactorily complete a skill competency assessment prior to acceptance into the program. Transfer students must be in good academic standing and provide a written reference from the director of their program as well as a clinical instructor. Transfer students must meet all PTA program application and admission requirements.

Laboratory Examination Requirements

Each student must achieve a minimum passing score of 75% on each laboratory practical exam. In the event that a lab practical is failed, a maximum of one reexamination, per examination, will be permitted. A student who does not achieve a 75% or greater on the second attempt will fail the class and be administratively withdrawn from the program.

Continuation Requirements

All courses (including General Education courses) must be completed with a grade of "C" or better before taking the next course in the sequence and to satisfy graduation requirements.

Re Enrollment

1. Students in good standing may be permitted to re enroll in the PTA curriculum on a space-available basis, with permission of the program director.
2. Students who leave the program for no more than a fall and a spring semester for personal, medical or academic reasons are required to demonstrate proficiency in all previously enrolled skills courses prior to reentering the program. "Practical exams" are administered and scheduled by the program faculty. A written exam will be required.
3. Students who leave the program for any period of time for medical reasons are required to submit evidence of good physical and mental health, as substantiated by a newly completed Pre-Admission Health History and Physical for NOVA Health Sciences Programs Form (125-007) signed by the primary physician responsible for their healthcare. Students must be able to continue to meet the Technical Standards for the PTA.

Admission Requirements

Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- Attend a Physical Therapist Assistant information session (https://www.nvcc.edu/academics/programs/physical-therapist-assistant.html). Call the program office at 703-822-6570 for scheduled dates.
- Have completed BIO 145 Basic Human Anatomy & Physiology or BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II with a grade of "B" or higher "and must be completed within 10 years at time of application.
- Have completed HLT 141 Introduction to Medical Terminology with a grade of "B" or higher.
- Have a minimum 2.5 curricular GPA. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.
- Be 18 years of age.
- Complete ENG 111 College Composition I or higher with a grade of "B" or higher.
- Complete or self-place (https://www.nvcc.edu/admissions/direct-enrollment.html) into MTH 154 Quantitative Reasoning. (MTH 155 Statistical Reasoning may be substituted for MTH 154 Quantitative Reasoning). Please contact a faculty or academic advisor to request a course substitute.
- Successfully complete and achieve satisfactory scores on the TEAS (https://www.nvcc.edu/academics/divisions/health-sciences/teas-test.html) (Test of Essential Academic Skills) test. Students may only take the test three times per year. The latest result must be within three years of application to the PTA Program.
- Submit the NOVA PTA Program Clinic Observation Form (https://www.nvcc.edu/dist/files/sites/academics/programs/pta/PTA%20Verification%20of%20Clinic%20Observation%20Hours%20Form.pdf) documenting the minimum requirement of 4 hours of observation in a PT clinic.

Two Years

Course	Title	Credits
Prerequisites		
ENG 111	College Composition I	3
HLT 141	Introduction to Medical Terminology	1
BIO 145 or BIO 141 ***and*** BIO 142	Basic Human Anatomy & Physiology or Human Anatomy And Physiology I ***and*** Human Anatomy and Physiology II	4-8
	Credits	**8-12**
1st Semester		
PTH 105	Intro. to Physical Therapy	3
PTH 121	Therapeutic Procedures I	5
PTH 151	Musculoskeletal Struct./Function	5
SDV 101 or SDV 100	Orientation to: (Healthcare) or College Success Skills	1
	Credits	**14**
2nd Semester		
PSY 200	Principles of Psychology	3
PTH 115	Kinesiology For The Physical Therapi	5
PTH 122	Therapeutic Procedures II	5
	Credits	**13**

3rd Semester		
PTH 131	Clinical Education I	3
MTH 154	Quantitative Reasoning (or Higher) [1]	3
	Credits	**6**
4th Semester		
PTH 225	Rehabilitation Procedures	5
PTH 231	Clinical Education II	5
Humanities/Fine Arts Elective (p. 49)		3
	Credits	**13**
5th Semester		
PTH 210	Psychological Aspects of Therapy	2
PTH 227	Pathological Conditions	3
PTH 232	Clinical Education III	5
PTH 245	Professional Issues	3
	Credits	**13**
	Total Credits	**67-71**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] Select from any MTH course 154 (p. 208) or above.

Psychology, A.S.

Location(s): AL, AN, LO, MA, WO
NOVA Code: 6520

Purpose

This curriculum is designed for students who plan to transfer to a college or university for a BS or B.A. degree in psychology.

Transfer Information

Since four-year colleges and universities vary in their course and GPA requirements, students are advised to work closely with their faculty advisors and counseling staff to choose classes. Electives should be chosen carefully to meet the requirements of transfer institutions. The responsibility for proper course selections rests with the student. The program is designed to transfer especially well to George Mason University.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
HIS Elective (p. 50) [1]		3
Select one of the following: [2]		3
MTH 154	Quantitative Reasoning	
MTH 161	PreCalculus I (or Higher)	
PSY 200	Principles of Psychology	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**13**
2nd Semester		
CST 110	Introduction to Human Communication [3]	3
ENG 112	College Composition II	3
Humanities/Fine Arts Elective (p. 49) [4]		3
MTH 245	Statistics I (or Higher) [2]	3
PSY 2XX Elective (p. 226) [5]		3
	Credits	**15**
3rd Semester		
BIO 101	General Biology I	4
ENG 2XX - Literature Elective (p. 50) [6]		3
PSY 210	Statistics for Behavioral Sciences	4
PSY 2XX Elective (p. 226) [5]		3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**17**
4th Semester		
BIO 102	General Biology II	4
PSY 211	Research Methodology/Behavioral Sci.	4
PSY 2XX Elective (p. 226) [5]		3
General Education Elective (p. 49)		3
Select one of the following:		3
General Education Elective (p. 49)		
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	
	Credits	**17**
	Total Credits	**62**

Electives should be selected with advice of a counselor or academic advisor to meet requirements of the transfer institution.

[1] HIS 101 Western Civilizations Pre-1600 CE HIS 102 Western Civilizations Post-1600 CE or HIS 112 World Civilizations Post-1500 CE are recommended.

[2] MTH 155 Statistical Reasoning is not available for credit since MTH 245 Statistics I is a required course for this degree program, as credit will not be awarded for both courses. Credit will not be awarded for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.

[3] CST 100 Principles of Public Speaking CST 126 Interpersonal Communication or CST 229 Intercultural Communication may be substituted.

[4] Select a class which is not an English Literature course.

[5] Choose any 200-level psychology course (p. 226) to fulfill this requirement.

[6] ENG 225 or higher literature course (p. 182) satisfies this requirement.

Public History and Historic Preservation, C.S.C.

Location(s): LO
NOVA Code: 221-648-03

Purpose

This curriculum is designed for students seeking a solid foundation in the theories, methods, and skills in the complementary fields of public history and historic preservation.

One Year

Course	Title	Credits
1st Semester		
HIS 180	Historical Archaeology	3
HIS 181	Introduction to Historic Preservation	3
	Credits	**6**
2nd Semester		
HIS 183	Survey of Museum Practice	3
Select one of the following Approved Electives:		3
GIS 200	Geographic Information Systems I (GIS)	

HIS 186	Collections Management	
HIS 193	Studies in	
HIS 205	Local History	
HIS 218	Introduction to Digital History	
HIS 281	History of Virginia I	
	Credits	**6**
3rd Semester		
HIS 187	Interpreting Material Culture	3
HIS 190	Coordinated Internship	3
	Credits	**6**
	Total Credits	**18**

Radiation Oncology, A.A.S.

Distance Degree Program Offered Through Virginia Western Community College

Joint Venture degree program offered through Virginia Western Community College Through a collaborative partnership with Virginia Western Community College (VWCC), Northern Virginia Community College (NOVA) students can obtain an Associate of Applied Science degree in Radiation Oncology.

Students apply to both colleges during the admission process. After acceptance, students will complete ROC courses each semester both at NOVA and through Virginia Western. Clinical rotations are completed at various sites throughout the Northern Virginia area. Required general education (non-ROC) courses for the program may be completed at NOVA or through Virginia Western. Didactic (lecture) courses from Virginia Western are delivered live to a classroom at the Medical Education Campus in Springfield, Virginia using compressed video (currently via Zoom), with students being able to see and talk to the instructor and other students at Virginia Western. Open practice simulation labs are available at the Medical Education Campus using a virtual linear accelerator. Students apply to the program through Virginia Western and, upon completion, will graduate with an Associate of Applied Science degree in Radiation Oncology.

Interested students may visit https://www.nvcc.edu/academics/programs/radiation-oncology/index.html (https://www.nvcc.edu/academics/programs/radiation-oncology/) to view an online information session for detailed application requirements and the curriculum. For more information on this Joint Venture program, visit https://www.virginiawestern.edu/academics/health-professions/radiation-oncology/joint-venture/ or email the Virginia Western Health Professions Office at healthprofessions@virginiawestern.edu.

Radiography, A.A.S.

Location(s): MEC
NOVA Code: 1720

Purpose

The curriculum is designed to prepare students to produce diagnostic images of the human body through safe application of x-radiation. The radiographer is a central member of the healthcare team and assists the radiologist, a physician specialized in body image interpretation. Upon successful completion of degree requirements, the student will be eligible to take the American Registry of Radiologic Technology (ARRT) examination leading to certification as a Registered Technologist in Radiography: A.S., R.T.(R).

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Admission Requirements

Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- Review competitive admission and application deadlines (http://www.nvcc.edu/academics/programs/radiography.html).
- Qualify for MTH 161 PreCalculus I or higher by completing a direct enrollment or self-placement advising survey (https://www.nvcc.edu/admissions/direct-enrollment.html).
- Have completed BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II with a grade of “B” or higher within 10 years of application. (Please note: BIO 141 Human Anatomy And Physiology I requires the completion of BIO 101 General Biology I, or NAS 2 Foundations of Life Sciences or a placement test as noted at the Nursing and Health Sciences Division (http://www.nvcc.edu/academics/divisions/health-sciences/)).
- Have completed ENG 111 College Composition I with a “B” or higher.
- Have completed SDV 100 College Success Skills or SDV 101 Orientation to: with a “B” or higher.
- Have completed RAD 105 Introduction to Radiology, Protection and Patient Care with a “B” or higher.
- Successfully complete and achieve satisfactory scores on the TEAS (https://www.nvcc.edu/academics/divisions/health-sciences/teas-test.html) (Test of Essential Academic Skills) test. Students may only take the test three times per year. The latest result must be within three years of application to the RAD Program.
- Have a minimum 2.5 cumulative GPA. For Health Science programs, GPA evaluation will prioritize a student’s record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student’s most recent institution will be considered.

Completion Requirements

All courses (including General Education courses) must be completed with a grade of “C” or better before taking the next course in the sequence and to satisfy graduation requirements (note: some prerequisite requirements may require a higher grade).

Special Program Requirements

The American Registry of Radiologic Technologists requires convictions or charges resulting in any of the following be reported: Plea of guilty, plea of nolo contender, withheld or deferred adjudication, suspended or stay of sentence, or military court martial. Misdemeanor speeding violations must be reported if they are related to alcohol or drugs. For more information please visit the ARRT website (https://www.arrt.org/pages/resources/ethics-information) or by calling ARRT at (651) 687-0048, ext. 8580.

All incomplete grades (“I”) must be resolved prior to taking the next course in the sequence.

Two Years

Course	Title	Credits
Prerequisites		
BIO 141	Human Anatomy And Physiology I	4
BIO 142	Human Anatomy and Physiology II	4
ENG 111	College Composition I	3
RAD 105	Introduction to Radiology, Protection and Patient Care	2
SDV 101 or SDV 100	Orientation to: (Healthcare) or College Success Skills	1
	Credits	**14**
1st Semester		
HLT 141	Introduction to Medical Terminology	1
RAD 121	Radiographic Procedures I	4
RAD 125	Patient Care Procedures	3
RAD 141	Principles of Radiographic Quality I	4
RAD 196	On-Site Training	2
	Credits	**14**
2nd Semester		
RAD 131	Elementary Clinical Procedures I	3
RAD 142	Principles of Radiographic Quality II	4
RAD 221	Radiographic Procedures II	4
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**14**
3rd Semester		
RAD 135	Elementary Clinical Procedures II [1]	5
	Credits	**5**
4th Semester		
RAD 205	Radiation Protection And Radiobiolog	3
RAD 231	Advanced Clinical Procedures I	5
RAD 246	Special Procedures	1
	Credits	**9**
5th Semester		
Humanities/Fine Arts Elective (p. 49)		3
RAD 255	Radiographic Equipment	3
RAD 232	Advanced Clinical Procedures II	5
RAD 240	Radiographic Pathology	3
	Credits	**14**
	Total Credits	**70**

[1] RAD 135 Elementary Clinical Procedures II meets for 40 hours a week for ten weeks.

Radiography: Magnetic Resonance Imaging (MRI), C.S.C.

Location(s): MEC
NOVA Code: 221-172-04

Purpose

This career studies certificate is a non-transferable program designed to provide an advanced-modality module to deliver magnetic resonance imaging (MRI) education to those who are eligible or registered with the American Registry of Radiologic Technologists (ARRT). The curriculum will prepare a registered Radiography Technologist R.T. (R), Radiation Therapist R.T. (T), Computed Tomography R.T. (CT), or Nuclear Medicine Technologist R.T. (N)-NMTCB with the didactic requirements to seek employment as an MRI technologist in hospitals and imaging centers while also completing clinical hours on the job. Structured education includes CE credits or equivalents in each content category required by the ARRT.

Special Accreditation Status

The NOVA Radiography program is Joint Review Commission on Education in Radiologic Technology (JRCERT) accredited.

Admission Requirements

All students must be graduates of an ARRT-approved radiologic technology program and be registered or registry eligible according to the standards provided by ARRT. Current matriculating students must have a cumulative 3.0 GPA to be considered for admission.

Recent graduates must be ARRT registered or registry eligible and must have graduated with a cumulative 3.0 GPA.

Course	Title	Credits
1st Semester		
RAD 115	Princ/of Magnetic Resonance Imaging	3
	Credits	**3**
2nd Semester		
RAD 247	Cross-Sectional Anatomy	3
RAD 251	Enhanced Patient Care for Magnetic Resonance (MR) Imaging	3
	Credits	**6**
	Total Credits	**9**

Respiratory Therapy, A.A.S.

Location(s): MEC
NOVA Code: 1810

Purpose

The curriculum is designed to prepare students to be effective members of the healthcare team in assisting with diagnosis, treatment, management, and preventive care of patients with cardiopulmonary problems. Upon successful completion of the program, students are eligible to take the entry-level and advanced practitioner examinations leading to certification as a Certified Respiratory Therapist (CRT) and registration as a Registered Respiratory Therapist (RRT).

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Special Accreditation Status

The Northern Virginia Community College Respiratory Therapy (RTH) Program, CoARC number 200206, offers an Associate Degree in Applied Science (AAS), located at Medical Education Campus, 6699 Springfield Center Dr, Springfield, VA 22150, is accredited by the Commission on Accreditation for Respiratory Care (www.coarc.com (http://www.coarc.com/)).

The Commission on Accreditation for Respiratory Care (CoARC) *(*https://coarc.com/*) accredits respiratory therapy education programs in the United States. To achieve this end, it utilizes an 'outcomes based' process.* Programmatic outcomes *(*https://coarc.com/students/

programmatic-outcomes-data/*) are performance indicators that reflect the extent to which the educational goals of the program are achieved and by which program effectiveness is documented.*

Continuation Requirement

All courses (including General Education courses) must be completed with a grade of "C" or better before taking the next course in the sequence and to satisfy graduation requirements (note: some prerequisite requirements may require a higher grade).

Special Program Continuation Requirements

If general education courses are not completed before acceptance into the Respiratory Therapy Program, then they are to be taken in the corresponding semester as indicated in the curriculum plan. Students may not proceed to the next sequential respiratory therapy course without having completed the appropriate general education coursework.

Reenrollment

- Students in good standing may be permitted to reenroll in the RTH curriculum on a space-available basis, with permission of the program director.
- Students who leave the program for any period up to two years for either personal or academic reasons are required to demonstrate proficiency in all previously enrolled skills courses prior to reentering the program. "Practical exams" are administered and scheduled by the program faculty. A written exam will be required.
- Students who leave the program for any period of time for medical reasons are required to submit evidence of good physical and mental health, as substantiated by a newly completed Pre-Admission Health History and Physical for Allied Health and Nursing Form (125-007) signed by the primary physician responsible for their care.

Licensure Requirements

The Virginia Board of Medicine reserves the right to deny licensure to any candidate who has been convicted of a crime or any offense relating to the abuse of alcohol and/or use or sale of controlled substances in Virginia or any other state. Any applicant to the Respiratory Therapy Program who has been found guilty of a misdemeanor or felony must consult with the program director of Respiratory Therapy prior to acceptance into the program.

Advanced Placement Admission

Students seeking advanced placement, or transfer, including military respiratory technicians, or non-associate degree therapists should contact the program director of the RTH program for individual counseling.

Admission Requirements

Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- View a Respiratory Therapy information session (https://www.nvcc.edu/academics/programs/respiratory-therapy.html) online.
- Complete or self-place (https://www.nvcc.edu/admissions/direct-enrollment.html) into MTH 154 Quantitative Reasoning or higher. (MTH 155 Statistical Reasoning be may be substituted for MTH 154 Quantitative Reasoning. Please contact a faculty or academic advisor to request a course substitute).
  - Students planning to apply in May 2027 will be required to complete MTH 154 Quantitative Reasoning or a higher-level math course with a grade of "C" or better.
- Have completed ENG 111 College Composition I, HLT 141 Introduction to Medical Terminology, and SDV 100 College Success Skills or SDV 101 Orientation to: or an SDV elective with a grade of "C" or higher.
- Complete BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II with a "C" or higher and completed within 10 years of application. (Please note: BIO 141 Human Anatomy And Physiology I requires the completion of BIO 101 General Biology I, or NAS 2 Foundations of Life Sciences or a placement test as noted a the Nursing and Health Sciences Division).
  - Students planning to apply in May 2027 will be required to take BIO 145 Basic Human Anatomy & Physiology as the prerequisite science course instead of BIO 141 and BIO 142. However, BIO 141 and BIO 142 will still be accepted. All science courses must have been completed within the last 10 years prior to application, with a grade of "C" or higher.
- Have completed RTH 120 Fundamental Theory for Respiratory Care with a grade of "B" or higher.
- Have a minimum 2.5 curricular GPA at the last school/college attended at which at least 15 credits were completed. For Health Science programs, GPA evaluation will prioritize a student's record at Northern Virginia Community College (NOVA). If no NOVA GPA is available, the GPA from the student's most recent institution will be considered.

Two Years

Course	Title	Credits
Prerequisites		
BIO 141	Human Anatomy And Physiology I	4
BIO 142	Human Anatomy and Physiology II	4
ENG 111	College Composition I	3
HLT 141	Introduction to Medical Terminology	1
RTH 120	Fundamental Theory for Respiratory Care	2
SDV 101 or SDV 100	Orientation to: (Healthcare) or College Success Skills	1
	Credits	**15**
1st Semester		
Humanities/Fine Arts Elective (p. 49)		3
RTH 102	Integrated Sciences for Respiratory Care II	3
RTH 111	Anatomy & Physiology of the Cardiopulmonary System	3
RTH 145	Pharmacology For Respiratory Care I	1
RTH 151	Fundamental Clinical Procedures I	3
	Credits	**13**
2nd Semester		
Select one of the following CST Electives:		3
CST 229	Intercultural Communication	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
RTH 121	Cardiopulmonary Science I	3
RTH 131	Respiratory Care Theory And Proc I	4
RTH 196	On-Site Training In: (Respiratory Care I)	3
RTH 245	Pharmacology For Respiratory Care II	2
	Credits	**15**
3rd Semester		
RTH 135	Diagnostic And Therapeutic Procedure	2

RTH 296	On-Site Training In: (Respiratory Care II)	2
	Credits	**4**
4th Semester		
RTH 215	Pulmonary Rehabilitation	1
RTH 222	Cardiopulmonary Science II	3
RTH 223	Cardiopulmonary Science III	2
RTH 236	Critical Care Monitoring	3
RTH 290	Coordinated Internship: (ICU Rotation)	3
	Credits	**12**
5th Semester		
PED 116	Lifetime Fitness And Wellness	1
RTH 225	Neonatal and Pediatric Respiratory Procedures	3
RTH 227	Integrated Respiratory Therapy Skills II	2
RTH 290	Coordinated Internship: (NEO/PEDS/Precepting)	3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**12**
	Total Credits	**71**

Science, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 880

Purpose

The curriculum is designed for individuals who are interested in a professional or scientific program and who plan to transfer to a four-year college or university to complete a baccalaureate degree with a major in one of the following fields: agriculture, biology, chemistry, pre-dentistry, forestry, geology, oceanography, pharmacy, physics, physical therapy, pre-medicine, science education, or mathematics.

Transfer Information

Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully after investigation of the requirements of the transfer institution. The responsibility for proper course selection rests with the student. Students are encouraged to complete the A.S. degree before transferring.

Recommended Preparation

Satisfactory completion of the following high school units or equivalent as a minimum: 4 units of English, 3 units of college preparatory mathematics, 1 unit of laboratory science, and 1 unit of social science.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
General Education Elective (p. 49) [1]		3
Select one of the following: [2, 3]		4-5
Physical or Life Science Elective w/Lab (p. 129)		
MTH 167	PreCalculus with Trigonometry	
MTH 263	Calculus I	4
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**15-16**
2nd Semester		
ENG 112	College Composition II	3
MTH 264	Calculus II [4]	4
Physical or Life Science Elective w/Lab (p. 129) [2]		4
Social/Behavioral Sciences Elective (p. 50) [5]		3
	Credits	**14**
3rd Semester		
General Education Elective (p. 49) [1]		3
HIS Elective (p. 50)		3
Humanities/Fine Arts Elective (p. 49) [6]		3
Select one of the following: [2]		3-4
MTH Elective (https://catalog.nvcc.edu/programs/science-as/#scmth)		
Physical or Life Science Elective w/Lab (p. 129)		
Select one of the following: [2]		3-4
MTH Elective (https://catalog.nvcc.edu/programs/science-as/#scmth)		
Physical or Life Science Elective w/Lab (p. 129)		
	Credits	**15-17**
4th Semester		
General Education Elective (p. 49) [7]		3
Humanities/Fine Arts Elective (p. 49) [6]		3
Physical or Life Science Elective w/Lab (p. 129) [2]		4-5
Select one of the following:		3
CST 110	Introduction to Human Communication	
CST 100	Principles of Public Speaking	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
Select one of the following: [2]		3-4
MTH Elective (https://catalog.nvcc.edu/programs/science-as/#scmth)		
Physical or Life Science Elective w/Lab (p. 129)		
	Credits	**16-18**
	Total Credits	**60-65**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. If selecting a science course, it must be chosen from the eligible Physical and Life Science w/ Lab course list (p. 129) below.
2. If you are following a specific major please refer to the recommended course plans below. These plans provide guidance on which core courses to choose each semester. BIO 142 Human Anatomy and Physiology II and BIO 142 Human Anatomy and Physiology II, CHM 101 Introductory Chemistry I, PHY 100 Elements of Physics, or ENV 121 Foundations of Environmental Science and ENV 122 Applications in Environmental Science **do not** satisfy this requirement.
3. MTH 161 PreCalculus I and MTH 162 PreCalculus II may both be taken in place of MTH 167 PreCalculus with Trigonometry
4. For students who plan to major in Biology, MTH 264 Calculus II may be replaced with MTH 245 Statistics I.
5. Select a class which is not a History course.
6. Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.
7. Choose from General Education listing. If choosing a science, it must follow footnote #2. This elective is not needed if selections for all other requirements total 60 credits or more.

Math Electives

Math electives must be selected from the following:

Code	Title	Credits
MTH 265	Calculus III	4
MTH 266	Linear Algebra	3

MTH 267	Differential Equations	3
MTH 283	Probability and Statistics	3
MTH 288	Discrete Mathematics	3

Physical or Life Science Elective w/Lab

All science electives (including General Education Sciences) must be selected from the following courses below. **Please note:** BIO 141 Human Anatomy And Physiology I and BIO 142 Human Anatomy and Physiology II, CHM 101 Introductory Chemistry I, PHY 100 Elements of Physics, or ENV 121 Foundations of Environmental Science and ENV 122 Applications in Environmental Science**do not** satisfy this requirement.

Code	Title	Credits
BIO 101	General Biology I	4
BIO 102	General Biology II	4
BIO 110	General Botany	4
BIO 207	General Zoology	4
CHM 111	General Chemistry I	4
CHM 112	General Chemistry II	4
GOL 105	Physical Geology	4
GOL 106	Historical Geology	4
GOL 111	Oceanography I	4
GOL 112	Oceanography II	4
any 200-level biology, chemistry, geology, or physics course		

Students Who Plan to Major in Biology

Code	Title	Credits
CHM 111 & CHM 112	General Chemistry I and General Chemistry II	8
BIO 101 & BIO 102	General Biology I and General Biology II	8
or BIO 110 & BIO 207	General Botany and General Zoology	
Select one of the following:		8
BIO 206 & PHY 201	Cell Biology and General College Physics I	
PHY 201 & PHY 202	General College Physics I and General College Physics II	

Students Who Plan to Major in Chemistry

Code	Title	Credits
CHM 111 & CHM 112	General Chemistry I and General Chemistry II	8
CHM 241 & CHM 242	Organic Chemistry I and Organic Chemistry II	6
CHM 245 & CHM 246	Organic Chemistry I Laboratory and Organic Chemistry II Laboratory	4
2 semesters of physics [1]		

[1] Please see transfer school for required physics class.

Students Who Plan to Major in Geology

Code	Title	Credits
GOL 105	Physical Geology	4
GOL 106	Historical Geology	4
GOL 111	Oceanography I	4
GOL 112	Oceanography II	4

Science: Physics Advising Guide

Students may also view Physics transfer guides through the Transfer Virginia Portal Resource Center (https://www.transfervirginia.org/) for further information about transferring to specific Virginia institutions. Students following this guide must be program placed in the A.S. Science degree, which is the degree that will be awarded upon completion. This guide is for students who have completed precalculus (MTH 167 or MTH 161/162) or placed directly into MTH 263.

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
General Education Elective (p. 49) [1]		3
Select one of the following: [2]		4-5
Physical or Life Science Elective w/Lab (p. 129)		
MTH 167	PreCalculus with Trigonometry	
MTH 263	Calculus I	4
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**15-16**
2nd Semester		
ENG 112	College Composition II	3
MTH 264	Calculus II	4
PHY 241	University Physics I	4
Social/Behavioral Sciences Elective (p. 50) [3]		3
	Credits	**14**
3rd Semester		
HIS Elective (p. 50) [4]		3
Humanities/Fine Arts Elective (p. 49) [5]		3
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
MTH 265	Calculus III	4
PHY 242	University Physics II	4
	Credits	**17**
4th Semester		
General Education Elective (p. 49) [6]		3
Humanities/Fine Arts Elective (p. 49) [5]		3
MTH 266	Linear Algebra	3
PHY 243	Modern Physics [7]	3
PHY 244	Modern Physics Lab [7]	1
MTH 267	Differential Equations	3
	Credits	**16**
	Total Credits	**62-63**

[1] Select a course listed under General Education Electives (p. 49). If selecting a science course, it must be chosen from the eligible Physical and Life Science w/ Lab course list (p. 129) above.

[2] MTH 161 PreCalculus I and MTH 162 PreCalculus II may both be taken in place of MTH 167 PreCalculus with Trigonometry.

[3] Select a UCGS class which is not a History course under the Social/Behavioral Sciences Elective (p. 50).

[4] Select a UCGS HIS courses listed under Social/Behavioral Science (p. 50) courses.

[5] Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.

[6] This elective is not needed if selections for all other requirements total 60 credits or more. Select a course listed under General

Education Electives (p. 49). If selecting a science course, it must be chosen from the eligible Physical and Life Science w/ Lab course list (p. 129) above.

7 If both PHY 243 and PHY 244 are unavailable, select a course from the eligible Physical and Life Science w/ Lab course list (p. 129) above.

Science: Mathematics Major, A.S.

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 880-02

Purpose

The curriculum is designed for individuals who plan to transfer to a four-year college or university to complete a baccalaureate degree. This curriculum is designed to prepare students to major in one of the following fields: mathematics, mathematics education, statistics, operations research, applied mathematics, or computer science.

Transfer Information

Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully to meet requirements of the transfer institution. The responsibility for proper course selection rests with the student.

Recommended Preparation

Satisfactory completion of the following high school units or equivalent as a minimum: 4 units of English, 4 units of college preparatory mathematics, 1 unit of laboratory science, and 1 unit of social science.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
HIS Elective (p. 50)		3
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
Select one of the following options: [1, 2]		5
Option 1: If Precalculus is needed		
MTH 167	PreCalculus with Trigonometry	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**15**
2nd Semester		
ENG 112	College Composition II	3
MTH 263	Calculus I [3]	4
General Education Elective (p. 49) [4]		3
Humanities/Fine Arts Elective (p. 49) [5]		3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**16**
3rd Semester		
MTH 264	Calculus II [3]	4
MTH Elective (https://catalog.nvcc.edu/programs/science-mathematics-major-as/#scmth)		3
Humanities/Fine Arts Elective (p. 49) [5]		3
Physical or Life Science Elective w/Lab (p. 50)		4
Social/Behavioral Sciences Elective (p. 50) [6]		3
	Credits	**17**
4th Semester		
MTH 265	Calculus III	4
MTH Elective (https://catalog.nvcc.edu/programs/science-mathematics-major-as/#scmth)		3-4
MTH Elective (https://catalog.nvcc.edu/programs/science-mathematics-major-as/#scmth)		3
Physical or Life Science Elective w/Lab (p. 50)		4
	Credits	**14-15**
	Total Credits	**62-63**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

At least 20 of these credits must be in MTH courses to support transfer to a four-year institution with a science major.

1 As students may begin the program with different levels of academic preparation, If precalculus is needed, begin with MTH 167 PreCalculus with Trigonometry (or MTH 161 PreCalculus I and MTH 162 PreCalculus II).

2 Students who place out of Precalculus should choose from the General Education Electives (p. 49) or Math Electives (p. 130) options listed below.

3 Credit will not be awarded for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.

4 This elective is not needed if selections for all other requirements total 60 credits or more.

5 Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.

6 Select a class which is not a History course.

Math Electives

Math electives should be selected from the following based on transfer institution requirements:

Code	Title	Credits
MTH 266	Linear Algebra	3
MTH 267	Differential Equations	3
MTH 283	Probability and Statistics	3
MTH 288	Discrete Mathematics [1]	3
CSC 221	Introduction to Problem Solving and Programming	3
CSC 222	Object Oriented Programming	4

1 CSC 208 Introduction to Discrete Structures may substitute for MTH 288 Discrete Mathematics with a course substitution request, if required by the transfer institution. Credit cannot be awarded for both MTH 288 Discrete Mathematics and CSC 208 Introduction to Discrete Structures.

MTH 245 Statistics I and/or MTH 246 Statistics II require a course substitution, and the courses should be chosen based on the requirements of the intended transfer institution.

Social Sciences, A.S.

Location(s): AL, AN, LO, MA, NOL, WO

NOVA Code: 882

Purpose

The Associate of Science degree in Social Sciences focuses on how human beings interact with each other in the past and present. It emphasizes, through quantitative and qualitative research methods, how social scientists develop an understanding of the ways in which humans relate to themselves and each other through beliefs, customs, organizations, and institutions. The Associate of Science degree in Social Sciences prepares students for transfer to a broad range of Bachelor of Science and Bachelor of Arts programs, in fields such as economics, geography, geographic information systems, history, political science, psychology, sociology, teacher education, and more.

Transfer Information

This program provides transfer paths that include the general education courses and introductory major courses that students typically take during the first two years at a four-year college or university when they are majoring in a social science. Because senior institutions differ in their requirements, students are strongly urged to work with their assigned advisor or a counselor and to acquaint themselves with the requirements of the major department in the college or university to which they plan to transfer. The responsibility for proper course selection rests with the student.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
HIS Elective (p. 50)		3
Physical or Life Science Elective w/Lab (p. 50)		4
Select one of the following: [1]		3
MTH 154	Quantitative Reasoning	
MTH 161	PreCalculus I (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**14**
2nd Semester		
ENG 112	College Composition II	3
Select one of the following: [2]		3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	
Transfer Elective (https://catalog.nvcc.edu/programs/social-sciences-as/#transfer)		
Select one of the following: [1]		3
MTH 155	Statistical Reasoning	
MTH 245	Statistics I (or Higher)	
Physical or Life Science Elective w/Lab (p. 50)		4
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**16**
3rd Semester		
Humanities/Fine Arts Elective (p. 49) [3]		3
Social/Behavioral Sciences Elective (p. 50)		3
Social/Behavioral Sciences Elective (p. 50)		3
Select one of the following:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
PSY 200 or SOC 200	Principles of Psychology or Introduction to Sociology	3
	Credits	**15**
4th Semester		
General Education Elective (p. 49) [2]		3
Humanities/Fine Arts Elective (p. 49) [3]		3
Social/Behavioral Sciences Elective (p. 50) [4]		3
Transfer Elective (https://catalog.nvcc.edu/programs/social-sciences-as/#transfer)		3
Transfer Elective (https://catalog.nvcc.edu/programs/social-sciences-as/#transfer)		3
	Credits	**15**
	Total Credits	**60**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. Students who plan to take MTH 245 Statistics I should take MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I first. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II.
2. CSC 221 Introduction to Problem Solving and Programming may be used to fulfill the requirements of the transfer institution.
3. Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.
4. For this elective only, students may select a social/behavioral science course from either the general education electives or transfer electives. This elective is not needed if selections for all other requirements total 60 credits or more.

Transfer Electives

Students can take another General Education Electives (p. 49) or select a course from the following transfer elective list:

Code	Title	Credits
101 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl101)		
102 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl102)		
BUS 240	Introduction to Business Law	3
CST 126	Interpersonal Communication	3
CST 299	Supervised Study	1-5
ECO 230	Money And Banking	3
EDU 200	Foundations of Education	3
ENG 210	Advanced Composition	3
GIS 101	Introduction to Geospatial Technology	3
GIS 200	Geographic Information Systems I (GIS)	4
GIS 201	Geographic Information Systems II (GIS)	4
GIS 203	Cartography for GIS	3
GIS 205	GIS 3-Dimensional Analysis	4
HIS 127	Women in American History	3
HIS 141	African-American History I	3
HIS 142	African-American History II	3
HIS 180	Historical Archaeology	3
HIS 241	History of Russia I	3

HIS 243	History of The Ancient World I	3
HIS 267	The Second World War	3
HIS 269	Civil War & Reconstruction	3
HIS 276	US History Since World War II	3
HIS 279	Age of The American Revolution	3
HIS 281	History of Virginia I	3
HIS 203	History of African Civilizations	3
HIS 231	Introduction to Latin American History	3
HIS 251	History of Middle East Civilization I	3
HIS 254	History of Modern East Asian Civilizations	3
HMS 100	Introduction to Human Services	3
HMS 121	Basic Counseling Skills I	3
HMS 141	Group Dynamics I	3
HMS 142	Group Dynamics II	3
HMS 266	Counseling Psychology	3
ITE 100	Introduction to Information Systems	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
PLS 136	State and Local Government and Politics	3
PSY 215	Psychopathology	3
PSY 225	Theories of Personality	3
SOC 215	Sociology of The Family	3
SOC 225	Sociology of Gender	3
SOC 236	Criminology	3
SOC 266	Race and Ethnicity	3

Social Sciences: History Major, A.S.

Location(s): AL, AN, LO, MA, WO
NOVA Code: 882-01

Purpose

This major is designed for students who want to establish a strong foundation in the analytical skills and content related to the study of history, historical methods, and research tools across a variety of subject fields, including U.S., European, World, and Public History. Graduates who complete the major will be prepared for transfer opportunities and careers in fields that require critical thinking and clear written communications, as well as a deeper understanding of the importance of being an active and engaged citizen. When transferring to a four-year college or university, graduates will have the equivalent skills and knowledge of a junior.

Transfer Information

Students are advised to work closely with the faculty and counseling staff for program and course scheduling. Electives should be chosen carefully to meet requirements of the transfer institution. The responsibility for proper course selection rests with the student.

Two Years

Course	Title	Credits
1st Semester		
Select one of the following: [1]		3-4
101 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl101)		
Transfer Elective (p. 133)		
CST 100 or CST 110	Principles of Public Speaking or Introduction to Human Communication	3
ENG 111	College Composition I	3
HIS 101 or HIS 111	Western Civilizations Pre-1600 CE [2] or World Civilizations Pre-1500 CE	3
Select one of the following: [3]		3
MTH 154	Quantitative Reasoning	
MTH 161	PreCalculus I (or Higher)	
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16-17**
2nd Semester		
Select one of the following: [1]		3-4
102 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl102)		
Transfer Elective (p. 133)		
ENG 112	College Composition II	3
HIS 102 or HIS 112	Western Civilizations Post-1600 CE [2] or World Civilizations Post-1500 CE	3
Humanities/Fine Arts Elective (p. 49) [4]		3
Select one of the following: [3]		3
MTH 155	Statistical Reasoning	
MTH 245	Statistics I (or Higher)	
	Credits	**15-16**
3rd Semester		
Select one of the following: [1]		3-4
201 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl201)		
Transfer Elective (p. 133)		
HIS Elective (p. 133)		3
Humanities/Fine Arts Elective (p. 49) [4]		3
Physical or Life Science Elective w/Lab (p. 50)		4
PSY 200 or SOC 200	Principles of Psychology or Introduction to Sociology	3
	Credits	**16-17**
4th Semester		
Select one of the following: [1]		3-4
202 - World Language or ASL (https://catalog.nvcc.edu/world-languages/#wl202)		
Transfer Elective (p. 133)		
HIS Elective (p. 133)		3
Physical or Life Science Elective w/Lab (p. 50)		4
Select one of the following: [5]		3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	
General Education Elective (p. 49)		
	Credits	**13-14**
	Total Credits	**60-64**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

1. Based on transfer pathways, students may choose to complete four semesters of a World Language or pursue a History Concentration (U.S. History, European/World History, or Public History). Refer to the Transfer Elective list below for course options.
2. Students must take HIS 101 Western Civilizations Pre-1600 CE **and** HIS 102 Western Civilizations Post-1600 CE or HIS 111 World Civilizations Pre-1500 CE **and** HIS 112 World Civilizations Post-1500 CE as a sequence, based on transfer partner preference.
3. Students who plan to take MTH 245 Statistics I should take MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I first. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245

Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II. Students should consult with an advisor to ensure mathematics courses meet their intended transfer institution requirement.

[4] Students must choose courses from two of the following three areas: Fine Arts, Humanities, and Literature. Credit will not be awarded for taking two courses from the same area.

[5] This elective is not needed if selections for all other requirements total 60 credits or more.

Transfer Elective - History Concentration

[1] Based on transfer pathways, students have the option of completing four semesters of a World Language or pursuing a History Concentration (U.S. History, European/World History, or Public History).

For the History Concentration, students can select from the following courses:

Code	Title	Credits
HIS 101	Western Civilizations Pre-1600 CE	3
HIS 102	Western Civilizations Post-1600 CE	3
HIS 111	World Civilizations Pre-1500 CE	3
HIS 112	World Civilizations Post-1500 CE	3
HIS 121	United States History to 1877	3
HIS 122	United States History Since 1865	3
HIS 127	Women in American History	3
HIS 141	African-American History I	3
HIS 142	African-American History II	3
HIS 180	Historical Archaeology	3
HIS 181	Introduction to Historic Preservation	3
HIS 183	Survey of Museum Practice	3
HIS 203	History of African Civilizations	3
HIS 218	Introduction to Digital History	3
HIS 231	Introduction to Latin American History	3
HIS 241	History of Russia I	3
HIS 243	History of The Ancient World I	3
HIS 251	History of Middle East Civilization I	3
HIS 254	History of Modern East Asian Civilizations	3
HIS 267	The Second World War	3
HIS 269	Civil War & Reconstruction	3
HIS 276	US History Since World War II	3
HIS 279	Age of The American Revolution	3
HIS 281	History of Virginia I	3
General Education Elective (p. 49) [1]		

[1] Students may also choose a General Education Elective from another discipline, in accordance with the preferences of their transfer institution.

HIS Elective

Code	Title	Credits
HIS 121	United States History to 1877	3
HIS 122	United States History Since 1865	3
HIS 127	Women in American History	3
HIS 141	African-American History I	3
HIS 142	African-American History II	3
HIS 180	Historical Archaeology	3
HIS 181	Introduction to Historic Preservation	3
HIS 183	Survey of Museum Practice	3
HIS 203	History of African Civilizations	3
HIS 231	Introduction to Latin American History	3
HIS 241	History of Russia I	3
HIS 243	History of The Ancient World I	3
HIS 251	History of Middle East Civilization I	3
HIS 254	History of Modern East Asian Civilizations	3
HIS 267	The Second World War	3
HIS 269	Civil War & Reconstruction	3
HIS 276	US History Since World War II	3
HIS 279	Age of The American Revolution	3
HIS 281	History of Virginia I	3

History Pathways

U.S History

Code	Title	Credits
HIS 121	United States History to 1877	3
HIS 122	United States History Since 1865	3
HIS 127	Women in American History	3
HIS 141	African-American History I	3
HIS 142	African-American History II	3
HIS 269	Civil War & Reconstruction	3
HIS 276	US History Since World War II	3
HIS 279	Age of The American Revolution	3
HIS 281	History of Virginia I	3

European/World History

Code	Title	Credits
HIS 203	History of African Civilizations	3
HIS 231	Introduction to Latin American History	3
HIS 241	History of Russia I	3
HIS 243	History of The Ancient World I	3
HIS 254	History of Modern East Asian Civilizations	3
HIS 267	The Second World War	3

Public History

Code	Title	Credits
HIS 180	Historical Archaeology	3
HIS 181	Introduction to Historic Preservation	3
HIS 183	Survey of Museum Practice	3
HIS 218	Introduction to Digital History	3

Social Sciences: Political Science Major, A.S.

Location(s): AL, AN, LO
NOVA Code: 882-04

Purpose

This program is designed for individuals who plan to transfer to a four-year college or university to complete a baccalaureate degree. Graduates will have the knowledge, skills, and abilities equivalent to students entering the junior level at four-year colleges and universities.

Transfer Information

This program provides transfer paths that include the general education courses and introductory major courses that students typically take during the first two years at a four-year college or university when they are majoring in a social science. Because senior institutions differ in their requirements, students are strongly urged to work with their assigned advisor or a counselor and to acquaint themselves with the requirements of the major department in the college or university to which they plan to transfer. The responsibility for proper course selection rests with the student.

Two Years

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
HIS Elective (p. 50)		3
Humanities/Fine Arts Elective (p. 49) [1]		3
Select one of the following: [2]		3
MTH 154	Quantitative Reasoning	
MTH 161	PreCalculus I (or Higher)	
PLS 135	U.S. Government and Politics	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**16**
2nd Semester		
ENG 112	College Composition II	3
ITE 152	Introduction to Digital and Information Literacy and Computer Applications	3
Select one of the following: [2]		3
MTH 155	Statistical Reasoning	
MTH 245	Statistics I (or Higher)	
PLS 136	State and Local Government and Politics [3]	3
Physical or Life Science Elective w/Lab (p. 50)		4
	Credits	**16**
3rd Semester		
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
CST 126	Interpersonal Communication	
CST 229	Intercultural Communication	
Humanities/Fine Arts Elective (p. 49) [1]		3
PLS 140	Introduction to Comparative Politics	3
Physical or Life Science Elective w/Lab (p. 50)		4
SOC Elective (p. 50) [4]		3
	Credits	**16**
4th Semester		
PLS 200	Introduction to Political and Democratic Theory	3
PLS 241	Introduction to International Relations	3
General Education Elective (p. 49)		3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**12**
	Total Credits	**60**

Electives should be chosen with advice of an academic advisor to meet the requirements of the transfer institution.

1. Students must choose courses from two of the three areas listed. Credit will not be applied if student takes two courses from the same area.
2. Students who plan to take MTH 245 Statistics I should take MTH 154 Quantitative Reasoning or MTH 161 PreCalculus I first. Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I, or for both MTH 261 Applied Calculus I and MTH 263 Calculus I, or for both MTH 262 Applied Calculus II and MTH 264 Calculus II. Students should consult with an advisor to ensure mathematics courses meet their intended transfer institution requirement.
3. Select from the following: ECO 201 Principles of Macroeconomics, ECO 202 Principles of Microeconomics, or any 200-level PLS course (p. 226) is also acceptable.
4. Select any SOC course listed under social/behavioral sciences in General Education Electives (p. 49).

Substance Abuse Rehabilitation Counselor, Certificate

Location(s): AL
NOVA Code: 4030

Purpose

This curriculum is designed to fulfill the Virginia state educational requirements for the certification of substance abuse counselors for students who already have a bachelor's degree. To meet substance abuse counselor certification requirements, the applicant is expected to meet specific education requirements including didactic and experiential learning with a supervised internship required.

Individuals seeking skills and knowledge in this career field, but not seeking state certification may also enroll.

Cooperative Education

Students in this curriculum will participate in at least 3 semester hours of Cooperative Education unless they already have equivalent experience.

One Year

Course	Title	Credits
1st Semester		
ENG 111 or CST 110	College Composition I or Introduction to Human Communication	3
HMS 121	Basic Counseling Skills I	3
HMS 141	Group Dynamics I	3
HMS 251	Substance Use Treatment I	3
HMS 266	Counseling Psychology	3
PSY 230	Developmental Psychology	3
SDV 100 or SDV 101	College Success Skills or Orientation to:	1
	Credits	**19**
2nd Semester		
HMS 142	Group Dynamics II	3
HMS 145	Effects of Psychoactive Drugs	3
HMS 252	Substance Use Treatment II	3
HMS 258	Case Management And Substance Abuse	3
HMS 290	Coordinated Internship	3

Social/Behavioral Sciences Elective (p. 50)	3
Credits	**18**
Total Credits	**37**

Electives should be chosen with advice of an academic advisor to meet the requirements of the transfer institution.

Surgical Technology A.A.S.

Location(s): MEC
NOVA Code: 171

Purpose

To prepare competent entry-level surgical technologists in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains. The program combines the use of surgical instruments, skills, and techniques with the theoretical knowledge required to perform as a Surgical Technologist in the operating room.

Transfer Information

Transfer is not the primary purpose of an A.A.S. program, but NOVA has articulation agreements that facilitate the transfer of this and other career-oriented programs to selected senior institutions. Students interested in transfer should contact a counselor or their academic advisor early in their program.

Admission Requirements

Admission to the Surgical Technology program is competitive. Applicants must do the following:

- Comply with all general admission requirements for Health Sciences Programs.
- Review an online Surgical Technology information session.
- Complete BIO 141 Human Anatomy And Physiology I with a “C” or higher and completed within 10 years of application.
- Complete SUR 100 Introduction to Surgical Technology with a grade of “C” or higher.
- Complete ENG 111 College Composition I with a grade of “C” or higher.
- Complete SDV 101 Orientation to: Healthcare with a “C” or higher.
- Complete HLT 141 Introduction to Medical Terminology with a “C” or higher.
- Complete or self-place into MTH 154 Quantitative Reasoning or higher. https://www.nvcc.edu/academics/placement/index.html. ((https://www.nvcc.edu/academics/placement/)MTH 155 may be substituted for MTH 154. Please contact a faculty or academic advisor to request a course substitution.).
- Have a minimum 2.5 cumulative GPA.

Completion Requirements: All SUR program courses must be completed with a grade of a “C” or better before taking the next semester course sequence and to satisfy graduation requirements. A program placed student not achieving a “C” or higher will be automatically academically dismissed from the SUR program. Prerequisite and General Education courses require a "C" or higher grade and may be completed prior to admission to the SUR program.

Course	Title	Credits
Prerequisites		
BIO 141	Human Anatomy And Physiology I	4
SUR 100	Introduction to Surgical Technology	2
ENG 111	College Composition I	3
SDV 101 or SDV 100	Orientation to: (Healthcare) or College Success Skills	1
HLT 141	Introduction to Medical Terminology	1
	Credits	**11**
1st Semester		
BIO 142	Human Anatomy and Physiology II	4
SUR 135	Infection Control	2
SUR 140	Surgical Care I	3
SUR 145	Surgical Care Skills I	3
	Credits	**12**
2nd Semester		
SUR 150	Surgical Instrumentation	2
SUR 240	Surgical Care II	3
SUR 245	Surgical Care Skills II	3
SUR 250	Surgical Pharmacology	2
PHI 220	Ethics and Society	3
	Credits	**13**
3rd Semester		
SUR 210	Surgical Procedures	3
SUR 260	Surgical Technology Clinical Practicum	8
	Credits	**11**
4th Semester		
SUR 254	Professional Issues in Surgical Technology	2
SUR 296	On-Site Training	5
SUR 298	Seminar and Project	4
Select one of the following:		3
PSY 230	Developmental Psychology	
SOC 200	Introduction to Sociology	
	Credits	**14**
	Total Credits	**61**

Technical and Professional Writing, C.S.C.

Location(s): AL, AN, LO, MA, WO
NOVA Code: 221-265-01

Purpose

This 16-credit Technical and Professional Writing Career Studies Certificate is a writing credential focused on various workplace writing genres. Students will gain expertise in writing and editing technical reports, documenting processes, and in writing/responding to proposals. Students will also gain a solid foundation in the vocabulary of technical and proposal writing and professional communication.

The Technical and Professional Writing CSC is credential comprised of five required courses.

Completion Requirements

16 total credits. All students must complete ENG 111 College Composition I (or its equivalent) in the first semester of certificate study. Students must next complete a core of 13 credits of technical writing, editing and proposal writing courses.

Credit for Prior Learning

Students in this program may be eligible for credit for prior learning and will be evaluated on a case-by-case basis.

One Year

Course	Title	Credits
1st Semester		
ENG 111	College Composition I [1]	3
ENG 113	Technical-Professional Writing	3
ENG 205	Technical Editing	3
	Credits	**9**
2nd Semester		
Select one of the following:		3
ENG 210	Advanced Composition	
ENG 295	Topics In: (Proposal Writing)	
ENG 298	Seminar And Project (Professional Writing)	4
	Credits	**7**
	Total Credits	**16**

[1] Students must complete ENG 111 College Composition I and (or its equivalent) in the first semester of their registration.

Uniform Certificate of General Studies (UCGS), Certificate

Location(s): AL, AN, LO, MA, NOL, WO
NOVA Code: 695

Purpose

This program provides a solid foundation in the VCCS and NOVA general education core competency areas. Essentially the first year of an associate of science degree, this certificate is awarded to students placed in A.A. and A.S. degree programs who complete the requirements listed.

Transfer Virginia has developed 32 credits of transferable coursework (including Passport courses) that students can complete. This replaces the General Education Certificate beginning in Fall 2022. Only classes completed after May 1, 2020 will apply, and students must have earned a C or higher. NOVA cannot accept course substitutions, as this is a VCCS program. Students must be program-placed in the UCGS and apply for graduation to earn the credential. See a summary of UCGS courses.

One Year

Course	Title	Credits
1st Semester		
ENG 111	College Composition I	3
Select one of the following:		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
Humanities/Fine Arts Elective (p. 49) [1]		3
Physical or Life Science Elective w/Lab (p. 50) [2]		4
Social/Behavioral Sciences Elective (p. 50) [3]		3
	Credits	**16**
2nd Semester		
ENG 112	College Composition II	3
or ENG 113	or Technical-Professional Writing	
Communication, Languages, Studio Art, and Technology Electives (p. 51) [4]		6
HIS Elective (p. 50) [5]		3
Humanities/Fine Arts Elective (p. 49) [1]		3
	Credits	**15**
	Total Credits	**31**

Students who are placed in A.A.A. and A.A.S. programs may work with an academic advisor to be placed in this program under certain circumstances.

Electives should be chosen with advice of an academic advisor to meet the requirements of the transfer institution.

[1] Select any UCGS course from the humanities/fine arts courses listed under General Education Electives (p. 49). Students must choose courses from two of the three areas listed. Credit will not be applied if student takes two courses from the same area.
[2] Select any UCGS course from the physical and life science courses listed under General Education Electives (p. 49).
[3] Select any UCGS non-HIS course from the social/behavioral science courses listed under General Education Electives (p. 49).
[4] Select any UCGS course from the communication, languages, studio art, and technology courses listed under General Education Electives (p. 49) or any UCGS course listed under the General Education Electives (p. 49).
[5] Select any UCGS HIS course listed under social/behavioral sciences in General Education Electives (p. 49).

Veterinary Technology, A.A.S.

Location(s): LO
NOVA Code: 1880

Purpose

Our program is accredited by the American Veterinary Medical Association (AVMA) Committee on Veterinary Technician Education and Activities (CVTEA). We award an Associate of Applied Science (A.A.S.) degree and prepare you for the Veterinary Technician National Examination (VTNE), an entry-level national licensing exam.

Responsibilities of Veterinary Technology Students

1. Students in the Veterinary Technology Program incur a variety of additional expenses. These include, but are not limited to, the cost of uniforms (such as lab coat with name tag), human vaccinations, a preadmissions physical examination, lab fees, lab supplies, accessories, and travel to and from clinical assignments, including program field trips. Students are also responsible for individual state licensure and national accreditation application and testing fees.
2. A strict dress code is required in the clinical setting. Students may be dismissed if they fail to comply with this dress code.
3. Students are required to complete learning experiences at local hospitals and/or other agencies. Students may be required to attend day, evening, night, or weekend clinical assignments.
4. Students must provide their own transportation to clinical assignments. Strict attendance is required at clinical sites.
5. While enrolled in clinical courses, students may not replace or take the responsibility of “qualified” staff in affiliated facilities. However, after demonstrating proficiency, students may be permitted to perform specified procedures under careful supervision.

Veterinary Technology Program Continuation Requirements

1. All courses (including General Education courses) must be completed with a grade of "C" or better before taking the next course in the sequence and to satisfy graduation requirements.
2. All courses in the major must be taken in the sequence prescribed in the NOVA *Catalog*.
3. Students must pass both the theoretical and the clinical/lab portions in order to pass a course with grade of "C" or better.
4. Program faculty and clinical affiliates reserve the right to recommend, through appropriate channels, withdrawal of any student who either fails to exhibit safe performance or fails to adhere to required clinical affiliate policies and procedures.
5. Students must be able to perform all essential functions of the Veterinary Technology Program, with or without reasonable accommodation. Visit the Student Section on the Veterinary Technology website for the Technical Standards & Essential Functions for the Veterinary Technology Program.

Program Reenrollment Requirements

Any student who has voluntarily withdrawn or who has been withdrawn due to unsatisfactory academic or clinical performance may apply for readmission the following academic year. However, acceptance will be based upon space availability, successful fulfillment of any contingencies agreed to in writing at the time of withdrawal, and program director approval. A readmissions interview, medical examination, and human rabies vaccine may be required.

Special Accreditation Status

The Veterinary Technology Program is fully accredited by the American Veterinary Medical Association (AVMA) Committee on Veterinary Technician Education and Activities (CVTEA). www.avma.org/ProfessionalDevelopment/Education/Accreditation/Programs/Pages/vettechprograms.aspx (https://www.avma.org/ProfessionalDevelopment/Pages/default.aspx).

Delivery Method Options

The program is completed at Loudoun Campus and offers two options to complete the Veterinary Technology degree: full-time (2-years) or part-time (3-years). When applying to the Program, you may only choose one option.

Veterinary Technology Program Online Courses

Special rules apply to online courses offered to students living outside of Virginia. For further information visit https://online.nvcc.edu/state-authorization.html. Courses are administered online using Canvas. Students use class notes from the online course site and textbooks to study and complete course assignments. Students participate in online class discussions and communicate regularly with faculty. Laboratory review and practical examinations are held at NOVA's Loudoun Campus.

Admission Requirements

Completion of the following units with a "C" or better:

1. Complete the following prerequisites with a "C" or better: SDV 101 Orientation to: Orientation to Veterinary Technology or SDV 100 College Success Skills, VET 111 Anatomy & Physiology of Domestic Anim, ENG 111 College Composition I, MTH 133 Mathematics for Health Professions, CHM 101 Introductory Chemistry I or CHM 111 General Chemistry I.
2. 18-years of age at time of application
3. Letter of Intent
4. Current resume
5. Full-time (2-year) Program: working an average minimum of 10 hours per week at a veterinary facility
   Part-time (2-year) Program: working an average minimum of 20 hours per week at a veterinary facility
   Those with a Student Visa are not required to work and must take all VET specific courses on-campus.
6. Official college transcripts

Two Years and a Half

Course	Title	Credits
Prerequisites		
CHM 101 or CHM 111	Introductory Chemistry I or General Chemistry I	4
ENG 111	College Composition I	3
MTH 133	Mathematics for Health Professions	3
SDV 101 or SDV 100	Orientation to: (Healthcare) or College Success Skills	1
VET 111	Anatomy & Physiology of Domestic Anim	4
	Credits	**15**
1st Semester		
VET 105	Introduction to Veterinary Technology	3
VET 116	Animal Breeds And Behavior	3
VET 121	Clinical Practices I	3
VET 211	Animal Diseases I	2
	Credits	**11**
2nd Semester		
VET 131	Clinical Pathology I	3
VET 135	Anesthesia of Domestic Animals	2
VET 214	Animal Dentistry	2
VET 216	Animal Pharmacology	2
VET 217	Intro to Lab, Zoo & Wildlife Medicine	2
	Credits	**11**
3rd Semester		
CST 110 or CST 126	Introduction to Human Communication or Interpersonal Communication	3
Humanities/Fine Arts Elective (p. 49)		3
Social/Behavioral Sciences Elective (p. 50)		3
	Credits	**9**
4th Semester		
VET 122	Clinical Practices II	3
VET 132	Clinical Pathology II	3
VET 212	Animal Diseases II	2
VET 221	Advanced Clinical Practices III	4
	Credits	**12**
5th Semester		
VET 133	Clinical Pathology III	3
VET 235	Animal Hosp Mgmt And Client Relation	3
VET 290	Coordinated Internship	4
	Credits	**10**
	Total Credits	**68**

Visual Art, A.F.A.

Location(s): AL, AN, LO, MA, WO

NOVA Code: 5610

Purpose

This studio-arts, portfolio-intensive curriculum is designed for students who seek transfer into a competitive Bachelor of Fine Arts (BFA) program or similar baccalaureate program in either fine arts, graphic design, or photography at a college or university. Students work on a common foundation year of studio art courses and then select their concentration in either fine arts, graphic design, or photography for their second year of study. **Note** that the graphic design concentration is offered at the AL and LO campuses and the photography concentration is offered at AL and WO.

Transfer Information

Since four-year colleges can vary in their course, GPA, and portfolio requirements, students are required to work with their AFA faculty advisor for course scheduling and portfolio preparation. Electives should be chosen carefully to meet requirements of the transfer institution. The responsibility for proper course selection rests with the student.

Recommended Preparation

Satisfactory aptitude in visual art.

Two Years

Course	Title	Credits
1st Semester		
ART 101	History of Art: Prehistoric to Gothic	3
ART 121	Foundations of Drawing	3
ART 131	Two-Dimensional Design	3
ART 140 or PHT 101	Introduction to Graphic Skills or Photography I	3
ENG 111	College Composition I	3
SDV 101	Orientation to: (Fine Arts)	1
	Credits	**16**
2nd Semester		
ART 102	History of Art: Renaissance to Modern	3
ART 132	Three-Dimensional Design	3
ART 223	Life Drawing	3
ENG 112	College Composition II	3
Select one of the following: [1]		3
MTH 154	Quantitative Reasoning	
MTH 155	Statistical Reasoning (or Higher)	
	Credits	**15**
3rd Semester		
ART or PHT Electives (p. 138)		3
ART or PHT Electives (p. 138)		3
ART 298	Seminar And Project (Visual Art Portfolio Development)	3
Physical or Life Science Elective w/Lab (p. 50)		4
Select one of the following:		3
ART or PHT Electives (p. 138)		
General Education Elective (p. 49)		
	Credits	**16**
4th Semester		
ENG 2XX - Literature Elective (p. 50)		3
Social/Behavioral Sciences Elective (p. 50)		3
Select one of the following:		3
ART or PHT Electives (p. 138)		
General Education Elective (p. 49)		
Select one of the following:		3
ART 200	History of Non-Western Art	
ART 215	History of Modern Art	
ART 250	History of Design	
PHT 110	History of Photography	
General Education Elective (p. 49)		
Select one of the following CST Electives:		3
CST 100	Principles of Public Speaking	
CST 110	Introduction to Human Communication	
	Credits	**15**
	Total Credits	**62**

Electives should be chosen with the advice of an academic advisor to meet the requirements of the intended transfer institution.

[1] Credit will not be awarded for both MTH 155 Statistical Reasoning and MTH 245 Statistics I.

ART or PHT Electives

Courses may be selected from the following electives with the advice of a counselor or academic advisor according to the requirements of the transfer institution.

Code	Title	Credits
Students Interested in Graphic Design		
ART 116	Design For The Web I	3
ART 141	Typography I	3
ART 142	Typography II	3
ART 217	Graphic Design I	3
Students Interested in Fine Arts		
ART 130	Introduction to Multimedia	3
ART 153	Ceramics Handbuilding I	3
ART 154	Ceramics Wheel Throwing I	3
ART 231	Sculpture I	3
ART 235	Ceramics Handbuilding II	3
ART 236	Sculptural Ceramics	3
ART 237	Ceramics Glaze Formulation and Firing	3
ART 241	Painting I	3
ART 242	Painting II	3
Students Interested in Photography		
PHT 101	Photography I	3
PHT 102	Photography II	3
PHT 103	Black and White Darkroom Photography I	3
PHT 104	Black and White Darkroom Photography II	3
PHT 110	History of Photography	3
PHT 130	Video I	3
PHT 131	Video II	3
PHT 201	Advanced Photography I	3
PHT 221	Studio Lighting I	3
PHT 270	Digital Imaging I	3
ART 271	Printmaking I	3

Welding, Introductory: Basic Techniques, C.S.C.

Location(s): MA
NOVA Code: 221-995-01

Purpose

This curriculum is designed for individuals wishing to obtain fundamental skills for immediate entry-level positions in the welding trade as welding apprentices or welding laboratory assistants.

Its structure allows students to pursue these courses on a part-time basis. All courses will apply to the Welding Certificate.

One Year

Course	Title	Credits
1st Semester		
MTH 111	Basic Technical Mathematics (or Higher - 1st 7-weeks)	3
SAF 130	Industrial Safety OSHA 10 (1st 7-weeks)	1
WEL 120	Introduction to Welding (1st 7-weeks)	2
WEL 121	Arc Welding (2nd 7-weeks)	2
WEL 150	Welding Drawing And Interpretation (2nd 7-weeks)	2
	Credits	**10**
2nd Semester		
WEL 122	Welding II: Electric Arc	3
WEL 130	Inert Gas Welding	3
WEL 160	Gas Metal Arc Welding	3
	Credits	**9**
	Total Credits	**19**

Welding, Advanced, C.S.C.

Location(s): MA
NOVA Code: 221-995-02

Purpose

The Advanced Welding Career Studies Certificate (CSC) is designed to provide learners with high-level technical skills beyond entry-level production. This program offers a career pathway for students to master specialized techniques in Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), and Flux-Cored Arc Welding (FCAW), alongside advanced pipe, and shop fabrication methods. Graduates are prepared for advanced roles in industrial manufacturing, custom fabrication, and structural construction, or to pursue American Welding Society (AWS) Certifications.

Students must complete the Introductory Welding Career Studies Certificate or a complementary credit for prior learning (CPL) equivalency prior to enrollment in the Advanced Welding Career Studies Certificate.

Course	Title	Credits
1st Semester		
WEL 136	Welding III (Inert Gas) (1st 7-weeks)	2
WEL 247	Welding Layout and Fabrication I (1st 7-weeks)	2
WEL 124	Shielded Metal Arc Welding (Advanced) (2nd 7-weeks)	3
WEL 161	Flux Cored Arc Welding (FCAW) (2nd 7-weeks)	3
	Credits	**10**
2nd Semester		
WEL 235 or WEL 126	Advanced Gas Metal Arc Welding (GMAW) or Pipe Welding I	3
WEL 248	Welding Layout and Fabrication II	2
WEL 298	Seminar and Project	4
	Credits	**9**
	Total Credits	**19**

Accounting (ACC)

ACC 211 Principles of Accounting I (3 CR.)
Introduces accounting principles with respect to financial reporting. Demonstrates how decision makers use accounting information for reporting purposes. Focuses on the preparation of accounting information and its use in the operation of organizations, as well as methods of analysis and interpretation of accounting information. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ACC 212 Principles of Accounting II (3 CR.)
Introduces accounting principles with respect to cost and managerial accounting. Focuses on the application of accounting information with respect to product costing, as well as its use within the organization to provide direction and to judge performance. Lecture 3 hours per week.
Prerequisite(s) ACC 211
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ACC 215 Computerized Accounting (3 CR.)
Introduces the computer in solving accounting problems. Focuses on operation of computers. Presents the accounting cycle and financial statement preparation in a computerized system and other applications for financial and managerial accounting. Lecture 3 hours per week.
Prerequisite(s) ACC 211

ACC 219 Gov. & Not-For-Profit Accounting (3 CR.)
Introduces fund accounting as used by governmental and nonprofit entities. Stresses differences between accounting principles of for-profit and not-for-profit organizations. Lecture 3 hours per week.
Prerequisite(s) ACC 212 or equivalent

ACC 220 Accounting for Small Business (3 CR.)
Presents practical accounting procedures for small business operations including service occupations, retail stores, and manufacturing operations. Covers the accounting cycle, journals, ledgers, preparation of financial statements and payrolls, and checking account management. Includes regulations applicable to payroll, self-employment, Social Security and other taxes. Lecture 3 hours per week.

ACC 221 Intermediate Accounting I (3 CR.)
Covers accounting principles and theory, including a review of the accounting cycle and accounting for current assets, current liabilities, and investments. Introduces various accounting approaches and demonstrates the effect of these approaches on the financial statement users. Must be taken in sequence with ACC 222. Lecture 3 hours per week.
Prerequisite(s) ACC 212 or equivalent

ACC 222 Intermediate Accounting II (3 CR.)
Continues accounting principles and theory with emphasis on accounting for fixed assets, intangibles, corporate capital structure, long-term liabilities, and investments. Must be taken in sequence with ACC 221. Lecture 3 hours per week.
Prerequisite(s) ACC 221

ACC 230 Advanced Accounting (3 CR.)
Develops the skills necessary to prepare financial statements for complex business organizations. Includes the preparation of consolidated financial statements focusing on business combinations, multinational corporations, and foreign currency translation. Covers accounting for partnerships, state and local governments, and nonprofit organizations. Lecture 3 hours per week.
Prerequisite(s) ACC 222

ACC 231 Cost Accounting I (3 CR.)
Studies cost accounting methods and reporting as applied to job order, process, and standard cost accounting systems. Includes cost control and other topics. Must be taken in sequence with ACC 232. Lecture 3 hours per week.
Prerequisite(s) ACC 212 or equivalent
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ACC 240 Fraud Examination (3 CR.)
Covers the principles and methodology of fraud detection and deterrence. Provides an introduction to the various ways fraud and occupational abuses occur, methods to identify the risk of exposure to loss from fraud, and appropriate prevention, detection, and investigation approaches. Lecture 3 hours per week.

ACC 241 Auditing I (3 CR.)
Presents techniques of investigating, interpreting, and appraising accounting records and assertions. Studies internal control design and evaluation, evidence-gathering techniques, and other topics. Lecture 3 hours per week.
Prerequisite(s) ACC 212

ACC 261 Principles of Federal Taxation I (3 CR.)
Presents the study of federal taxation as it relates to individuals and related entities. Includes tax planning, compliance, and reporting. Lecture 3 hours per week.

ACC 262 Principles of Federal Taxation II (3 CR.)
Presents the study of federal taxation as it relates to partnerships, corporations, and other tax entities. Includes tax planning, compliance, and reporting. Lecture 3 hours per week.

ACC 263 Data Analytics and Statistics in Accounting (3 CR.)
Introduces the field of business analytics in accounting, finance, and business management. Focuses on the way in which enterprises such as corporations, non-profits, and governments can use data to gain insights and make better decisions. Presents the application of selected data mining techniques to support business analytics. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) ACC 212

Administration of Justice (ADJ)

ADJ 100 Survey of Criminal Justice (3 CR.)
Presents an overview of the United States criminal justice system; introduces the major system components: law enforcement, judiciary, and corrections. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 105 The Juvenile Justice System (3 CR.)
Presents the evolution, philosophy, structures, and processes of the American juvenile delinquency system; surveys the rights of juveniles, dispositional alternatives, rehabilitation methods, and current trends. Lecture 3 hours per week.

ADJ 110 Introduction to Law Enforcement (3 CR.)
Studies the philosophy and history of law enforcement, presenting an overview of the crime problem and policy response issues. Surveys the jurisdictions and organizations of local, state, and federal law enforcement agencies. Examines the qualification requirements and career opportunities in the law enforcement profession. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 133 Ethics & The Criminal Justice Prof. (3 CR.)
Examines ethical dilemmas pertaining to the criminal justice system, including those in policing, courts, and corrections. Focuses on some of the specific ethical choices that must be made by the criminal justice professional. Lecture 3 hours per week.

ADJ 140 Introduction to Corrections (3 CR.)
Focuses on societal responses to the offender. Traces the evolution of practices based on philosophies of retribution, deterrence, and rehabilitation. Reviews contemporary correctional activities and their relationships to other aspects of the criminal justice system. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 163 Crime Analysis and Intelligence (3 CR.)
Provides a basic introduction to crime analysis and criminal intelligence. Covers the need, structure and function within the law enforcement agency, relevant law, and future trends. Lecture 3 hours per week.

ADJ 164 Case Studies in Murder/Violent Crimes (3 CR.)
Introduces the student to the investigation of murder and other violent crimes by means of classic case studies and, to the extent feasible, local case files. Includes methodology, strategy and tactics, analysis, relevant law, and future trends. Covers evidentiary techniques and technologies with a primary focus on how critical thinking is applied to serious violent crime. Lecture 3 hours per week.

ADJ 171 Forensic Science I (4 CR.)
Introduces student to crime scene technology, procedures for sketching, diagramming and using casting materials. Surveys the concepts of forensic chemistry, fingerprint classification/identification and latent techniques, drug identification, hair and fiber evidence, death investigation techniques, thin-layer chromatographic methods, and arson materials examination. Part I of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 172 Forensic Science II (4 CR.)
Introduces student to crime scene technology, procedures for sketching, diagramming and using casting materials. Surveys the concepts of forensic chemistry, fingerprint classification/identification and latent techniques, drug identification, hair and fiber evidence, death investigation techniques, thin-layer chromatographic methods, and arson materials examination. Part II of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

ADJ 201 Criminology (3 CR.)
Studies current and historical data pertaining to criminal and other deviant behavior. Examines theories that explain crime and criminal behavior in human society. Lecture 3 hours per week.

ADJ 211 Crim Law, Evidence And Procedures I (3 CR.)
Teaches the elements of proof for major and common crimes and the legal classification of offenses. Studies the kinds, degrees, and admissibility of evidence and its presentation in criminal proceedings with emphasis on legal guidelines for methods and techniques of evidence acquisition. Surveys the procedural requirements from arrest to final disposition in the various American court systems with focus on the Virginia jurisdiction. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 212 Crim Law, Evidence And Procedures II (3 CR.)
Teaches the elements of proof for major and common crimes and the legal classification of offenses. Studies the kinds, degrees, and admissibility of evidence and its presentation in criminal proceedings with emphasis on legal guidelines for methods and techniques of evidence acquisition. Surveys the procedural requirements from arrest to final disposition in the various American court systems with focus on the Virginia jurisdiction. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 216 Organized Crime And Corruption (3 CR.)
Addresses judicial efforts against and involvement in corruption, drug, vice, and white-collar crimes, both individual and organized. Lecture 3 hours per week.

ADJ 227 Constitutional Law For Justice Personnel (3 CR.)
Surveys the basic guarantees of liberty described in the U. S. Constitution and the historical development of these restrictions on government power, primarily through U. S. Supreme Court decisions. Reviews rights of free speech, press, assembly, as well as criminal procedure guarantees (to counsel, jury trial, habeas corpus, etc.) as they apply to the activities of those in the criminal justice system. Lecture 3 hours per week.

ADJ 228 Narcotics And Dangerous Drugs (3 CR.)
Surveys the historical and current usage of narcotics and dangerous drugs. Teaches the identification and classification of such drugs and emphasizes the symptoms and effects on their users. Examines investigative methods and procedures utilized in law enforcement efforts against illicit drug usage. Lecture 3 hours per week.

ADJ 229 Community Policing in Modern Society (3 CR.)
Examines the process through which community problems are identified and addressed by police departments in cooperation with the community. Considers current efforts by law enforcement officers to achieve an effective working relationship with the community. Lecture 3 hours. Total 3 hours per week.

ADJ 233 Multiculturalism in Policing (3 CR.)
Examines the impacts of historical events and social changes on law enforcement; evaluates the complexity of providing police services to multicultural communities; develops sensitivity and understanding of diverse populations and communities of color. Lecture 3 hours per week.
Prerequisite(s) Permission of the instructor

ADJ 234 Terrorism And Counter-Terrorism (3 CR.)
Surveys the historical and current practices of terrorism that are national, transnational, or domestic in origin. Includes biological, chemical, nuclear, and cyber-terrorism. Teaches the identification and classification of terrorist organizations, violent political groups and issue-oriented militant movements. Examines investigative methods and procedures utilized in counter terrorist efforts domestically and internationally. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 236 Principles of Criminal Investigation (3 CR.)
Surveys the fundamentals of criminal investigation procedures and techniques. Examines crime scene search, collecting, handling, and preserving of evidence. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 240 Techniques of Interviewing (3 CR.)
Provides the student with essential skills and techniques necessary to obtain quality information from victims, witnesses, and suspects, regarding criminal activity. Emphasizes locations and settings for interviews, kinesics, proxemics, and paralinguistics of both the interviewer and interviewee. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 247 Criminal Behavior (3 CR.)
Introduces and evaluates the concepts of normal and abnormal behavior. Focuses on the psychological and sociological aspects of criminal and other deviant behavior patterns. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 248 Probation, Parole, And Treatment (3 CR.)
Surveys the philosophy, history, organization, personnel, and functioning of traditional and innovative probation and parole programs; considers major treatment models for clients. Lecture 3 hours per week.

ADJ 250 Global Security Concepts for Law Enforcement and National Security (3 CR.)
Identifies and examines the interrelationship of significant global issues and events that affect local and national crime and security interests of the United States. Emphasizes the economic dimensions of international events and the transnational ripple effect they have on the security and well-being of others residing in distant localities and lands. Explores issues of cooperation and coordination of investigative and prosecutive activities in a global environment. Lecture 3 hours per week.

ADJ 252 Counterintelligence Concepts for Law Enforcement and National Security (3 CR.)
Studies the role national security agencies and law enforcement play in counterintelligence programs to identify and thwart hostile criminal activities against United States citizens, businesses, corporations, and U.S. national interests by foreign governments, organizations, and individuals. Focuses on the role of ethical and moral counterintelligence activities and investigations in a democratic society. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ADJ 298 Seminar And Project (1-5 CR.)
Completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hrs.

ADJ 299 Supervised Study (1-5 CR.)
Assignment of problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hrs.

Air Conditioning and Refrigeration (AIR)

AIR 111 Air Conditioning & Refrig Controls I (3 CR.)
Presents electron theory, magnetism, Ohm's Law, resistance, current flow, instruments for electrical measurement, A.C. motors, power distribution controls and their application. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite or Corequisite SDV 100 or SDV 106
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AIR 121 Air Cond & Refrigeration I (4 CR.)
Studies refrigeration theory, characteristics of refrigerants, temperature and pressure, tools and equipment, soldering, brazing, refrigeration systems, system components, compressors, evaporators, and metering devices. Presents charging and evaluation of systems and leak detection. Explores servicing the basic system. Explains use and care of oils and additives and troubleshooting of small commercial systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite or Corequisite SDV 100 or SDV 106
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AIR 122 Air Cond & Refrigeration II (4 CR.)
Studies refrigeration theory, characteristics of refrigerants, temperature and pressure, tools and equipment, soldering, brazing, refrigeration systems, system components, compressors, evaporators, and metering devices. Presents charging and evaluation of systems and leak detection. Explores servicing the basic system. Explains use and care of oils and additives and troubleshooting of small commercial systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AIR 121
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AIR 134 Circuits And Controls I (3 CR.)
Presents circuit diagrams for air conditioning units, reading and drawing of circuit diagrams, types of electrical controls, and house wiring circuits. Includes analysis of air conditioning circuits, components, analysis and characteristics of circuits and controls, testing, and servicing. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AIR 111
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AIR 154 Heating Systems I (4 CR.)
Introduces types of fuels and their characteristics of combustion; types, components and characteristics of burners, and burner efficiency analyzers. Studies forced air heating systems including troubleshooting, preventive maintenance and servicing. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite or Corequisite AIR 111
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AIR 205 Hydronics And Zoning (4 CR.)
Presents installation, servicing, troubleshooting, and repair of hydronic systems for heating and cooling. Includes hot water and chilled water systems using forced circulation as the transfer medium. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AIR 154
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AIR 207 Heat Loads & Psychrometrics (4 CR.)
A proficiency in basic Algebra is highly recommended. Studies air and its properties, characteristics, and measurements as applied to human comfort. Considers control of temperature, humidity, and distribution of air and air mixtures. Studies heat loss and heat gain factors. Considers the effect, the selection and layout of residential air conditioning and refrigeration systems.Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AIR 213 Air Cond & Refrigeration Controls III (4 CR.)
Introduces electrical, pneumatic and electronic control circuits as applied to year-round air conditioning systems. Includes reading wiring and schematic diagrams, troubleshooting, and designing high and low voltage control systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AIR 231 Circuits and Controls IV (4 CR.)
Applies controls and control circuits to air conditioning and refrigeration, including components, pilot devices and controls, and circuit diagrams. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AIR 111

AIR 232 Circuits and Controls V (3 CR.)
Presents application and design of wiring and schematic diagrams of commercial refrigeration systems. Teaches fundamentals of operation and applications of pneumatic controls including basic pneumatic control circuits. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AIR 235 Heat Pumps (4 CR.)
Studies theory and operation of reverse cycle refrigeration including supplementary heat as applied to heat pump systems, including service, installation and maintenance. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AIR 121

AIR 238 Advanced Troubleshooting And Service (4 CR.)
Presents advanced service techniques on a wide variety of equipment used in refrigeration, air conditioning, and phases of heating and ventilation and controls. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AIR 122

AIR 240 Direct Digital Controls (DDC) I (3 CR.)
Studies the principles of direct digital controls. Presents common terms used within the HVAC control industry. Covers the function and operating characteristics of sensors, controllers, and final control devices. Highlights transfer function for a control devise and details the development of equations for typical control transfer functions. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AIR 251 Air Conditioning Systems I (4 CR.)
Studies air conditioning, sizing selection, and application, servicing, repairing of coils and compressors. Includes troubleshooting the cooling system. Studies piping design and sizing, installation, condensers and water towers. Includes valves, strainers and accessories, duct systems and air distribution design and their relationship with volume, static pressure and velocity. Part I of II.Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AIR 121

AIR 252 Air Conditioning Systems II (4 CR.)
Studies air conditioning, sizing selection, and application, servicing, repairing of coils and compressors. Includes troubleshooting the cooling system. Studies piping design and sizing, installation, condensers and water towers. Includes valves, strainers and accessories, duct systems and air distribution design and their relationship with volume, static pressure and velocity. Part II of II.Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AIR 122

AIR 257 Gas-Fired Warm Air Furnaces (4 CR.)
Covers the study of mid- and high-efficiency gas-fired warm air furnaces and their components. Includes equipment components, installation, servicing, and maintenance. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AIR 154

AIR 276 Refrigerant Usage EPA Certification (1 CR.)
Prepares HVAC technicians for a refrigerant certification test mandated by the Environmental Protection Agency (EPA). Reviews refrigerant recovery, recycle, and reclamation procedures for service work associated with air conditioning and refrigeration. Examines environmental impact including ozone depletion resulting from refrigeration utilization. Lecture 1 hour. Total 1 hour per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

American Sign Language-ASL (ASL)

ASL 100 Orientation to Acquisition of ASL as an Adult (2 CR.)
Presents a brief introduction to the U.S. Deaf community, focusing on the differences in language and literature. Introduces many common pitfalls experienced by adults when acquiring ASL as a second language. Provides students with an experience bridging spoken English and ASL via use of visual- gestural, non-verbal communication. Lecture 2 hours per week.

ASL 101 Beginning American Sign Language I (4 CR.)
Introduces cultural awareness, comprehension and production skills, and emphasizes basic sentence structure in American Sign Language with a focus on interactive communicative competence. Part I of II. Lecture 4 hours per week.

ASL 102 Beginning American Sign Language II (4 CR.)
Introduces cultural awareness, comprehension and production skills, and emphasizes basic sentence structure in American Sign Language with a focus on interactive communicative competence. Part II of II. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) ASL 101 or equivalent

ASL 115 Fingerspelling And Number Use in ASL (2 CR.)
Provides intensive practice in comprehension and production of fingerspelled words and numbers with emphasis on clarity and accuracy. Focuses on lexicalized fingerspelling and numeral incorporation as used by native users of American Sign Language. Lecture 2 hours per week.
Prerequisite(s) ASL 101 or permission of instructor

ASL 125 History of the U.S. Deaf Community (3 CR.)
Examines the history of the Deaf Community. Presents an overview of various aspects of Deaf culture, including educational and legal issues in American history. Lecture 3 hours per week.

ASL 201 Intermediate American Sign Language I (3 CR.)
Continues to develop cultural awareness, comprehension and production skills, and emphasizes a variety of sentence structures in American Sign Language with a continued focus on interactive communicative competence. Part I of II. Lecture 3 hours per week.
Prerequisite(s) ASL 102 or permission of instructor

ASL 202 Intermediate American Sign Language II (3 CR.)
Continues to develop cultural awareness, comprehension and production skills, and emphasizes a variety of sentence structures in American Sign Language with a continued focus on interactive communicative competence. Part II of II. Lecture 3 hours per week.
Prerequisite(s) ASL 201 or permission of instructor

ASL 220 Comparative Linguistics: ASL/English (3 CR.)
Describes spoken English and ASL (American Sign Language) on five levels: phonological, morphological, lexical, syntactic, and discourse. Compares and contrasts the two languages on all five levels using real-world examples. Documents similarities between signed languages and spoken languages in general. Describes the major linguistic components and processes of English and ASL. Introduces basic theories regarding ASL structure. Emphasizes ASL's status as a natural language by comparing and contrasting similarities and unique differences between the two languages. Lecture 3 hours per week.
Prerequisite(s) ASL 102

ASL 261 Advanced American Sign Language I (4 CR.)
Develops cultural awareness, comprehension and production skills, and emphasizes a variety of sentence structures in American Sign Language with a continued focus on advanced communicative competence. Prerequisite: ASL 202 or by placement test. Lecture 4 hours. Total 4 hours per week
Prerequisite(s) ASL 202

ASL 262 Advanced American Sign Language II (4 CR.)
Develops cultural awareness, comprehension and production skills, and emphasizes a variety of sentence structures in American Sign Language with a continued focus on advanced communicative competence. ASL 202 or by placement test. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) ASL 202

Arabic (ARA)

ARA 101 Beginning Arabic I (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic sentence structure. Part I of II. Lecture 4 hours. Total 4 hours per week.
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ARA 102 Beginning Arabic II (4 CR.)
Prerequisite(s) ARA 101 or two years of successful completion of high school Arabic, or demonstrated experiential learning, or by placement test, or equivalent
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ARA 201 Intermediate Arabic I (4 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and introduces complex sentence structures. Classes may be conducted in target language. Part I of II.Classes conducted in Arabic. Lecture 4 hours per week.
Prerequisite(s) ARA 102, or three years of successful completion of high school Arabic, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ARA 202 Intermediate Arabic II (4 CR.)
. Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and emphasizes complex sentence structures. Classes may be conducted in the target language. Part II of II.. Lecture 4 hours per week.
Prerequisite(s) ARA 201, or four years of successful completion of high school Arabic, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Architecture (ARC)

ARC 123 Architectural Graphics I (3 CR.)
Introduces techniques of architectural communication including orthographic projection and sketching as well as 3D views and modeling. Requires the manual production of plans, sections, elevations and 3D views and models of a simple building. Includes dimensioning and detailing. Part I of II. (Credit cannot be awarded for both ARC 121 and 123.) Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

ARC 124 Architectural Graphics II (3 CR.)
A continuation of Architectural Graphics I. Introduces techniques of architectural communication including orthographic projection and sketching as well as 3D views and modeling. Requires the production of plans, sections, elevations and 3D views and models of a simple building using computer technology. Includes dimensioning and detailing. Part II of II. (Credit cannot be awarded for both ARC 122 and 124.) Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ARC 123

ARC 133 Construction Methodology & Procedures I (3 CR.)
Studies materials used in construction of buildings, covering foundations to structural framing systems. Includes appropriate use of materials for various construction types. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ARC 134 Construction Methodology & Procedures II (3 CR.)
Studies materials and systems for building construction. Includes specification of materials and installation procedures; types of specifications and writing procedures; bidding procedures; and contract documents. Lecture 3 hours per week.
Prerequisite(s) ARC 133

ARC 138 Structures For Architects (3 CR.)
Analyzes the various forces acting on a building and surveys the structural elements used to resist them. Uses case studies of ordinary and unusual structures to illustrate concepts of structural design. Provides a conceptual overview of structural systems for students interested in the design and construction of buildings. Requires some elementary algebra. Includes exercises in reading structural drawings and tables. Lecture 3 hours per week.
Prerequisite(s) ARC 133 and MTH 111 or higher MTH

ARC 197 Cooperative Education (1-5 CR.)
Supervised on-the-job training for pay in approved business and government organizations. Applicable to all curricula at the discretion of the College. See eligibility requirements on page 39. Credit/work ratio not to exceed 1:5 hrs. May be repeated for credit. Variable hrs.

ARC 200 History of Architecture (4 CR.)
Surveys architecture from ancient times to the 19th century with emphasis on philosophy of design, form, and structure. Lecture 4 hours per week.

ARC 201 History of Modern Architecture (3 CR.)
Surveys architecture from 19th century to present, with emphasis on philosophy of design, form, and structure. Lecture 3 hours per week.

ARC 225 Site Planning And Technology (3 CR.)
Studies the impact of building codes and zoning ordinances on site design; storm drainage, grading design, erosion and flood control; site materials for paving and retaining walls; and site utilities. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

ARC 231 Advanced Architectural Design and Graphics I (4 CR.)
Familiarizes students with a range of criteria and intentions in architectural design including the role of building systems. Helps students develop their design presentation graphics, design development and modeling skills used in a professional architectural office. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ARC 124 or permission of instructor

ARC 232 Advanced Architectural Design and Graphics II (4 CR.)
Serves as a capstone course which requires the development of a comprehensive set of architectural communications for a complex building. Requires students to demonstrate competence in all aspects of architectural technology including site planning, building systems, construction documents, design principles and computer aided graphics. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ARC 231

ARC 240 Designing Sustainable Built Environments (3 CR.)
Introduces students to ethics, ideas, technologies, methods and current practices in designing sustainable environments. Lecture 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

ARC 243 Environmental Systems (4 CR.)
Studies energy sources and strategies for use in buildings; heat loss and heat gain; heating and cooling equipment and system; water supply, distribution and waste systems and equipment; and principles of electricity, electrical systems, and equipment. Lecture 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

ARC 298 Seminar And Project (1-5 CR.)
Completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hrs.

Arts (ART)

ART 100 Art Appreciation (3 CR.)
Introduces art from prehistoric times to the present day. Describes architectural styles, sculpture, photography, printmaking, and painting techniques. Highlights major artists and key contributions from global and Western culture. Covers content chronologically and/or thematically. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

ART 101 History of Art: Prehistoric to Gothic (3 CR.)
Surveys the history and interpretation of architecture, painting and sculpture from the prehistoric era through the Gothic. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ART 102 History of Art: Renaissance to Modern (3 CR.)
Surveys the history and interpretation of architecture, painting and sculpture from the Renaissance through the modern era. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ART 103 History of Far Eastern Art I (3 CR.)
Surveys the history of Far Eastern art from the prehistoric period to the present. Part I focuses on the art of India and Southeast Asia. Part II focuses on the art of China, Japan, and Korea. Emphasizes architecture, painting, and sculpture with some instruction in printmaking and decorative arts. Lecture 3 hours per week.

ART 116 Design For The Web I (3 CR.)
Introduces the basic elements of web page design: typography, imagery, and color; and examines how they are combined to create effective layouts. Teaches organization of materials, sketching and concept development, site planning, and various methods of construction. Lecture 2 hours per week Studio instruction 2 hours. Total 4 hours per week.

ART 121 Foundations of Drawing (3 CR.)
Develops basic drawing skills and understanding of visual language through studio instruction/lecture. Introduces concepts such as line, proportion, space, perspective, value and composition as applied to still life, landscape and figure. Uses drawing media such as pencil, charcoal and ink wash. Includes field trips and gallery assignments as appropriate. Lecture 1 hour. Studio instruction 4 hours. Total 5 hours per week
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ART 130 Introduction to Multimedia (3 CR.)
Introduces the student to the basic components of multimedia: text, graphics, animation, sound, and video, and explores how they combine to create a multimedia product. Emphasizes the design aspects of multimedia projects and teaches the techniques required to develop a presentation. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ART 131 Two-Dimensional Design (3 CR.)
Introduces the elements and principles of design as applied to two-dimensional studio projects. Introduces two-dimensional media, techniques, compositional strategies, and color concepts and interactions. Supports conceptual development through introduction to historical and contemporary practices and critical analysis. May include field trips as required. Lecture 1 hour. Studio instruction 4 hours. Total 5 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ART 132 Three-Dimensional Design (3 CR.)
Introduces the elements and principles of design as applied to three-dimensional studio projects. Introduces three-dimensional media, techniques, compositional strategies, and color concepts and interactions. Supports conceptual development through introduction to historical and contemporary practices and critical analysis. May include field trips as required. Lecture 1 hours. Studio instruction 4 hours. Total 5 hours per week.

ART 135 Visual Communications (3 CR.)
Studies intermediate design concepts applicable to all fields of communication arts. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.

ART 140 Introduction to Graphic Skills (3 CR.)
Teaches basic studio skills and concepts. Emphasizes concept development and problem solving using traditional art materials and computer techniques. Uses current graphic software applications. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ART 141 Typography I (3 CR.)
Studies the history of letterforms and typefaces and examines their uses in contemporary communications media. Emphasizes applications to specific design problems. Includes identification and specification of type and uses current technologies for copy fitting and hands-on typesetting problems. Part I of II. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 140 or division approval

ART 142 Typography II (3 CR.)
Examines advanced applications of the studies completed in Typography I. Explores the use of typography in layout and design. Requires projects based on professional level problems designed to test the student's practical knowledge as well as his or her creative ability. Applies computer techniques for working with type. Part II of II. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 140 and ART 141 or division approval

ART 150 History of Film & Animation (3 CR.)
Exposes the student to the rich history of temporal imagery from the invention of the zoetrope and kinetoscope through the rise of the moving picture industry and the development of the first animated films to present day television. Chronicles the impact of the moving image in the Twentieth century. Discusses the design and concept of influential works as well as the relationship between these earlier forms of moving graphics and today's innovative video technology. Lecture 3 hours per week..

ART 153 Ceramics Handbuilding I (3 CR.)
Introduces a variety of ceramic handbuilding techniques utilized to design and produce ceramic arts. Includes an introduction to clay, glazes and kilns. Part I of II. Lecture 1 hours. Studio instruction 4 hours. Total 5 hours per week.

ART 154 Ceramics Wheel Throwing I (3 CR.)
Introduces a variety of ceramic wheel-throwing techniques utilized to design and produce ceramic arts. Includes an introduction to clay, glazes and kilns. Part I of II. Lecture 1 hours. Studio instruction 4 hours. Total 5 hours per week.

ART 160 Film Production (3 CR.)
Introduces students to the basic techniques and procedures involved in motion picture production. Emphasizes aspects of filmmaking from scripting and preproduction through editing and postproduction. Includes the exploration of professional film crew roles in grip, lighting, production management, directing, sound and editing. This course is cross-listed with PHT 150. Credit will not be awarded for both. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

ART 161 Cinematography (3 CR.)
Explores the practical and theoretical elements of cinematography with an emphasis on lighting and camera technique. Investigates the history of the craft through film cameras to digital video with topics of camera operation including composition, camera settings, lenses, filters, shot design, and movement. Provides students with the opportunity to create lighting designs and solve practical lighting problems. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Prerequisite(s) ART 160

ART 199 Supervised Study (1-5 CR.)
Assignment of problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hrs.

ART 200 History of Non-Western Art (3 CR.)
Explores art as an integral aspect of cultures from Africa, Asia, Islamic groups, Oceania, Native America, and pre-Columbian Central and South America. Increases understanding of the formal and iconographic properties of these works by examining the philosophies, social customs, and ritual practices of their cultures. The assignments in the course require the reading of scholarly articles and researched-based writing. Lecture 3 hours per week. Please note: Credit will be awarded for either ART 200: History of Non-Western Art or ART 105: Art In World Culture.

ART 203 Animation I (3 CR.)
Introduces the student to the basic techniques of animation, combining traditional and computer-generated skills. Teaches theoretical elements of the aesthetics of sequential imagery. Provides practical experience in two-dimensional and/or three-dimensional animation. Exposes the student to a variety of animation techniques through lectures, presentations, classroom work, and outside assignments. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 121 and ART 140

ART 204 Animation II (3 CR.)
Builds on the student's skills in the techniques of animation developed in ART 203 Animation 1. Emphasizes computer-generated, high-quality animations. Teaches the advanced techniques of two- and three-dimensional computer animation. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 121, ART 140, and ART 203
Corequisite(s) ART 207

ART 208 Video Techniques (3 CR.)
Addresses the fundamentals of video technology and non-linear video editing. Focuses on the aesthetics of time-code editing using current industry software. Teaches a student to shoot and capture video and record and edit sound, and combine artwork, animation, video, and sound in the creation of professional-quality original video projects. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ART 209 Creative Concepts and Writing (3 CR.)
Prerequisite is ENG 111 or division approval. Focuses on the generation of creative verbal/visual concepts and the techniques of effective written communication necessary for success in the graphic design industry. Lecture 3 hours per week.

ART 215 History of Modern Art (3 CR.)
Surveys the history of modern architecture, sculpture, painting and graphic arts in representational and non-representational forms. Focuses on the periods and movements that influenced the arts of the twentieth century as well as the influence of modernism on contemporary art. The assignments in the course require the reading of scholarly articles and research-based writing. Lecture 3 hours. Total 3 hours per week. Please note: Credit will be awarded for either ART 215: History of Modern Art or ART 106: History of Modern Art.

ART 217 Graphic Design I (3 CR.)
Focuses on creative concepts and skills necessary for graphic design problem solving using current technology. Includes techniques specific to computer applications for the production of print design using text and image. Part I of II. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 140
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ART 218 Graphic Design II (3 CR.)
Builds on the studies completed in Graphic Design I. Teaches advanced problem solving skills, concept development and project management. Applies intermediate level production techniques to 2D and 3D graphic design using current technologies and principles of pre-press production. Part II of II. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 140, ART 141, and ART 217

ART 223 Life Drawing (3 CR.)
Advances skills and exploration in drawing through studio practice. Continues investigation of elements and principles of design emphasizing perceptual figure drawing. Introduces a variety of media and techniques including color media and theory. Supports conceptual development through introduction to historical and contemporary practices and critical analysis. May include field trips. Lecture 1 hour. Studio instruction 4 hours. Total 5 hours per week. Please note: Credit will not be awarded for both ART 223: Life Drawing and ART 122: Drawing II.
Prerequisite(s) ART 121

ART 231 Sculpture I (3 CR.)
Introduces sculptural concepts and methods of production in traditional and contemporary media. Includes clay, plaster, wood, stone, metal, plastics, and terra cotta. May include field trips. Lecture 1 hours. Studio instruction 4 hours. Total 5 hours per week.
Prerequisite(s) ART 131

ART 232 Sculpture II (3 CR.)
Introduces sculptural concepts and methods of production in traditional and contemporary media. Includes clay, plaster, wood, stone, metal, plastics, and terra cotta. May include field trips. Lecture 1 hours. Studio instruction 4 hours. Total 5 hours per week.
Prerequisite(s) ART 231

ART 235 Ceramics Handbuilding II (3 CR.)
Introduces advanced techniques utilized in ceramics to design and produce hand-built ceramics. Provides lecture and hands-on studio instruction building on the experience obtained in ART 153- Ceramics-Handbuilding I, including glazing and firing. Part II of II. Lecture 1 hours. Studio instruction 5 hours. Total 6 hours per week.
Prerequisite(s) ART 153

ART 236 Sculptural Ceramics (3 CR.)
Explores the design and production of sculptural ceramics, including handbuilding and use of the wheel. Lecture 1 hours. Studio instruction 5 hours. Total 6 hours per week.
Prerequisite(s) ART 154

ART 237 Ceramics Glaze Formulation and Firing (3 CR.)
Explores glaze formulation, surface treatments, kilns and firing methods for designing and producing studio ceramics. Lecture 1 hours. Studio instruction 5 hours. Total 6 hours per week.
Prerequisite(s) ART 153, or ART 154, or divisional approval

ART 241 Painting I (3 CR.)
Introduces abstract and representational painting in acrylic and/or oil with emphasis on color composition and value. Lecture 1 hours. Studio instruction 4 hours. Total 5 hours per week.
Prerequisite(s) ART 121

ART 242 Painting II (3 CR.)
Introduces abstract and representational painting in acrylic and/or oil with emphasis on color composition and value. Lecture 1 hours. Studio instruction 4 hours. Total 5 hours per week.
Prerequisite(s) ART 241

ART 243 Watercolor I (3 CR.)
Presents abstract and representational painting in watercolor with emphasis on design, color, composition, technique, and value. Lecture 1 hours. Studio instruction 4 hours. Total 5 hours per week.
Prerequisite(s) ART 131 or division approval

ART 250 History of Design (3 CR.)
Surveys the development of graphic design and illustration with emphasis on the 19th and 20th centuries. Analyzes the work of outstanding designers and illustrators. Lecture 3 hours per week.

ART 251 Communication Design I (3 CR.)
Studies the principles of visual communications as applied to advertising in newspapers, magazines, direct mail advertising, house organs, etc. Analyzes the influence of contemporary art on design. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 131 and ART 140

ART 263 Interactive Design I (3 CR.)
Focuses on creative concepts of design problem solving for interactive design. Instructs students in techniques specific to Web, multimedia for the Web, and other interactive design projects using current technology and standards. Interactive functionality and usability are covered. Part I of II. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 116, ART 140

ART 264 Interactive Design II (3 CR.)
Builds on the studies completed in Interactive Design I. Focuses on conceptualization and problem solving for interactive design. Instructs students in intermediate techniques specific to web, multimedia for the web and other interactive design projects using current technology and standards. Includes interactive documents and experiences. Part II of II. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 116, ART 121, ART 131, ART 135, ART 140, ART 141, and ART 263
Corequisite(s) ART 142

ART 265 Graphic Techniques (3 CR.)
Teaches printing production, terminology, image and typography specifications, as well as technical skills using current technology and software. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 140
Corequisite(s) ART 141 Applies the study of printing processes to the preparation of design files for professional printing

ART 268 Professional Practices In Communication Design (3 CR.)
Focuses on the business practices, ethical issues, and design issues present within the professional world of communication design. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 140

ART 270 Motion Graphics I (3 CR.)
Introduces fundamental concepts for motion graphics, including graphics and promos for television networks and film titles and logs for advertising. Focuses on design presentation and development, screen composition, graphic transitions and content. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 140

ART 271 Printmaking I (3 CR.)
Introduces the student to the full range of printmaking techniques. Includes woodcut, silkscreen, etching, and lithography. Provides historical perspective on printmaking. Lecture 2 hours. Studio instruction 3 hours. Total 5 hours per week.

ART 272 Printmaking II (3 CR.)
Introduces the student to the full range of printmaking techniques. Includes woodcut, silkscreen, etching, and lithography. Provides historical perspective on printmaking. Lecture 2 hours. Studio instruction 3 hours. Total 5 hours per week.
Prerequisite(s) ART 271

ART 281 Illustration for Designers (3 CR.)
Explores the professional field of illustration, along with the different ways of producing illustrations for editorial, commercial, and technical clients using traditional and digital techniques. Build skills and knowledge through discussions, projects and exercises for positioning as an illustrator. Lecture 2 hours. Studio instruction 2 hours. Total 4 hours per week.
Prerequisite(s) ART 121, and ART 140 or division approval

ART 287 Portfolio And Resume Preparation (3 CR.)
Focuses on portfolio preparation, resume writing, and job interviewing for students. Recommended for final semester program students. Requires instructor's approval. Lecture 1 hours. Studio instruction 3 hours. Total 4 hours per week. 3 credits

ART 298 Seminar And Project (3 CR.)
Completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. Visual Art Portfolio Development Students will complete transfer portfolios and actively apply for transfer and/or employment. This course will include critical discourse on artwork for portfolio development and professional practices, including transfer and/or employment documents. This course includes critical discourse on artwork for portfolio development and professional practices, including transfer and/or employment documents. Conceptual development is fostered through continued historical and contemporary practice research and critical analysis. Attention will be paid to developing visual skills and aesthetics while ensuring a holistic understanding of thefundamentals and principles of design. Includes further creation of studio work tailored to fillportfolio gaps as necessary for a well-rounded body of work. Includes field trips, gallery assignments, and guest speakers as appropriate. Lecture 1 hour per week. Studio instructions 4 hours per week Total 5 hours per week.

Auto Body (AUB)

AUB 106 Basic Sheet Metal Operations (4 CR.)
Teaches the use of metal straightening tools, basic straightening operations, shrinking, filling, and sheet metal damage and repair procedures. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AUB 115 Damage Repair Estimating (2 CR.)
Teaches inspection and estimation of cost to repair collision damage. Emphasizes writing acceptable estimates for insurance companies. Studies practices used by repair shops and insurance adjusters. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite or Corequisite AUB 127

AUB 116 Auto Body Repair (4 CR.)
Teaches collision straightening procedures and use of equipment, planning repair procedures, disassembly techniques, body fastening systems, glass removal and replacement, and panel repair and alignment. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AUB 118 Automotive Paint Preparation (4 CR.)
Teaches auto body preparation for painting, using the materials, processes, and equipment required to prepare metal and old finishes. Includes sanding, cleaning, solvents, special materials, fillers, and primers. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AUB 119 Automotive Painting (4 CR.)
Teaches theory and application of painting and the use of painting equipment and materials including paints, thinners, primers, rubbing compounds, and cleaners. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AUB 118

AUB 125 Auto Body Welding (4 CR.)
Presents the principles involved in using heat to relieve stress in shrinking metal, as well as the processes used in joining high and low strength steels. Includes oxyacetylene welding, cutting, brazing, and soldering, resistance spot welding, and MIG welding. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AUB 127 Introduction to Collision Repair Technology (3 CR.)
Introduces shop practices for auto body laboratory and shop safety, identification and use of hand tools, general power equipment and maintenance of auto body shop. Explains basic operation procedures, careers, terminology, estimating, and cycle time principles. Presents Occupational Safety and Health Act (OSHA) standards and Environmental Protection Agency (EPA) regulations pertaining to the collision repair field. Student will complete the Inter Industry Conference on Auto Collision Repair (I-CAR) modules related to the major course topics. Lecture 2 hours. Lab 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

Automotive (AUT)

AUT 100 Intro. to Automotive Shop Practices (2 CR.)
Prerequisite or corequisite for all automotive courses. Introduces shop practices for automotive laboratory and shop safety, identification and use of hand tools, general power equipment, and maintenance of automotive shop. Explains basic operation procedures of standard shop equipment. Presents Occupational Safety and Health Act standards pertaining to the automotive field. Lecture 2 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AUT 111 Automotive Engines I (4 CR.)
Presents analysis of power, cylinder condition, valves, and bearings in the automotive engine to establish the present condition, repairs, or adjustments. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AUT 112 Automotive Engines II (4 CR.)
Presents analysis of power, cylinder condition, valves, and bearings in the automotive engine to establish the present condition, repairs, or adjustments. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AUT 111

AUT 121 Automotive Fuel Systems I (4 CR.)
Analyzes major domestic and foreign automotive fuel systems to include carburetors and fuel injection systems. Includes detailed inspection and discussion of fuel tanks, connecting lines, instruments, filters, fuel pumps, superchargers, and turbo charger. Also includes complete diagnosis, troubleshooting, overhaul, and factory adjustment procedures of all major carbureted and fuel injection systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AUT 111 and AUT 241

AUT 122 Automotive Fuel Systems II (4 CR.)
Analyzes major domestic and foreign automotive fuel systems to include carburetors and fuel injection systems. Includes detailed inspection and discussion of fuel tanks, connecting lines, instruments, filters, fuel pumps, superchargers, and turbo charger. Also includes complete diagnosis, troubleshooting, overhaul, and factory adjustment procedures of all major carbureted and fuel injection systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AUT 121

AUT 136 Automotive Vehicle Inspection (2 CR.)
Presents information on methods for performing automotive vehicle safety inspection. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AUT 141 Auto Power Trains I (4 CR.)
Presents operation, design, construction, and repair of power train components, standard and automatic transmission. Includes clutches, propeller shaft, universal joints, rear axle assemblies, fluid couplings, torque converters, as well as 2-, 3-, and 4-speed standard, overdrive and automatic transmissions. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AUT 142 Auto Power Trains II (4 CR.)
Presents operation, design, construction, and repair of power train components, standard and automatic transmission. Includes clutches, propeller shaft, universal joints, rear axle assemblies, fluid couplings, torque converters, as well as 2-, 3-, and 4-speed standard, overdrive and automatic transmissions. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AUT 197 Cooperative Education (1-5 CR.)
Cooperative Education

AUT 215 Emissions Systems Diagnosis & Repair (2 CR.)
Presents logical diagnostic paths to identify vehicle HC-CO, O2, and NOx failure areas. Teaches a progression of failure detection from most likely to more complex causes. Emphasizes use of infrared analyzer and manufacturer's specified adjustments. Lecture 2 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AUT 111 or AUT 241 or program approval

AUT 225 Automotive Emissions Inspection (1 CR.)
Provides training for certified inspectors in the Virginia State Emissions Inspection Program. Emphasizes current legislation and inspection techniques using industry standard emission analyzers. Lecture 1 hour per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AUT 226 Advanced ASM Emissions Diagnostics (2 CR.)
Presents logical diagnostic strategies to identify and correct vehicle HC, CO, and NOx emissions failures. Specifically addresses the technologies and techniques required for successful diagnosis and repair of vehicles failing Acceleration Simulation Mode (ASM) and Two-Speed Idle Mode Tests. Current ASM diagnostic equipment will be introduced, discussed, and usage demonstrated. Lecture 2 hours per week. May be repeated as needed. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AUT 233 Hybrid Electric Vehicle Technology (4 CR.)
Presents technologies used in hybrid electrical vehicles (HEV), includes safety, theory, diagnosis, and component replacement. Covers automotive electronics; theory, operation and testing. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AUT 242

AUT 236 Automotive Climate Control (4 CR.)
Introduces principles of refrigeration, air conditioning controls, and adjustment and general servicing of automotive air conditioning systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AUT 241

AUT 241 Automotive Electricity I (4 CR.)
Introduces electricity and magnetism, symbols and circuitry as applied to the alternators, regulators, starters, lighting systems, instruments, gauges, and accessories. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AUT 242 Automotive Electricity II (4 CR.)
Introduces electricity and magnetism, symbols and circuitry as applied to the alternators, regulators, starters, lighting systems, instruments, gauges, and accessories. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AUT 241
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AUT 245 Automotive Electronics (4 CR.)
Introduces field of electronics as it applies to the modern automobile. Emphasizes basic circuit operation, diagnosis and repair of digital indicator and warning systems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) AUT 242
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

AUT 265 Automotive Braking Systems (4 CR.)
Presents operation, design, construction, repair, and servicing of braking system, including Anti-Lock Brake Systems (ABS). Explains uses of tools and test equipment, evaluation of test results, estimation of repair cost for power, standard and disc brakes. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AUT 266 Auto Alignment, Suspension & Steering (4 CR.)
Introduces use of alignment equipment in diagnosing, adjusting, and repairing front and rear suspensions. Deals with repair and servicing of power and standard steering systems. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

AUT 297 Cooperative Education (1-5 CR.)
Supervised on-the-job training for pay in approved business and government organizations. Applicable to all curricula at the discretion of the College. See eligibility requirements on page 39. Credit/work ratio not to exceed 1:5 hrs. May be repeated for credit. Variable hrs.

Biology (BIO)

BIO 101 General Biology I (4 CR.)
Focuses on biological processes with a chemical foundation, including macromolecules, cellular structure, metabolism, and genetics in an evolutionary context. Explores the core concepts of evolution; structure and function; information flow, storage and exchange; pathways and transformations of energy and matter; and systems biology. Emphasizes the process of science, interdisciplinary approach, and relevance of biology to society. Part I of a two-course sequence. Assignments require college-level reading fluency, coherent written communication, and basic mathematical skills. Credit toward graduation cannot be awarded for both BIO 101 and BIO 106. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) Eligible for ENG 111 and MTH 154 or completion of EDE 10 and MDE 10
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BIO 102 General Biology II (4 CR.)
Focuses on biological processes with a chemical foundation, including macromolecules, cellular structure, metabolism, and genetics in an evolutionary context. Explores the core concepts of evolution; structure and function; information flow, storage and exchange; pathways and transformations of energy and matter; and systems biology. Emphasizes the process of science, interdisciplinary approach, and relevance of biology to society. Part II of a two-course sequence. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week. Prerequisite: BIO 101 or Departmental Permission
Prerequisite(s) BIO 101, or division approval
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BIO 110 General Botany (4 CR.)
Emphasizes plant life cycles, anatomy, morphology, taxonomy, and evolution. Considers the principles of genetics, ecology, and physiology. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) Eligible for ENG 111 or completion of EDE 10

BIO 141 Human Anatomy And Physiology I (4 CR.)
Presents the study of anatomy & physiology including anatomical terminology, homeostasis, histology, integumentary system, skeletal system, muscular system, and nervous system. Part I of II. Assignments require college-level reading fluency, coherent written communication, and basic mathematical skills. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) BIO 101 with a grade of C or higher, or completion of NAS 2, or placement exam with 75% or higher
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BIO 142 Human Anatomy and Physiology II (4 CR.)
Integrates anatomy and physiology of cells, tissues, organs, and systems of the human body. This course is the second in a two part series. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) Completion of BIO 141 with a grade of C or better
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BIO 145 Basic Human Anatomy & Physiology (4 CR.)
Surveys human anatomy and physiology. Covers basic chemical concepts, cellular physiology, anatomy, and physiology of human organ systems. Assignments require college-level reading fluency, coherent written communication, and basic mathematical skills. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BIO 147 Basic Laboratory Calculations for Biotechnology (1 CR.)
Prepares students to work effectively in a scientific laboratory through instruction of the metric system, scientific notation, exponents, solution making, pH readings, and the creation of standard curves for data analysis. Focus will be on quantitative skills needed to perform most basic laboratory work. Skills will be practiced and reinforced through application-based problems and hands on activities. 1 hours lecture
Prerequisite(s) Program placed, coenrolled in BIO250, or Biotechnology Program Head permission

BIO 150 Microbiology for Health Sciences (4 CR.)
Focuses on the general characteristics, cellular structure, and metabolism of microorganisms. Emphasizes microbial relationships with individual and community health. Includes impact of microbes on human health and disease, microbial pathogenicity, identifying and managing infectious diseases and controlling microbial growth, healthcare associated infections and epidemiology. Studies aseptic culturing techniques with hands-on experience in safe microbiology practices. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) BIO 101 or BIO 141
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BIO 165 Principles in Regulatory and Quality Environments for Biotechnology (2 CR.)
Prepares students to work effectively in a scientific field and explains the basics of the regulatory and quality environments encountered in a biotechnology or pharmaceutical field. Surveys the principles and practices used on a day-to-day basis in regulatory affairs and quality systems. Lecture 2 hours per week.
Prerequisite(s) Program placed, BIO180 with a C or better or biotechnology program head permission

BIO 180 Introduction to Careers in Biotechnology (1 CR.)
Exposes the student to the field of biotechnology including skills, opportunities, and employment opportunities. Introduces the requirements to complete training and facilitates the student's need in the construction of a student plan and educational goal. Lecture 1 hour per week.
Prerequisite(s) Program placed or biotechnology program head permission

BIO 205 General Microbiology (4 CR.)
Explores the structure and function of microorganisms and their relationship to the environment and humans. Emphasizes the various groups of microorganisms, their growth and metabolism, roles in the functioning of ecosystems, genetics, their roles in human health, the use of microbes in industrial applications and biotechnology and methods of microbial control. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) ENG 111, BIO 101, BIO 102, and CHM 111
Corequisite(s) CHM 112

BIO 206 Cell Biology (4 CR.)
Introduces the ultrastructure and functions of cells. Emphasizes cell metabolism, cell division, and control of gene expression. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) BIO 101, CHM 111, or division approval

BIO 207 General Zoology (4 CR.)
Eligible for ENG 111 or completion of EDE 10. Introduces the fundamental concepts of the diverse world of the animal kingdom, with emphasis on providing students with a comprehensive knowledge of the biological, behavioral, evolutionary, physiological, and ecological aspects of invertebrates and vertebrates. Lecture 3 hours. Recitation and Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) BIO 101

BIO 231 Human Anatomy & Physiology I (4 CR.)
Integrates the study of gross and microscopic human anatomy with physiology, emphasizing the analysis and interpretation of physiological parameters, as they relate to clinical scenarios. Covers the integumentary system, skeletal system (including articulations), muscular system, and nervous system. Part I of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) BIO 101-102 and CHM 111-112

BIO 232 Human Anatomy & Physiology II (4 CR.)
Prerequisite is BIO 231 with a grade of C or better. Integrates the study of gross and microscopic human anatomy with physiology, emphasizing the analysis and interpretation of physiological parameters, as they relate to clinical scenarios. Covers the endocrine system, circulatory system, lymphatic system (including immunity), respiratory system, urinary system (including fluid, electrolyte, and acid-base balance), digestive system (including nutrient metabolism), and reproductive system (including prenatal development). Part II of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

BIO 250 Biotechnology Research Methods and Skills (3 CR.)
Program placed and co-enrollment in BIO 253. Provides students with knowledge and advanced laboratory skills needed for employment in the biotechnology industry. Focuses on use of basic and specialized lab equipment and techniques such as solution chemistry, cell culture, DNA extraction and analysis, and protein extraction and analysis. Emphasis is on lab safety, documentation, quality control, and use of standard operating procedures. Lecture 1 hour per week. Laboratory 6 hours per week. Total 7 hours per week.
Prerequisite(s) Completion of BIO 101

BIO 251 Protein Applications in Biotechnology (4 CR.)
Prepares students to understand protein structure and function and teaches the laboratory skills needed to successfully work with proteins. Focuses on levels of protein structure and protein function. Includes common laboratory assays for protein synthesis, purification, detection, and quantification. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) BIO 250 and BIO 253 with a C or better

BIO 252 Nucleic Acid Methods (4 CR.)
Provides students with advanced laboratory skills needed for employment in the biotechnology industry. Focuses on use of basic and specialized lab equipment and techniques such as solution chemistry, cell culture, DNA extraction and analysis, protein extraction and analysis. Emphasizes lab safety, documentation, quality control, and use of standard operating procedures Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) BIO 250 and BIO 253 with a C or better

BIO 253 Biotechnology Concepts (3 CR.)
Explores the growing field of biotechnology ranging from basic cellular and molecular biology concepts to both basic and advanced laboratory techniques. Emphasizes the application of biotechnology to medicine, agriculture, environmental science, and forensics. Includes discussion of the business, regulatory/legal, ethical, and societal issues of this topic as well as the growing field of bioinformatics. Lecture 3 hours per week.
Prerequisite(s) BIO 101 or BIO 173 with a C or better and program placed

BIO 254 Capstone Seminar in Biotechnology (2 CR.)
. Integrates principles, theories, and methods learned in prior courses in biotechnology. Promotes exposure to real-world experience through completion of group project(s) having a professional focus. Emphasizes collaboration, literature research, proposal development, and communication and presentation skills. Lecture 2 hours per week.
Prerequisite(s) Students must have completed 75% of their program requirements including BIO 147, BIO 165, BIO 180, BIO 250, and BIO 253 with a C or better, or biotechnology program head permission

BIO 255 Bioinformatics and Computer Applications in Biotechnology (2 CR.)
Covers basic computer concepts and Internet skills and uses a software suite, which includes word processing, spreadsheet, database, and presentation software to demonstrate skills. Introduces students to basic online tools and resources to retrieve and analyze biological data, such as DNA, RNA, and protein sequences, structures, functions, pathways, and interactions. Includes hands-on sessions to allow students to become familiar with these resources and their navigation and applications.
Prerequisite(s) Program placed, BIO 250 and BIO 253 with a C or better, or biotechnology program head permission

BIO 256 General Genetics (4 CR.)
Explores the principles of genetics ranging from classical Mendelian inheritance to the most recent advances in the biochemical nature and function of the gene. Includes experimental design and statistical analysis. Lecture 3 hours. Recitation and laboratory 3 hours.
Prerequisite(s) BIO 101-102 or equivalent

BIO 270 General Ecology (4 CR.)
Studies interrelationships between organisms and their natural and cultural environments with emphasis on populations, communities, and ecosystems. Lecture 3 hours. Lab and recitation 3 hours. Total 6 hours per week
Prerequisite(s) any two of the following courses: BIO 101, 102, 110, 120 or division approval

BIO 296 On-Site Training in: (1-5 CR.)
Career orientation and training program without pay in selected businesses and industry, supervised and coordinated by the College. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

BIO 299 Supervised Study (1-5 CR.)
Assignment of problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hrs.

Building (BLD)

BLD 101 Construction Management I (3 CR.)
Presents overviews of all phases of construction project management. Introduces students to philosophy, responsibilities, methodology, and techniques of the construction process. Introduces topics related to the construction and design industries, organizations, construction contracts, bidding procedures, insurance, taxes, bonding, cost accounting, business methods, including basic computer usage, safety, and general project management procedures. Lecture 3 hours per week.

BLD 102 Construction Management II (3 CR.)
Emphasizes advanced management techniques and methodology. Includes engineering economics, accounting principles, life cycle costing, value engineering, systems analysis with computer applications, work improvement, quality control, and a broad overview of the construction management profession. Lecture 3 hours per week.

BLD 165 Construction Field Operations (2 CR.)
Introduces areas of construction field management which relate directly to on-the-job requirements of construction operations viewed from the construction superintendent's standpoint. Includes theories of project management and field supervision; utilization of equipment, labor and material; construction site development; requirements of field scheduling; management input requirements; job recording and documentation; supervision responsibility. May include field trips to project sites. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

BLD 200 Sustainable Construction (2 CR.)
Teaches students the specialized construction management best practices that must be utilized when managing a sustainable project. Course will include industry standards for green construction as identified by popular building rating systems. Lecture 2 hours per week.

BLD 215 OSHA 30 Construction Safety (2 CR.)
Covers all topics included in the OSHA 30-hour course. Lecture 2 hours per week.
Prerequisite(s) OSHA 10 Certification

BLD 231 Construction Estimating I (3 CR.)
Focuses on materials take-off and computing quantities from working drawings and specifications. Includes methods for computing quantities of concrete, steel, masonry, roofing, and excavation. Deals with pricing building components, materials and processes, as well as transportation and handling costs, mark-up discount procedures, equipment cost, and labor rates. Lecture 3 hours per week.

BLD 232 Construction Estimating II (3 CR.)
Presents an introduction to computer programs for construction estimating. Produces a cost estimate for a major project with the aid of a computer program. Lecture 3 hours per week.
Prerequisite(s) BLD 231

BLD 241 Construction Management III (3 CR.)
Presents fundamentals of construction supervision including responsibilities of the construction superintendent, operations manager, general superintendent and project engineer, with factors relating to their work and that of their subordinates, aspects of job leadership, and effective human relations as related to efficient supervision. Lecture 3 hours per week.

BLD 242 Construction Management IV (3 CR.)
Presents a comprehensive overview of all aspects of construction law and labor relations, exposing the students to responsibilities and requirements. Includes history of labor relations in the United States, trade unionism, federal labor laws and their direct effect on construction, OSHA (Occupational Safety and Health Act) laws and regulations that apply. Lecture 3 hours per week.

BLD 247 Construction Planning And Scheduling (3 CR.)
Introduces principles of planning and scheduling of a construction project. Includes sequence of events and processes on a construction site. Studies scheduling techniques including the critical path method. Lecture 3 hours per week.

Business Management and Administration (BUS)

BUS 100 Introduction to Business (3 CR.)
A satisfactory placement score for ENG 111 is strongly recommended. Exposes students to the functions and topics of modern business, including economics, management, finance, accounting, marketing, production, international business, small business, and other areas of general business interest. Guides students in establishing a viable business vocabulary, fostering critical and analytical thinking, and refining business decision-making skills. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 111 Principles of Supervision I (3 CR.)
Teaches the fundamentals of supervision, including the primary responsibilities of the supervisor. Introduces factors relating to the work of supervisor and subordinates. Covers aspects of leadership, job management, work improvement, training and orientation, performance evaluation, and effective employee/supervisor relationships. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 116 Entrepreneurship (3 CR.)
Presents the various steps considered necessary when going into business. Includes areas such as product-service analysis, market research evaluation, setting up books, ways to finance startup, operations of the business, development of business plans, buyouts versus starting from scratch, and franchising. Uses problems and cases to demonstrate implementation of these techniques. Lecture 3 hours per week.

BUS 117 Leadership Development (3 CR.)
Covers interpersonal relations in hierarchical structures. Examines the dynamics of teamwork, motivation, handling change and conflict, and how to achieve positive results through others. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 125 Applied Business Mathematics (3 CR.)
Applies mathematical operations to business process and problems such as wages and payroll, sales and property taxes, checkbook records and bank reconciliation, depreciation, overhead, distribution of profit and loss in partnerships, distribution of corporate dividends, commercial discounts, markup, markdown, simple interest, present values, bank discount notes, multiple payment plans, compound interest, annuities, sinking funds, and amortization. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 165 Small Business Management (3 CR.)
Identifies management concerns unique to small business. Introduces the requirements necessary to initiate a small business, and identifies the elements comprising a business plan. Presents information establishing financial and administrative controls, developing a marketing strategy, managing business operations, and the legal and government relationships specific to small businesses. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 200 Principles of Management (3 CR.)
Teaches management and the management functions of planning, organizing, leading, and controlling. Focuses on application of management principles to realistic situations managers encounter as they attempt to achieve organizational objectives. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 201 Organizational Behavior (3 CR.)
Presents a behaviorally oriented course combining the functions of management with the psychology of leading and managing people. Focuses on the effective use of human resources through understanding human motivation and behavior patterns, conflict management and resolution, group functioning and process, the psychology of decision-making, and the importance of recognizing and managing change. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 202 Applied Management Principles (3 CR.)
Focuses on management practices and issues. May use case studies and/or management decision models to analyze problems in developing and implementing a business strategy while creating and maintaining competitive advantage. Lecture 3 hours per week.
Prerequisite(s) BUS 200
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 204 Project Management (3 CR.)
Provides students with knowledge of essential skills and techniques necessary to lead or participate in projects assigned to managerial personnel. Covers time and task scheduling, resource management, problem solving strategies and other areas related to managing a project. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 205 Human Resource Management (3 CR.)
Introduces employment, recruitment, selection, and placement of personnel, forecasting, job analysis, job descriptions, training methods and programs, employee evaluation systems, compensation, benefits, and labor relations. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 220 Introduction to Business Statistics (3 CR.)
Introduces statistics as a tool in decision-making. Emphasizes ability to collect, present, and analyze data. Employs measures of central tendency and dispersion, statistical inference, index numbers, probability theory, and time series analysis. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 221 Business Statistics I (3 CR.)
Focuses on statistical methodology in the collection, organization, presentation, and analysis of data; concentrates on measures of central tendency, dispersion, probability concepts and distribution, sampling, statistical estimation, normal and T distribution, and hypotheses for means and proportions. Lecture 3 hours per week.
Prerequisite(s) MTH 161 or division approval

BUS 222 Business Statistics II (3 CR.)
Continues study of inferential statistics and application of statistical techniques and methodology in business. Includes analysis of variance, regression, and correlation measurement of business and economic activity through the use of index numbers, trend, cyclical, and seasonal effects and the Chi-square distribution and other nonparametric techniques. Lecture 3 hours per week.
Prerequisite(s) BUS 221 or division approval

BUS 224 Business Statistics (3 CR.)
Introduces methods of probability assessment and statistical inference. Includes data presentation; descriptive statistics; basic probability concepts; discrete and continuous probability distributions; decision theory; estimation and sampling distributions; Central Limit Theorem; simple linear regression and hypothesis testing for a single sample or population. Emphasizes business and economic applications. Utilizes computer software as a tool for problem-solving. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) Completion of MTH 161 with a C or higher

BUS 227 Business Analytics (3 CR.)
This course includes an overview of quantitative methods in business decision-making, simple and multiple regression and correlation analysis, time series analysis and business forecasting, decision analysis, linear programming, transportation and assignment methods, and network models. Students will be required to use computer applications. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) BUS 224 or MTH 245

BUS 240 Introduction to Business Law (3 CR.)
Presents an introduction to the American legal system, including an overview of the courts, civil and criminal law. Develops an in-depth understanding of contracts, agency law, and business organizations. Also includes an overview of property, UCC Sales, and Commercial Paper. Lecture 3 hours per week.

BUS 260 Planning for Small Business (3 CR.)
Provides knowledge of the development of a business plan, which can be used to acquire capital and serve as a management guide. Combines knowledge that has been acquired in the areas of planning, management, and finance using pro forma statements and marketing. Covers Internet searching techniques. Recommended as a capstone course. Lecture 3 hours per week.
Prerequisite(s) ACC 211 and BUS 165

BUS 265 Ethical Issues in Management (3 CR.)
Examines the legal, ethical, and social responsibilities of management. May use cases to develop the ability to think and act responsibly. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 270 Interpersonal Dynamics (3 CR.)
Focuses on intra-and interpersonal effectiveness in the business organization. Includes topics such as planning and running effective meetings, networking and politicking, coaching and mentoring, making effective and ethical decisions, developing interpersonal skills that are essential to effective managers, and to improve skills in verbal, non-verbal, and written communication. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

BUS 280 Introduction to International Business (3 CR.)
Provides an introduction to the theoretical principles and practices of the global business environment. Examines the functions of international business in the economy, international and transnational marketing, production, and financial operations. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) BUS 100 or departmental approval

BUS 297 Cooperative Education (1-5 CR.)
Supervised on-the-job training for pay in approved business and government organizations. Applicable to all curricula at the discretion of the College. See eligibility requirements on page 39. Credit/work ratio not to exceed 1:5 hrs. May be repeated for credit. Variable hrs.

Chemistry (CHM)

CHM 101 Introductory Chemistry I (4 CR.)
Explores the experimental and theoretical concepts of general chemistry while emphasizing scientific reasoning, critical and analytical thinking. Designed for the non-science major. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) Eligible for ENG 111 and MTH 154
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CHM 111 General Chemistry I (4 CR.)
High school chemistry also strongly recommended. Requires a strong background in mathematics. Designed primarily for science and engineering majors. Explores the fundamental laws, theories, and mathematical concepts of chemistry. Designed primarily for science and engineering majors. Requires a strong background in mathematics. Part I of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) Eligible for ENG 111 and MTH 161, students must earn a grade of C or higher in the lecture portion of the course to earn an overall grade of C or higher
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CHM 112 General Chemistry II (4 CR.)
Requires a strong background in mathematics. Designed primarily for science and engineering majors. Explores the fundamental laws, theories, and mathematical concepts of chemistry. Designed primarily for science and engineering majors. Requires a strong background in mathematics. Students must earn a grade of C or higher in the lecture portion of the course to earn an overall grade of C or higher. Part II of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) CHM 111 with a grade of C or higher
This is a Passport and UCGS transfer course.

CHM 199 Supervised Study (1-5 CR.)
Assignment of problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hrs.

CHM 241 Organic Chemistry I (3 CR.)
Introduces fundamental chemistry of carbon compounds, including structures, physical properties, syntheses, and typical reactions. Emphasizes reaction mechanisms. Lecture 3 hours per week.
Prerequisite(s) CHM 112 with grade of C or higher

CHM 242 Organic Chemistry II (3 CR.)
Introduces fundamental chemistry of carbon compounds, including structures, physical properties, syntheses, and typical reactions. Emphasizes reaction mechanisms. Lecture 3 hours per week.
Prerequisite(s) CHM 241 with grade of C or higher

CHM 245 Organic Chemistry I Laboratory (2 CR.)
Introduces various methods and procedures used in present day organic laboratories. Covers the general techniques, organic synthesis, and the use of common spectroscopic instrumentation; synthesizing a variety of compounds; and analyzing the products through physical properties and spectroscopy. Part I of II. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.
Prerequisite(s) CHM 112 with a grade of C or better
Corequisite(s) CHM 241

CHM 246 Organic Chemistry II Laboratory (2 CR.)
Introduces various methods and procedures used in present day organic laboratories. Covers the general techniques, organic synthesis, and the use of common spectroscopic instrumentation; synthesizing a variety of compounds; and analyzing the products through physical properties and spectroscopy. Part II of II. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.
Prerequisite(s) CHM 245
Corequisite(s) CHM 242

CHM 260 Introductory Biochemistry (3 CR.)
Explores fundamentals of biological chemistry. Includes study of macromolecules, metabolic pathways, and biochemical genetics. Lecture 3 hours per week.
Prerequisite(s) CHM 112

Childhood Development (CHD)

CHD 118 Language Arts for Young Children (3 CR.)
Emphasizes the early development of children's language and literacy skills. Presents techniques and methods for supporting all aspects of communication and emergent reading and writing. Addresses equitable and inclusive strategies for intervention and support. Lecture 3 hours. Total 3 hours per week.

CHD 120 Intro. Early Childhood Education (3 CR.)
Introduces early childhood development through activities and experiences in early childhood, pre-kindergarten, kindergarten, and primary programs. Investigates classroom organization and procedures, and use of classroom time and materials, approaches to education for young children, professionalism, and curricular procedures. Lecture 3 hours per week.

CHD 145 Teaching Art, Music, and Movement to Children (3 CR.)
Focuses on children's exploration, play, and creative expression in the areas of art, music, and movement. Emphasis will be on developing strategies for using various open-ended media representing a range of approaches in creative thinking. Addresses strategies for intervention and support for exceptional children and English Language Learners. Lecture 3 hours. Total 3 hours per week.

CHD 146 Math, Science & Social Studies for Children (3 CR.)
Provides experiences in content, methods, and materials for the development of math, science, and social studies skills in children. Emphasis will be on developing strategies for using various resources to facilitate children's construction of knowledge. Addresses strategies for intervention and support for all children. Lecture 3 hours. Total 3 hours per week.

CHD 164 Working with Infants and Toddlers in Inclusive Settings (3 CR.)
Examines developmental and behavioral principles, practices, and how these provide the most developmentally suitable curriculum and learning environment for very young children. Includes working with very young children with typical development, as well as, those who are gifted, or have developmental delays or disabilities. Lecture 3 hours per week.

CHD 165 Observation/Participation/Early Childhood (3 CR.)
Focuses on observation as the primary method for gathering information about children in early childhood settings. Emphasizes development of skills in the implementation of a range of observation techniques. Includes minimum 30 hours of field placement in early learning setting. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CHD 166 Infant And Toddler Programs (3 CR.)
Examines the care and education of infants and toddlers from birth to 36 months in group settings. Focuses on development in the physical, cognitive, social, emotional, and language domains and other factors related to working with infants/toddlers and their families. Emphasizes the importance of the environment and relationships for healthy brain development during the child's first three years of life. Investigates regulatory standards for infant/toddler care giving. Lecture 3 hours per week.

CHD 205 Guiding the Behavior of Children (3 CR.)
Emphasizes social development and guidance. Presents practices that are respectful and meet the emotional needs of individual children. Addresses strategies for communicating expectations, promoting prosocial behaviors, preventing, and minimizing behavioral challenges through careful planning of the learning environment, curriculum, and teacher guidance. Lecture 3 hours per week.

CHD 210 Children with Exceptionalities (3 CR.)
Reviews the history of and legal requirements for providing intervention and educational services for young children with special needs. Studies the characteristics of children with a diverse array of needs and developmental abilities. Explores concepts of early intervention, inclusion, guiding behavior and adapting environments to meet children's needs. Lecture 3 hours per week.

CHD 216 Early Learning, Family, Community, and Social Change (3 CR.)
Explores methods of developing positive, effective partnerships with families to enhance their developmental goals for children. Describes risk and protective factors and identifies community resources. Considers culture and other diverse needs, perspectives, and abilities of families and educators. Emphasizes advocacy and public policy awareness as an important role of early childhood educators. Lecture 3 hours per week.

CHD 265 Advanced Observation and Participation in Early Childhood/ Primary Settings (3 CR.)
Focuses on implementation of activity planning and observation of children through participation in early childhood settings. Emphasizes responsive teaching practices and assessment of children's development. Reviews legal and ethical implications of working with children. Supports the student in creating a professional educational portfolio. Includes 30 hours of field placement in early. Lecture 2 hours. Lab 2 hours. Total 4 hours per week.
Prerequisite(s) CHD 165

CHD 270 Administration of Childcare Programs (3 CR.)
Examines the skills needed for establishing and managing early childhood programs. Emphasizes professionalism and interpersonal skills, program planning, staff selection and development, creating policies, budgeting, and developing forms for recordkeeping. Lecture 3 hours per week.

Chinese (CHI)

CHI 101 Beginning Chinese I (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic sentence structure. Part I of II. Lecture 4 hours. Total 4 hours per week.
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CHI 102 Beginning Chinese II (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic sentence structure. Part II of II.
Prerequisite(s) CHI 101, or two years of successful completion of high school Chinese, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CHI 201 Intermediate Chinese I (4 CR.)
. Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and introduces complex sentence structures. Classes may be conducted in target language. Part I of II. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) CHI 102, or three years of successful completion of high school Chinese, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CHI 202 Intermediate Chinese II (4 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and emphasizes complex sentence structures. Classes may be conducted in the target language. Part II of II. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) CHI 201, or four years of successful completion of high school Chinese, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Civil Engineering Technology (CIV)

CIV 171 Surveying I (3 CR.)
Introduces surveying equipment, procedures and computations including adjustment of instruments, distance measurement, levELIng, angle measurement, traversing, traverse adjustments, area computations, and introduction to topography. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) MTH 162 or MTH 167 or division approval
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CIV 172 Surveying II (3 CR.)
Introduces surveys for transportation systems including the preparation and analysis of topographic maps, horizontal and vertical curves, earthwork, and other topics related to transportation construction. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) CIV 171
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CIV 225 Soil Mechanics (3 CR.)
Focuses on soil in its relationship to engineering construction. Includes soil composition and structure, weight-volume relationships, sampling procedures, classification systems, water in soil, stresses, strains, bearing capacity, settlement and expansion, compaction, stabilization, and introduction to foundations and retaining walls. Lecture 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EGR 130 or EGR 240

CIV 226 Soil Mechanics Laboratory (1 CR.)
Introduces practical soil sampling; classification of unified, ASTM and ASSHTO specifications; laboratory testing of soils to predict engineering performance. Laboratory 2 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

CIV 228 Concrete Technology (2 CR.)
Introduces properties of Portland cement concrete, methods of mix design and adjustment, transportation, placement, and curing in accordance with ACI and PCA recommended procedures. Lecture 2 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

CIV 229 Concrete Laboratory (1 CR.)
Focuses on mixing, curing, testing, and quality control of concrete. Laboratory 2 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

CIV 240 Fluid Mechanics and Hydraulics (3 CR.)
Introduces the principles of fluid flow and development of practical hydraulics resulting from study of fluid statics, flow of real fluid in pipes, multiple pipe lines, liquid flow in open channels, and fluid measurement techniques. Lecture 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Statics or divisional approval

CIV 280 Introduction To Environmental Engineering (3 CR.)
Introduces the engineering elements of water and wastewater treatment, water distribution and wastewater collection systems, solid and hazardous waste, erosion and sediment control, and storm water management. Lecture 3 hours per week.

Communication Studies and Theatre (CST)

CST 100 Principles of Public Speaking (3 CR.)
Applies theory and principles of public address with an emphasis on preparation and on the extemporaneous method of delivery. The assignments in the course require college-level reading and analysis of scholarly studies and coherent communication through written reports, including the production of at least one APA/MLA-formatted individual writing assignment. Lecture 3 hours. Total 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CST 110 Introduction to Human Communication (3 CR.)
Examines the elements affecting human communication in individual (e.g., intrapersonal, interpersonal), small group, and public communication contexts with an emphasis on the practice of communication skills in each context. The assignments in the course require college-level reading and analysis of scholarly studies and coherent communication through written reports including the production of at least one APA/MLA-formatted individual writing assignment. Lecture 3 hours, Total 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CST 111 Voice And Diction I (3 CR.)
Enables students to improve pronunciation, articulation, and vocal quality. Includes study of speech physiology and applied phonetics. Lecture 3 hours per week.

CST 114 Survey of Mass Media (3 CR.)
Examines the history and current understanding of mass communication. Covers print media (newspapers, magazines, and books), electronic media (radio, television, film, the Internet), advertising, public relations, and mass media theory, research, and ethics. Lecture 3 hours per week.

CST 115 Small Group Communication (3 CR.)
Emphasizes the development of presentational ability in multiple group settings with an emphasis on decision-making, maintenance, and leadership and participant skills. Incorporates a prELIminary study of group dynamics. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CST 120 Screenwriting (3 CR.)
Prerequisite:ENG 111 or equivalent, or instructor's permission.Focuses on the craft of writing for the screen. Examines film and television screenplay structure. Analyzes dramatic strategies in film and television. Learn and apply correct script form and creatively engage in the various stages of original scriptwriting.This course is cross-listed with PHT 120. Credit will not be awarded for both. Lecture 3 hours. Total 3 hours per week.

CST 126 Interpersonal Communication (3 CR.)
Teaches interpersonal communication skills for both daily living and the world of work, including perception, self- concept, self-disclosure, listening and feedback, nonverbal communication, attitudes, assertiveness, and other interpersonal skills. The assignments in the course require college-level reading and analysis of scholarly studies and coherent communication through written reports including the production of at least one APA/MLA-formatted individual writing assignment. Lecture 3 hours, Total 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CST 130 Introduction to The Theatre (3 CR.)
Surveys the principles of drama, the development of theatre production, and selected plays to acquaint the student with various types of theatrical presentations. Lecture 3 hours per week.
This is a Passport and UCGS transfer course.

CST 131 Acting I (3 CR.)
Introduces students to the craft of acting. Covers the practice of physical and vocal warm-ups, improvisation exercises, individual and group scenes, and analytical skills. Develops presence and communication skills. Provides students with introductory exposure to a variety of acting concepts. Part I of IV. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CST 132 Acting II (3 CR.)
Extends student's understanding of the craft of acting. Builds on Acting I skills through individual and group text work that include practice listening, point-of-view recognition, personalization, and text analysis. Part II of IV. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Prerequisite(s) CST 131

CST 136 Theatre Workshop (1 CR.)
Provides students with the opportunity to work in various activities of a play, dance or musical production, including, but not limited to, performance, dramaturgy, orchestra, set design, stage carpentry, sound, costuming, lighting, stage managing, props, promotion, or stage crew. Variable hours per week. May be repeated for credit. This course is cross-listed with DAN 136 and MUS 129. Laboratory 2 hours.

CST 137 Oral Interpretation (3 CR.)
Studies the theory and practice of performing various types of literature: prose, poetry, and drama. Emphasizes the relationship among the oral interpreter, the literary work, and the audience. Lecture 3 hours per week.

CST 140 Acting for the Camera (3 CR.)
Explores the practical and artistic elements involved in acting for the camera through such activities as: performance of commercial, film and television scripts, developing knowledge of the technical side of camera work and the study of the business of acting. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CST 141 Theatre Appreciation I (3 CR.)
Increases student's knowledge and enjoyment of the theatre. Considers process, style, organization of written and performed drama. Lecture 3 hours per week.

CST 145 Technical Theatre (3 CR.)
Introduces students to the fundamental methods, materials and techniques involved in all areas of technical theatre production, such as sound, lighting, costuming, stage management and props, with an emphasis on scenic construction. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CST 151 Film Appreciation (3 CR.)
Introduces the critical study of film as an art form and cultural artifact. Examines cinematic techniques and the relationship between movies and their social contexts. Develops analytical skills for interpreting visual media. Lecture 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CST 152 Film Appreciation II (3 CR.)
Provides students with a critical understanding of film through the discussion and viewing of motion pictures with emphasis upon the study of film history and the forms and functions of film. Students will develop skills to analyze the shared social, cultural and historical influences of films and their contexts. Part II of II. Lecture 3 hours per week.

CST 160 Improvisation I (3 CR.)
Explores the basic techniques of improvisation through short and long form exercises and the study of the history of improvisation and improvisation theory and practices. Lecture 3 hours per week.

CST 195 Topics In: (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

CST 198 Seminar And Project (1-5 CR.)
Completion of a project or research report related to the student¿s occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

CST 201 Introduction to Communication Theory (3 CR.)
Engages in an examination of various theories, focusing on questions about human communication. Emphasizes perspectives on theory development, topical areas within the discipline, basic research methodologies, and a survey of theories in those areas. Covers basic procedures for theory building, research, and writing about communication. Lecture 3 hours per week.
Prerequisite(s) CST 100 or CST 110

CST 227 Business and Professional Communication (3 CR.)
Emphasizes principles and practical application to effective professional oral communication behaviors to include speaking, listening, and relating, and rhetorical sensitivity within professional, business, and organizational contexts. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CST 229 Intercultural Communication (3 CR.)
Explores human communication across cultural contexts and introduces the study of intercultural communication. Prepares students to communicate effectively within an increasingly multicultural world and globalized era. Develops understanding and analytical skills regarding communication across cultural contexts. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CST 241 Introduction to Directing I (3 CR.)
Introduces theory and practice of stage direction through the study of directing methods as well as the execution and discussion of directing exercises. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Prerequisite(s) CST 131-132 or division approval

CST 250 The Art of The Film (3 CR.)
Introduces the art of the film through a survey of film history; content includes viewing, discussion, and analysis of selected films. Studies film techniques such as composition, shot sequence, lighting, visual symbolism, sound effects, and editing. Lecture 3 hours per week.

CST 251 Stage Lighting And Sound (3 CR.)
Provides students with a basic understanding of the principles of stage lighting and sound. Instructs students in the fundamentals of stage lighting such as: functions of lighting, qualities of light, design, basic electricity, lighting instruments and equipment, board operation, and safety. Instructs students in the functions of sound, equipment, design, and sound operation. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CST 270 Film Directing (3 CR.)
Introduces theory and practice of film directing. Explores the roles and responsibilities of the director in development, pre-production, production, post-production, distribution and exhibition phases of the filmmaking process for Cinema and other media. Covers mise en scene, how to interpret a script visually and how to work with actors.Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Prerequisite(s) CST 120, ART 160 and ENG 111

CST 290 Coordinated Internship (1-5 CR.)
Supervised on-the-job training in selected business, industrial, or service firms coordinated by the college. Credit/work ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

CST 298 Seminar And Project (1-5 CR.)
Completion of a project or research report related to the student¿s occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

CST 299 Supervised Study (1-5 CR.)
Assignment of problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

Computer Aided Drafting (CAD)

CAD 165 Architectural Blueprint Reading (3 CR.)
Emphasizes reading, understanding, and interpreting standard types of architectural drawings, including plans, elevation, sections, and details. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

CAD 175 Schematics and Mechanical Diagrams (2 CR.)
Covers interpretation of basic shop drawings, conventional symbols, common electrical and electronics symbols, wiring diagrams, hydraulic and pneumatic symbols, schematic drawings, and piping diagrams. (Credit will not be awarded for both CAD 175 and DRF 175.) Lecture 2 hours per week.

CAD 201 Computer Aided Drafting & Design I (4 CR.)
Teaches computer aided drafting concepts and equipment designed to develop a general understanding of components of a typical CAD system and its operation. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Corequisite(s) ARC 123, CAD 165, or division approval

CAD 202 Computer Aided Drafting & Design II (4 CR.)
Teaches working drawings and advanced operations in computer aided drafting. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) CAD 201

CAD 203 Computer Aided Drafting & Design III (3 CR.)
Teaches advanced CAD applications. Includes customization and/or use of advanced software. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) CAD 202

CAD 239 Computer-Aided Modeling/Rendering II (3 CR.)
Focuses on training students in the contemporary techniques of 3D modeling, rendering, and animation on the personal computer. Introduces the principles of visualization, sometimes known as photo-realism, which enables the student to create presentation drawings for both architectural and industrial product design. Uses computer animation to produce walk-throughs that will bring the third dimension to architectural designs. Lecture 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) CAD 238

CAD 260 Computer Appl. For Surveyors & Tech. (3 CR.)
Studies and evaluates numerous COGO software and their associated drafting packages. Includes calculations and drafting of traverse adjustment, subdivision, and curves. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

Computer Science (CSC)

CSC 110 Principles of Computer Science (3 CR.)
Provides a broad introduction to the field of computer science. Introduces design techniques, development of algorithms, and applications of computer science. Includes the idea of abstraction as a problem solving technique. Examines the functionality of computing innovations and computing systems. Discusses the potential impacts of these innovations from a social, legal, and ethical perspective. The assignments in this course require mathematical problem solving skills, algebraic modeling and functions, and use of variables. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CSC 195 Topics In: (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hrs.

CSC 205 Computer Organization (3 CR.)
Examines the hierarchical structure of computer architecture. Focuses on multi-level machine organization. Uses assembler programming to complete simple projects. Includes processors, instruction, execution, addressing techniques, data representation and digital logic. Lecture 3 hours per week.
Prerequisite(s) CSC 221 (CSC 201)

CSC 208 Introduction to Discrete Structures (3 CR.)
Introduces discrete mathematics concepts in relation to computer science. Applies the use of Boolean algebra, analysis of algorithms such as logic, sets and functions, recursive algorithms, and recurrence relations, combinatorics, graphs, and trees. Assignments in this course require a basic understanding of programming concepts, problem solving, basic college algebra and trigonometry skills. Lecture 3 hours per week.

CSC 215 Computer Systems (3 CR.)
Examines the hierarchical structure of computer systems. Explores the representation of instructions and data, memory organization/structure, structure of a CPU, programming hierarchy and operating system interactions. Lecture 3 hours.
Prerequisite(s) CSC 221

CSC 221 Introduction to Problem Solving and Programming (3 CR.)
Introduces problem solving and implementation of solutions using a high-level programming language in a structured programming environment. Includes concepts and practice of structured programming, problem-solving, top-down design of algorithms, a high-level programming language syntax, control structures, arrays, and an introduction into object-oriented programming. First course in a three-course sequence. (CSC 221-222-223) The assignments in this course require mathematical problem-solving skills, algebraic modeling and functions, and use of variables. lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CSC 222 Object Oriented Programming (4 CR.)
Introduces the concepts and techniques of object-oriented programming to students with a background in procedural programming and problem solving. Uses a high-level computer language to illustrate and implement the topics. Second course in a three-course sequence. (CSC 221-222-223). Lecture 4 hours per week.
Prerequisite(s) CSC 221 or CSC 200 equivalent or departmental consent
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

CSC 223 Data Structures and Analysis of Algorithms (4 CR.)
Explores and contrasts data structures, algorithms for manipulating data structures, and their use and appropriateness in writing efficient real-world programming applications. Investigates implementations of different data structures for efficient searching, sorting, and other transformer operations. Third course in a three-course sequence. (CSC 221-222-223). Lecture 4 hours per week.
Prerequisite(s) CSC 222 or CSC 201
Corequisite(s) CSC 208 or MTH 288

CSC 295 Topics In: (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hrs.

Contract Management (CON)

CON 100 Shaping Business Arrangements (3 CR.)
Provides an introduction to environment in which contracts function. Develops professional skills for making business decisions and advising other acquisition team members in successfully meeting customers' needs. Introduces students to the different acquisition contracting areas and the types of procurement alternative that may be selected for each. Presents knowledge and information systems as well as recent acquisition initiatives. Lecture 3 hours per week.

CON 104 Federal Acquisition Regulation (Far) Fundamentals I (3 CR.)
TCovers Federal Acquisition Regulation (FAR) Fundamentals (Parts 1-53) and the Defense Federal Acquisition Regulation Supplement (DFARS). Introduces the following basic principles of government contracting: Basic government contracting by using the FAR and DFARS; and Contract Acquisition Planning. Part I of II. Lecture 3 hours. Total 3 hours per week.

CON 105 Federal Acquisition Regulation (FAR) Fundamentals II (3 CR.)
Covers Federal Acquisition Regulation (FAR) Fundamentals (Parts 1-53) and the Defense Federal Acquisition Regulation Supplement (DFARS). Features Contract Formation and Contract Management/Administration. Part II of II. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) CON 104
Corequisite(s) CON 100

CON 121 Strategic Focused Contracting II (3 CR.)
Covers the entire acquisition process from meeting with the customer to completing the contract closeout process. Presents an opportunity to learn and apply leadership, problem-solving, and negotiation skills. Applies the knowledge and skills gained in CON 100, Shaping Sharp Business Arrangements, to cover an integrated case study approach. Lecture 3 hours per week.
Prerequisite(s) CON 100

CON 124 Contract Execution (3 CR.)
Teaches students the federal contract execution process. Introduces students to executing acquisition plans through soliciting industry information, executing contract procedures for acquiring commodities, conducting market analysis, determining fair and reasonable prices, and executing the award of a government contract. Lecture 3 hours. Total 3 hours per week
Prerequisite(s) CON 100

CON 127 Contract Administration (3 CR.)
Covers the fundamentals of federal contract management and administration procedures. Introduces the process of developing and implementing performance assessment strategies, how to make price contract changes after contract award, properly address contract disputes, and how to properly close-out contracts. Lecture 3 hours. Total 3 hours per week
Prerequisite(s) CON 100

CON 170 Fundamentals of Cost and Price Analysis (3 CR.)
Teaches the fundamentals market research process, and analysis of contractor-pricing strategies. Introduces cost-volume-profit analysis, calculation of contribution margin estimates, and the process of developing cost estimating relationships for an effective price analysis pursuant to FAR subpart 15.4. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) CON 100

CON 214 Business Decisions for Contracting (3 CR.)
Teaches pre-award business and contracting knowledge necessary to process complex procurements. Emphasizes the planning of successful contract support strategies and executing an acquisition that optimizes customer contract performance. Explains the techniques for building successful business relationships, the benefits of strategic sourcing and spend analysis, and details of providing contract financing. Discusses an in-depth look at subcontracting, how to conduct a formal source selection, and how to analyze the information necessary to determine contractor responsibility. Lecture 3 hours per week.

CON 216 Legal Considerations in Contracting (3 CR.)
Teaches the students the legal considerations in the procurement process. Introduces the basic principles and sources of law relative to procurement and fiscal law. Addresses various other legal issues that may develop during the course of a contract including protests, assignment of claims, disputes, fraud, contractor debt, performance issues and contract termination. Lecture 3 hours per week.

CON 217 Cost Analysis and Negotiation Techniques (3 CR.)
Teaches the students the pricing skills, methods and techniques necessary to analyze a cost proposal. Presents an opportunity to learn and apply leadership, problem-solving, and negotiation skills to develop a government contract negotiation objective. Applies the knowledge and skills gained in this course to cover an integrated case study approach for contract award. Lecture 3 hours per week.

Dental Assisting (DNA)

DNA 100 Introduction to Oral Health Professions (1 CR.)
Provides an introduction to the oral health profession and covers basic terminology, historical perspective, the credentialing process, accreditation, professional organizations, and legal and ethical considerations. Lecture 1 hour per week.

DNA 108 Dental Science (3 CR.)
Studies head and neck anatomy, tooth morphology, pathological conditions of the oral cavity, disease processes, and microbiology. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

DNA 110 Dental Materials (3 CR.)
Studies the materials utilized in the laboratory aspect of dentistry as support in treatment. Emphasis is placed on the characteristics, manipulation, economical control, storage, and delivery of materials. Lecture: 2 hours per week. Laboratory: 3 hours per week. Total: 5 hours per week.

DNA 113 Chairside Assisting I (3 CR.)
Provides instruction on the principles of clinical chair side dental assisting, dental equipment use and maintenance, safety, instrument identification, tray set-ups by procedures, and patient data collection. Emphasis on patient management during restorative procedures. Lecture: 2 hours per week. Laboratory: 3 hours per week. Total: 5 hours per week.

DNA 114 Chairside Assisting II (4 CR.)
Introduces the student to the various dental specialties including oral surgery, orthodontics, periodontic, prosthodontics, endodontics, and pediatric dentistry. Integrates and applies previous course content to operative dental procedures. Lecture: 2 hours per week. Laboratory: 6 hours per week. Total: 8 hours per week.

DNA 119 Dental Therapeutics (1 CR.)
Exposes students to concepts and terminology related to pharmacology, pain control, and dental medicinal agents. Emphasis is placed on the use of materials in patient treatment. Lecture 1 hour per week.

DNA 120 Community Health (1 CR.)
Studies topics related to community health issues including identification of specific diseases, symptoms, causes, and effects. An emphasis is placed on the promotion of oral health in the community through patient education in oral home care techniques, dietary counseling, plaque control procedures and application of medicinal agents. Lecture 1 hour per week.

DNA 130 Dental Office Management (2 CR.)
Exposes students to and provides practical experience in the legal aspects of dental office management with regard to ethics, jurisprudence, appointment control, recall systems, reception techniques, telephone techniques, accounts receivable and payable, payroll insurance claims, inventory control, and professional conduct in a dental office. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

DNA 134 Dental Radiology and Practicum (3 CR.)
Teaches the physics of dental radiation and safety, equipment operation, cone placement for the parallel and bisection techniques, panoramic exposures, mounting and film processing. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

DNA 140 Externship (5 CR.)
Exposes students to the fast pace of a dental practice while they perform support services with an established team. Clinical Seminars: 1 hour per week. Clinical Rotations: 12 hours per week.

DNA 190 Coordinated Internship (1-5 CR.)
Coordinated Internship

Dental Hygiene (DNH)

DNH 111 Oral Anatomy (2 CR.)
Studies the morphology and function of the oral structures with emphasis on the primary and permanent dentition, eruption sequence, occlusion, and intra-arch relationships. Lecture 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DNH 115 Histology/Head and Neck Anatomy (3 CR.)
Presents a study of the microscopic and macroscopic anatomy and physiology of the head, neck, and oral tissues. Includes embryologic development and histologic components of the head, neck, teeth, and periodontium. Lecture 3 hours per week.

DNH 120 Management of Emergencies (1 CR.)
Studies the various medical emergencies and techniques for managing emergencies in the dental setting. Additional practical applications and simulations of emergencies maybe conducted to enhance basic knowledge from the lecture component. Lecture 1 hours per week.

DNH 130 Oral Radiography for the Dental Hygienist (2 CR.)
Studies radiation physics, biology, safety, and exposure techniques for intra- and extra-oral radiographic surveys. Laboratory provides practice in exposure, processing methods, mounting, and interpretation of normal findings. Lecture 1 hours. Laboratory 3 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DNH 141 Dental Hygiene I (5 CR.)
Introduces clinical knowledge and skills for the performance of dental hygiene services that include basic skill components, lab manikins, and patient practice. Lecture 3 hours. Clinic 6 hours. Total 9 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DNH 142 Dental Hygiene II (5 CR.)
Prerequisite is DNH 141. Exposes students to instrument sharpening, time management, and patient education techniques and methods. Provides supervised clinical practice in the dental hygiene clinic with emphasis on developing patient treatment and instrument skills. Introduces the student to dental assisting skills. Lecture 2 hours. Clinic 9 hours. Total 11 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DNH 143 Dental Hygiene III (3 CR.)
Introduces dental health care for patients with special needs. Includes introduction to computer concepts and applications. Provides supervised clinical practice in the dental hygiene clinic with emphasis on refining patient treatment and instrumentation skills, including oral radiographs. Lecture 2 hours. Clinic 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DNH 145 General And Oral Pathology (2 CR.)
Introduces general pathology with consideration of the common diseases affecting the human body. Particular emphasis is given to the study of pathological conditions of the mouth, teeth, and their supporting structures. Lecture 2 hours per week.
Prerequisite(s) DNH 115

DNH 146 Periodontics For The Dental Hygienist (2 CR.)
Introduces the theoretical and practical study of various concepts and methods used in describing, preventing, and controlling periodontal disease. Presents etiology, microbiology, diagnosis, treatment, and prognosis of diseases. Lecture 2 hours per week.

DNH 150 Nutrition (2 CR.)
Studies nutrition as it relates to dentistry and general health. Emphasizes the principles of nutrition as applied to the clinical practice of dental hygiene. Lecture 2 hours per week.

DNH 196 On-Site Training (1-5 CR.)
On-Site Training

DNH 214 Practical Materials for Dental Hygiene (2 CR.)
Studies the current technologic advances, expanded functions, and clinical/laboratory materials used in dental hygiene practice. Provides laboratory experience for developing skills in the utilization and applications of these technologies and functions. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DNH 216 Pharmacology (2 CR.)
Studies the chemical and therapeutic agents used in dentistry, including their preparation, effectiveness, and specific application. Lecture 2 hours per week.

DNH 226 Public Health Dental Hygiene I (2 CR.)
Studies and compares concepts of delivery of heatlhcare, applying the public health delivery model. Utilizes epidemiologic methods, research and biostatistics as applied to oral health program planning, implementation, and evaluation. Incorporates and applies current health issues and trends. Lecture 2 hours per week.

DNH 227 Public Health Dental Hygiene II (1 CR.)
Applies concepts of public health program planning through student directed community projects with an emphasis on preventative oral health education. Includes development of table clinics, bulletin boards, and volunteer service in the community. Laboratory 3 hours per week.
Prerequisite(s) DNH 226

DNH 230 Office Practice And Ethics (1 CR.)
Studies the principles of dental ethics and economics as they relate to the dental hygienist. The course also includes a study of jurisprudence and office procedures. Lecture 1 hour per week.

DNH 235 Management of Dental Pain and Anxiety in the Dental Office (2 CR.)
Provides a study of anxiety and pain management techniques used in dental care. Students will understand the necessary theory to appropriately treat, plan and successfully administer topical anesthesia, local anesthesia, and nitrous oxide/oxygen analgesia. Includes the components of pain, pain control mechanisms, topical anesthesia, local anesthesia and nitrous oxide/oxygen analgesia. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) DNH 115, and DNH 120
Corequisite(s) DNH 216

DNH 244 Dental Hygiene IV (5 CR.)
Prerequisite is DNH 143. Introduces advanced skills and the dental hygienist's role in dental specialties. Includes supervised clinical practice in the dental hygiene clinic and/or off-campus clinical rotations at various community facilities. Emphasizes treatment of patients demonstrating periodontal involvement, stressing application and correlation of knowledge and skills from previous semesters. Lecture 1 hour. Clinic 12 hours. Total 13 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DNH 245 Dental Hygiene V (5 CR.)
Prerequisite is DNH 244. Exposes student to current advances in dentistry. Includes supervised clinical practice in the dental hygiene clinic and/or off-campus clinical rotations at various community facilities. Emphasis is placed on synthesis of knowledge from previous semesters, treatment of patients with moderate to advanced periodontal involvement, and improving clinical speed while maintaining quality in preparation for practice. Lecture 1 hour. Clinic 12 hours. Total 13 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

Diagnostic Medical Sonography (DMS)

DMS 100 Orientation to the Sonography Profession (1 CR.)
Presents brief history of sonography profession, code of ethics, scope of practice, and technical standards. Lecture 1 hour per week.

DMS 150 Echocardiography I (4 CR.)
Presents the fundamentals of adult echocardiography; including basic ultrasound scanning techniques of the heart. Students focus on anatomy, pathophysiology, and echocardiographic pattern recognition with real-time 2-D, 3-D and 4-D imaging, Doppler, and M-mode echocardiography. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Satisfactory completion of all previous sonography courses with a grade of "C" or better

DMS 160 Vascular Sonography I (4 CR.)
Presents the fundamentals of vascular technology including basic ultrasound scanning techniques of the peripheral vascular and abdominal vascular systems. Students focus on anatomy, physiology, pathology, and vascular recognition with real-time 2-D and Doppler imaging. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) Satisfactory completion of all previous sonography courses with a grade of "C" or better

DMS 190 Coordinated Internship (2 CR.)
Develops the students' ultrasonic skills in a diagnostic environment; may include on-campus labs, private office settings, as well as hospital rotations. May include experiences in abdominal, pelvic, obstetrical, and small parts scanning, as well as echocardiography and vascular sonography. Laboratory 10 hours per week.

DMS 196 On-Site Training in: (3 CR.)
Develops the students' ultrasonic skills in a diagnostic environment; may include on-campus labs, private office settings, as well as hospital rotations. May include experiences in abdominal, pelvic, obstetrical, and small parts scanning, as well as echocardiography and vascular sonography. Laboratory 15 hours per week.

DMS 204 Introduction to General Sonography (3 CR.)
Discusses the principles of abdominal, pelvic, and small parts sonography through the exploration of related anatomy, sonographic appearances, and common pathologies. Lecture 2 hours per week. Lab 2 hours per week. Lecture 2 hours. Lecture 2 hours. Total 4 hours per week.
Prerequisite(s) The student must satisfactorily complete all previous sonography courses with a grade of "C" or better

DMS 206 Introduction to Sonography (3 CR.)
Introduces the diagnostic foundations of diagnostic medical sonography, including terminology, scan plane orientations, anatomical relationships, departmental administrative operations, hospital organization and basic patient care principles. Lecture 3 hours per week.

DMS 207 Sectional Anatomy (2 CR.)
Teaches normal sectional anatomy in the transverse, longitudinal and coronal planes, with correlated sonographic images. Emphasis will be placed on abdominopelvic organs and vasculature. Lecture 2 hours per week.

DMS 208 Ultrasound Physics and Instrumentation I (2 CR.)
Discusses and solves mathematical problems associated with human tissue, basic instrumentation and scanning technology. Focuses on the use of pulse-echo principles as applied to diagnostic sonography. Presents the physics of sound-tissue interactions and explores ultrasound instrumentation controls and functions. Lecture 2 hours per week.

DMS 209 Ultrasound Physics and Instrumentation II (2 CR.)
Focuses on the areas of ultrasonic, instrumentation, image artifacts, biologic effects, quality control as well as Doppler principles and applications and basic types of equipment through lecture and laboratory exercises. Lecture 2 hours per week.
Prerequisite(s) DMS 208

DMS 211 Abdominal Sonography (4 CR.)
Examines the clinical applications within the specialty of abdominal sonography including interpretation of normal and abnormal sonographic patters, pathology, related clinical signs and symptoms, normal variants and clinical laboratory tests. Includes laboratory sessions on basic scanning techniques and protocols. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DMS 212 Obstetrical and Gynecological Sonography (3 CR.)
Corequisite is DMS 211. Presents the clinical applications within the sonographic specialties of obstetrics and gynecology. Includes topics of discussion on normal and abnormal sonographic patters, related clinical symptoms and associated laboratory tests. Includes laboratory sessions on basic scanning techniques. Lecture 3hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DMS 217 Sectional Anatomy Laboratory (1 CR.)
Provides experience with sectional anatomy. Laboratory 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DMS 218 Ultrasound Physics and Instrumentation Laboratory I (1 CR.)
Presents practice with basic instrumentation, mathematical calculations, basic properties of acoustical physics. Laboratory 2 hours per week An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Corequisite(s) DMS 208

DMS 219 Ultrasound Physics and Instrumentation Laboratory II (1 CR.)
Presents advanced practice with instrumentation, hemodynamics, Doppler instrumentation and pulse echo technology. Laboratory 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) DMS 208
Corequisite(s) DMS 209

DMS 222 Sonography Registry Review (2 CR.)
Reviews material covered throughout the Sonography program to prepare the student for the ultrasound registry examination. Lecture 2 hours per week.

DMS 223 Introduction to Vascular Ultrasound (3 CR.)
Discusses the principles of vascular ultrasound, the related anatomy and more common pathologies detected as well as the physiology and hemodynamics detected and evaluated with ultrasound. Provides hands-on practice through vascular scanning in a laboratory setting. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DMS 231 Clinical Education I (3 CR.)
Develops the students' ultrasonic skills in a diagnostic environment; may include on-campus labs, private office settings, as well as hospital rotations. May include experiences in abdominal, pelvic, obstetrical, and small parts scanning, as well as echocardiography and vascular sonography. Laboratory 15 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DMS 232 Clinical Education II (4 CR.)
Develops the students' ultrasonic skills in a diagnostic environment; may include on-campus labs, private office settings, as well as hospital rotations. May include experiences in abdominal, pelvic, obstetrical, and small parts scanning, as well as echocardiography and vascular sonography. Laboratory 20 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) DMS 231

DMS 241 Advanced Abdominal Sonography (3 CR.)
Presents advanced study of abdominal sonography with concentration on case study reviews of normal anatomy, physiology, and pathophysiology, including abnormal etiology and diagnostic techniques. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) DMS 211

DMS 242 Advanced Obstetrical and Gynecological Sonography (3 CR.)
Prerequisite is DMS 212. Presents advanced study of obstetrics/gynecology with concentration on case study reviews of normal anatomy, physiology, and fetal development, including abnormal etiology and diagnostic techniques. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

DMS 250 Echocardiography II (4 CR.)
Presents advanced study of echocardiograhy with concentration on case study reviews of normal anatomy, physiology, and pathologic conditions of the adult heart. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Satisfactory completion of all previous sonography courses with a grade of "C" or better

DMS 255 Echocardiography Registry Review (2 CR.)
Presents students with registry examination preparation, test-taking strategies and skills that will facilitate the graduates' entry into the career of sonography. Lecture 2 hours per week.
Prerequisite(s) Satisfactory completion of all previous sonography courses with a grade of "C" or better

DMS 256 Echocardiography Case Study Review (1 CR.)
Presents weekly echocardiography case studies by faculty and students for interpretation and pattern recognition. Lecture 1 hour. Total 1 hour per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Satisfactory completion of all previous sonography courses with a grade of "C" or better

DMS 260 Vascular Sonography II (4 CR.)
Presents the fundamentals of vascular technology including basic ultrasound scanning techniques of the cerebrovascular system. Students focus on anatomy, physiology, pathology, and vascular recognition with real-time 2-D and Doppler imaging. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) Satisfactory completion of all previous sonography courses with a grade of "C" or better

DMS 265 Vascular Case Study Review (1 CR.)
Presents weekly vascular case studies by faculty and students for interpretation and pattern recognition. Lecture 1 hour per week.
Prerequisite(s) Satisfactory completion of all previous sonography courses with a grade of "C" or better

DMS 266 Vascular Ultrasound Registry Review (2 CR.)
Presents students with registry examination preparation, test-taking strategies and skills that will facilitate the graduates' entry into the career of sonography. Lecture 2 hours per week.
Prerequisite(s) Satisfactory completion of all previous sonography courses with a grade of "C" or better

Diesel (DSL)

DSL 135 Introduction to Diesel Technology (3 CR.)
Introduces careers in the diesel repair industry, safety procedures, tools and equipment used in the industry, and component identification. Teaches preventative maintenance inspections (PMI), precision measuring, and the use of electronic databases for service and repair. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

DSL 137 Basic Diesel Engine Systems (5 CR.)
Introduces the theory of operation, design, and components of a modern diesel engine. Provides instruction on modern fuel system components and operation. Presents the design and operation of air induction, lubrication, and cooling systems. Demonstrates basic engine diagnostics. Provides preparation for the Automotive Service Excellence (ASE) T2 Engines certification examination. Lecture - 4 hours. Laboratory - 2 hours. Total Contact - 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

DSL 141 Transportation Electrical Systems I (2 CR.)
Studies basic operational theory of electrical systems used in public transportation vehicles. Covers electrical symbols, schematics, troubleshooting procedures, as well as the function, construction, and operation of the electrical system and its components. Lecture 2 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

DSL 143 Diesel Truck Electrical Systems (4 CR.)
Studies the theory and operation of various truck and tractor electrical systems. Covers preheating, starting, generating, and lighting systems. Uses modern test equipment for measurement, adjustment, and troubleshooting. Lecture 2 hours per week. Laboratory 4 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

DSL 145 Medium/Heavy Duty Truck Preventative Maintenance Inspection (3 CR.)
Presents the process of implementing a preventive maintenance program, the various inspection procedures required by the original equipment manufacturers (OEM), federal regulations, and the process of related documentation. Provides preparation for the Automotive Service Excellence (ASE) T8 Preventative Maintenance Inspection certification examination. Lecture - 2 hours. Laboratory - 2 hours. Total Contact - 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

DSL 150 Mobile Hydraulics&Pneumatics (3 CR.)
Introduces the theory, operation and maintenance of hydraulic/pneumatic systems and devices used in mobile applications. Emphasizes the properties of fluid, fluid flow, fluid states and application of Bernoulli's equation. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

DSL 153 Power Trains I (3 CR.)
Focuses on manual, hydrostatic, and heavy-duty automatic transmissions. Examines various types of power trains and their components, such as multidisc clutch, multi-speed transmissions, torques, drive lines, and differentials. Includes disassembly and assembly of various components. Part I of II. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

DSL 155 Heavy Duty Suspension and Service (3 CR.)
Examines suspensions used on heavy-duty trucks and teaches preventative maintenance and service procedures. Includes nomenclature, theory of operation and services, and repair of heavy-duty truck suspension systems including tires and wheels and steering gear and connecting linkage. Provides opportunity for preventative maintenance inspections and service procedures on heavy-duty vehicles. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

DSL 161 Air Brake Systems I (2 CR.)
Studies the basic operational theory of pneumatic and air brake systems used in public transportation vehicles. Covers various air control valves, air and test system components, and advanced air system schematics. Part I of II. Lecture 2 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

DSL 162 Air Brake Systems II (2 CR.)
Studies the basic operational theory of pneumatic and air brake systems used in public transportation vehicles. Covers various air control valves, air and test system components, and advanced air system schematics. Part II of II. Lecture 2 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

Dietetics (DIT)

DIT 121 Nutrition I (3 CR.)
Studies food composition, dietary guidelines, and nutrients essential to healthy human life. Analyzes nutrient function and metabolism. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Economics (ECO)

ECO 150 Economic Essentials: Theory and Application (3 CR.)
Presents a broad overview of microeconomic and macroeconomic theory with application to current economic situations. Introduces concepts, policies, and theories in addition to models of domestic and global economies. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ECO 201 Principles of Macroeconomics (3 CR.)
Presents the fundamental macroeconomic concepts, theories, and issues including the study of scarcity and opportunity cost, supply and demand, national economic growth, inflation, recession, unemployment, fiscal and monetary policies, and international trade. Develops an appreciation of how these economic concepts apply to consumer, business, and government decisions, and their effect on the overall economy. Lecture 3 hour. Total 3 hours per week. ECO 201 and ECO 202 can be taken in any order and without any prerequisites. Consult your specific degree or transfer pathway and choose based on the topic that most interests you.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ECO 202 Principles of Microeconomics (3 CR.)
Presents the fundamental microeconomic concepts, theories, and issues including the study of scarcity and opportunity cost, supply and demand, elasticities, marginal revenues and costs, profits, production and distribution. Develops an appreciation of how these economic concepts apply to consumer and business decisions, and their effect on the individual. Lecture 3 hours. Total 3 hours per week. ECO 201 and ECO 202 can be taken in any order and without any prerequisites. Consult your specific degree or transfer pathway and choose based on the topic that most interests you.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ECO 210 International Economics (3 CR.)
Analyzes the nature, performance and problems of market and non-market economic systems with emphasis on post World War II experience. Lecture 3 hours per week.
Prerequisite(s) ECO 201

ECO 230 Money And Banking (3 CR.)
Reviews history of American banking institutions, principles, and practices. Emphasizes the relationship of finances to business structure, operation, and organization. Examines present financial structures, agents, problems, and institutions. Lecture 3 hours per week.

Education (EDU)

EDU 114 Driver Task Analysis (3 CR.)
Introduces the driver task as related to the highway transportation system and factors that influence performance ability. Prepares students so they may be eligible to take certification exams for driving school instructors in both public and private schools. Lecture 2 hours. Laboratory 2 hours.
Prerequisite(s) Eligible for ENG 111

EDU 200 Foundations of Education (3 CR.)
Explores the foundational topics related to education. Emphasizes the historical, philosophical, social, legal, ethical, and professional aspects of teaching. This course requires a practicum with a minimum of 20 hours of observation in a K-12 setting. Lecture 3 hours. Total 3 hours per week.

EDU 204 Teaching in a Diverse Society (3 CR.)
Examines how personal and professional identities, positioning, and intersectional positionalities, values, attitudes, beliefs, and behaviors impact teaching and learning. Develops an understanding of similar and unique characteristics of PreK-12 students and their families, including culture, race, ethnicity, religion, language and learning abilities, gender socializations and sexual orientation. This course requires a practicum with a minimum of 20 hours of observation in a K-12 setting. Lecture 3 hours.
Prerequisite(s) EDU 200

EDU 205 Curriculum and Instructional Procedures (3 CR.)
Examines the role of curriculum in education and the alignment of curriculum to state and national standards. Emphasizes how curriculum implementation, assessment methods, textbook and material selection, and technology updates impact instruction. Addresses how to develop curriculum and instruction to meet the needs of diverse learners. Lecture 3 hours. Total 3 hours per week.

EDU 206 Classroom and Behavioral Management (3 CR.)
Provides an overview of developing a positive and inclusive learning environment. Emphasizes methods for managing the diverse needs of students in order to promote a positive learning environment. Addresses how to establish and communicate expectations for effective instruction. Lecture 3 hours.
Prerequisite(s) EDU 200

EDU 207 Human Growth and Development (3 CR.)
Provides an overview of the physical, intellectual, cognitive, language, social, and emotional development of human beings from birth to death, with a focus on birth to adolescence. Emphasizes how hereditary and environmental influences impact the development of the whole child. Lecture 3 hours per week.

EDU 214 Instructional Principles/Drivers Edu. (3 CR.)
Analyzes rules and regulations that govern the conduct of Driver Education programs with special emphasis on organization and administration. Includes uses in the classroom, driving range and on the street. Prepares students so they may be eligible to take the state certification exam in driver education. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Prerequisite(s) EDU 114

EDU 235 Health, Safety, & Nutrition Education (3 CR.)
Focuses on the health, safety, and nutritional needs of children and developmentally appropriate methods to meet these needs. Emphasizes children's well-being through mindful practices that address health and hygiene, nutrition and feeding routines, childhood diseases, and safety issues. Discusses strategies to promote the mental and physical well-being of children, as well as procedures for reporting child abuse. Lecture 3 hours per week.

EDU 250 Foundations of Exceptional Education (3 CR.)
Explores the historical, ethical, social, cultural, and legal practices for providing educational services for individuals with exceptionalities including early intervention, inclusion, adapting environments, and supporting positive behavior. Includes the study of characteristics of individuals with exceptionalities and the influence of culture and environment on development. Focuses on models, theories, and trends in special education. Lecture 3 hours per week

EDU 254 Teaching Basic Academic Skills to Exceptional Children (3 CR.)
Develops competencies required to teach readiness and basic skills to children with special needs in private or public school settings. Includes the preparation of lesson plans, instructional units, and individualized Education Programs (IEP's). Includes child abuse recognition and intervention training. Emphasizes exceptionalities for students ages 2-21 under Public Law 94-142. Familiarizes students with the indicators of effective teaching. Lecture 3 hours per week.

EDU 270 Introduction to Autism Spectrum Disorders (3 CR.)
Explores the nature of autism and related development disorders. Includes an exploration of assessment measures and diagnostic criteria. Discusses intervention strategies to support students in school settings. Lecture 3 hours per week.
Prerequisite(s) EDU 200 or departmental approval

EDU 280 Introduction to Instructional Technologies (3 CR.)
Provides future K-12 educators with the knowledge and skills needed to successfully implement instructional technology into their classroom. Explores the connections between types of technologies, technology standards, types of learners, and instructional practices. Lecture 3 hours per week.
Prerequisite(s) EDU 200 or instruction approval

EDU 287 Instructional Design for Online Learning (3 CR.)
Prepares educators to design online courses that encourage active learning and student participation. Focuses on instructional design practices including the development of content tied to learning objectives and a peer-based approach to evaluating courses. Lecture 3 hours per week.

EDU 290 Seminar & Project (1-5 CR.)
Supervised on-the-job training in selected business, industrial, or service firms coordinated by the College. Credit/work ratio maximum 1:5 hrs. May be repeated for credit. Variable hrs.

Electricity (ELE)

ELE 146 Electric Motor Control (4 CR.)
Studies solid state devices with application and emphasis toward control of power. Includes diodes, SCR's, photoelectric controls, timing, circuits, voltage regulation and three phase rectifiers. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ELE 150 or equivalent

ELE 148 Power Distribution Systems (3 CR.)
Introduces transmission and distribution of electrical power. Includes application of transformers, distribution and over-current protection devices, substations, switchboards, feeders, bus-ways, motor control centers, generators, motors, and troubleshooting techniques associated with these systems and devices. Lecture 2 hours. Lab 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ELE 150

ELE 150 A.C. and D.C. Circuit Fundamentals (3 CR.)
Provides an intensive study of the fundamentals of direct and alternating current, resistance, magnetism, inductance and capacitance, with emphasis on practical applications. Focuses on electrical/machines applications. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ELE 189 Data Cabling Communication (3 CR.)
Introduces construction, testing, troubleshooting, and repair of a variety of copper cables. Prepares students for the Electronics Technician Association Data Cable Installer Certification (DCIC) necessary to compete for entry-level positions in a wide range of networking, security and video companies. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ELE 211 Electrical Machines I (3 CR.)
Studies the construction, theory of operations and applications of DC and AC machines. Part I of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ELE 146 and ELE 150

ELE 233 Programmable Logic Controller Systems I (3 CR.)
Teaches operating and programming of programmable logic controllers. Covers analog and digital interfacing and communication schemes as they apply to system. Part I of II. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

ELE 250 Fiber Optic Technology (3 CR.)
Introduces testing, troubleshooting, and repair of fiber optic systems. Prepares students for the Electronics Technician Association Fiber Optics Technician (FOT) certification necessary to compete for technician level positions in a wide range of networking, security and video companies. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ELE 150
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Electronics (ETR)

ETR 281 Digital Systems (3 CR.)
Includes basic numbering systems, Boolean algebra, logic circuits and systems, pulse circuits and pulse logic systems as applied to computer and microprocessor technology. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ELE 150

Emergency Medical Services (EMS)

EMS 111 Emergency Medical Technician (7 CR.)
Prepares student for certification as a Virginia and National Registry EMT. Includes all aspects of pre-hospital basic life support as defined by the Virginia Office of Emergency Medical Services curriculum for Emergency Medicine Technician Basic. Lecture 5 hours per week. Laboratory 4 hours per week. Total 9 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 100 CPR for Healthcare Providers or CPR certification at the Health Care Provider level
Corequisite(s) EMS 120
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

EMS 120 Emergency Medical Technician - Clinical (1 CR.)
Provides supervised direct patient contact introducing the student to the assessment and emergency care of sick and injured patients. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Corequisite(s) EMS 111

EMS 121 Preparatory Foundations (2 CR.)
Introduces fundamental concepts established by the National Emergency Medical Service Education Standards (NEMSES) for Advanced EMT and Paramedic curricula. Includes EMS systems, introduction to research, workforce safety and wellness, EMS system communications, introduction to public health, legal and ethical issues. Lecture 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS

EMS 123 EMS Clinical Preparation (1 CR.)
Includes prerequisites required by clinical affiliates, therapeutic communication, primary assessment, history taking, secondary assessment, reassessment, monitoring devices and documentation. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS Introduces the student to local clinical agencies and prepares the student for clinical activities above the level of EMT

EMS 125 Basic Pharmacology (1 CR.)
Prepares students to demonstrate competency concerning basic principles of pharmacology, drug dosage calculations and medication administration. Introduces medications listed in the Advanced EMT (AEMT) scope of practice. Lecture 1 hour. Total 1 hour per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS Corequisite: EMS 126

EMS 126 Basic Pharmacology Lab (1 CR.)
Focuses on the safe administration of medications in the emergency setting. Includes drug dose calculation and covers multiple routes of administration including oral, intramuscular, subcutaneous, intravenous, and intraosseous and other methods within the scope of practice for the emergency care provider. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS Corequisite: EMS 125

EMS 127 Airway, Shock and Resuscitation (1 CR.)
Introduces concepts associated with pre-hospital emergency care of the individual experiencing airway difficulty or in need of resuscitation or shock management. Lecture 1 hour. Total 1 hour per week.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS Corequisite: EMS 128

EMS 128 Airway, Shock & Resuscitation Lab (1 CR.)
Focuses on specific skills related to airway, resuscitation and shock management. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS Corequisite: EMS 127

EMS 135 Emergency Medical Care (2 CR.)
Prepares the student to assess and manage patients with common medical emergencies. Lecture 2 hours. Total 2 hours per week.
Prerequisite(s) EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128 Corequisite: EMS 136

EMS 136 Emergency Medical Care Lab (1 CR.)
Focuses on specific skills related to the assessment and management of common medical emergencies. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128 Corequisite: EMS 135

EMS 137 Trauma Care (1 CR.)
Prepares the student to assess and manage injured patients, developing his/her problem-solving ability in the treatment of trauma involving various body systems. Lecture 1 hour. Total 1 hour per week.
Prerequisite(s) EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128 Corequisite: EMS 138

EMS 138 Trauma Care Lab (1 CR.)
Focuses on the skills required for the assessment and management of patients with traumatic injury. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128 Corequisite: EMS 137

EMS 139 Special Populations (1 CR.)
Focuses on the pre-hospital assessment and management of patients in a specific population including pediatrics, geriatrics, obstetrics/gynecology (OB/GYN), bariatric, abuse, sexual assault and special needs. Lecture 1 hour. Total 1 hour per week.
Prerequisite(s) EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128 Corequisite: EMS 140

EMS 140 Special Populations Lab (1 CR.)
Develops skills related to the assessment and management of patients in a specific population including pediatrics, geriatrics, obstetrics/gynecology (OB/GYN), bariatric, abuse, sexual assault and special needs. Laboratory 2 hour. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128 Corequisite: EMS 139

EMS 141 Cardiovascular Care (2 CR.)
Focuses on assessment and management of cardiac-related emergencies. Covers basic dysrhythmia recognition and relates it to overall cardiac patient care. Lecture 2 hours. Total 2 hours per week.
Prerequisite(s) EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128 Corequisite: EMS 142

EMS 142 Cardiovascular Care Lab (1 CR.)
Focuses on skills involved in the assessment and management of cardiac-related. Laboratory 2 hours. Total 2 hour per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128 Corequisite EMS 141

EMS 163 Prehospital Trauma Life Support (PHTLS) (1 CR.)
Prepares for certification as a Prehospital Trauma Life Support provider as defined by the American College of Surgeons. Lecture 1 hour per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 111 or equivalent

EMS 164 Advanced Medical Life Support (AMLS) (1 CR.)
nan An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

EMS 165 Advanced Cardiac Life Support (1 CR.)
Prepares for certification as an Advanced Cardiac Life provider. Follows course as defined by the American Heart Association. Lecture 1 hour per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 100, or equivalent

EMS 167 Emergency Pediatrics Course (EPC) (1 CR.)
Provides a unique approach to pediatric medical care, offering assessment techniques that can help EMS practitioners rapidly and accurately assess pediatric patients to determine which situations may be life threatening and require immediate intervention. Offers certification as defined by the National Association of Emergency Medical Technicians (NAEMT). Lecture 1 hour. Total 1 hour per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

EMS 170 ALS Internship I (1 CR.)
Begins the first in a series of clinical experiences providing supervised direct patient contact in appropriate patient care facilities in and out of hospitals. Includes but not limited to patient care units such as the Emergency Department, Critical Care units, Pediatric, Labor and Delivery, Operating Room, Trauma Centers and various advanced life support units. Laboratory 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

EMS 175 Paramedic Clinical Experience I (1 CR.)
Introduces students to live patient assessment and management in the clinical setting. Begins a continuum of learning involving live patients that leads to entry-level competence at the paramedic level. Laboratory 3 hours. Total 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 121, EMS 123, EMS 125, EMS 126, EMS 127, EMS 128

EMS 180 Advanced EMS Foundations (1 CR.)
Introduces fundamental concepts established by the National Emergency Medical Service Education Standards (NEMSES) for the Advanced EMT curriculum. Includes EMS systems, introduction to research, workforce safety and wellness, EMS system communications, therapeutic communication, and legal and ethical issues. Lecture 1 hour. Total 1 hour per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS

EMS 181 Advanced Airway and Shock Management (1 CR.)
An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 182

EMS 182 Advanced Airway and Shock Management Lab (1 CR.)
Examines assessment and management of trauma emergencies as outlined by the National Emergency Medical Service Education Standards (NEMSES) within the Advanced EMT curriculum. Provides students with specific skills related to airway, resuscitation and shock management. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 181

EMS 183 Advanced Medical Care (2 CR.)
Examines the assessment and management of medical emergencies as outlined by the National Emergency Medical Service Education Standards (NEMSES) within the Advanced EMT curriculum. Lecture 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 184

EMS 184 Advanced Medical Care Laboratory (1 CR.)
Focuses on specific skills related to the assessment and management of common medical emergencies as outlined by the National Emergency Medical Service Education Standards (NEMSES) within the Advanced EMT curriculum. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS program
Corequisite(s) EMS 183

EMS 185 Advanced Trauma Care (2 CR.)
Examines the assessment and management of trauma emergencies as outlined by the National Emergency Medical Service Education Standards (NEMSES) within the Advanced EMT curriculum. Lecture 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 186

EMS 186 Advanced Trauma Care Laboratory (1 CR.)
Focuses on specific skills related to the assessment and management of trauma emergencies as outlined by the National Emergency Medical Service Education Standards (NEMSES) within the Advanced EMT curriculum. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 185

EMS 202 Paramedic Pharmacology (2 CR.)
Focuses on advanced pharmacological interventions, medications and their effects. Lecture 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 125, EMS 126, EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142

EMS 203 Advanced Patient Care (2 CR.)
Focuses on the comprehensive assessment and management of patients in out-of-hospital and inter-facility scenarios. Content is centered on problem-solving through integration of didactic, psychomotor and affective curricula. Lecture 2 hours. Total 2 hours per week.
Prerequisite(s) EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142 Corequisite: EMS 204

EMS 204 Advanced Patient Care (2 CR.)
Focuses on the comprehensive assessment and management of out-of-hospital and inter-facility patients using scenario-based learning. Laboratory 4 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142 Corequisite: EMS 203

EMS 206 Pathophysiology for the Health Professions (3 CR.)
Focuses on the pathological processes of disease with emphasis on the anatomical and physiological alterations of the human body systems. Includes diagnosis and management appropriate to the advanced health care provider in and out of the hospital environment. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) BIO 145 or BIO 141-142 combination

EMS 210 EMS Operations (1 CR.)
Focuses on matters related to Emergency Medical Services (EMS) operations, incident and scene safety and awareness, triage, multiple and mass casualty incident operations and medical incident management (command and control of EMS incidents). Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142

EMS 212 Leadership and Professional Development (1 CR.)
Focuses on the development of leadership within the field of Emergency Medical Services (EMS), topics include civic engagement, personal wellness, resource management, ethical considerations in leadership and research. Lecture 1 hour. Total 1 hour per week.
Prerequisite(s) EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142

EMS 216 Paramedic Review (1 CR.)
Provides the student with intensive review for the practical and written portions of the National Registry Paramedic exam. May be repeated once, for credit. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

EMS 221 Paramedic Cardiovascular Care (3 CR.)
Covers in-depth assessment and management of cardiovascular conditions, as outlined by the National Emergency Medical Service Education Standards (NEMSES) for Paramedics. Lecture 3 hours. Total 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 222

EMS 222 Paramedic Cardiovascular Laboratory (1 CR.)
Focuses on skills involved in the assessment and management of cardiac-related emergencies as outlined by the National Emergency Medical Service Education Standards (NEMSES) for Paramedics. Develops competency in basic dysrhythmia recognition and overall cardiac patient care. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 221

EMS 223 Paramedic Patient Care I (3 CR.)
Covers the breadth of medical and trauma conditions as outlined by the National Emergency Medical Service Education Standards (NEMSES) for Paramedics. Part I of II. Lecture 3 hours. Total 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 224

EMS 224 Paramedic Patient Care I Laboratory (1 CR.)
Covers the skills related to the breadth of medical and trauma conditions as outlined by the NationalEmergency Medical Service Education Standards (NEMSES) for Paramedics. Part I of II. Laboratory 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 223

EMS 225 Paramedic Patient Care II (5 CR.)
Covers the depth of medical and trauma conditions as outlined by the National Emergency Medical Service Education Standards (NEMSES) for Paramedics. Part II of II. Lecture 5 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 226

EMS 226 Paramedic Patient Care Laboratory II (2 CR.)
Covers the skills related to the depth of medical and trauma conditions as outlined by the National Emergency Medical Service Education Standards (NEMSES) for Paramedics. Part II of II. Laboratory 4 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS
Corequisite(s) EMS 225

EMS 241 Paramedic Internship I (2 CR.)
Introduces students to live patient assessment and management in the clinical and field setting. Begins a continuum of learning involving live patients that leads to entry-level competence at the paramedic level. Part I of II. Laboratory 6 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Current Virginia EMT and CPR certification as approved by the Virginia Office of EMS

EMS 246 Paramedic Internship II (2 CR.)
. Introduces students to live patient assessment and management in the clinical and field set. Continues the learning experience with live patients that leads to entry-level competence at the paramedic level. Part II of II. Laboratory 6 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Prerequisite: BIO 141 or BIO 145

EMS 247 Paramedic Clinical Experience II (1 CR.)
Continues the student experience with live patient assessment and management in the clinical setting. It is the second step in a continuum of learning involving live patients that leads to entry-level competence at the paramedic level. Laboratory 3 hours. Total 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142, EMS 175

EMS 248 Paramedic Comprehensive Field Experience (2 CR.)
Expands the student experience with live patient assessment and management into the field setting. It is the third step in a continuum of learning involving live patients that leads to entry-level competence at the paramedic level. Laboratory 6 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 135, EMS 136, EMS 137, EMS 138, EMS 139, EMS 140, EMS 141, EMS 142, EMS 175

EMS 249 Paramedic Capstone Internship (2 CR.)
Provides summative evaluation of the Paramedic student in the cognitive, psychomotor, and affective domains. Laboratory 6 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EMS 202, EMS 203, EMS 204, EMS 206, EMS 247, EMS 248

EMS 299 Supervised Study: (1-5 CR.)
Assignment of problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hours.

Energy Technology (ENE)

ENE 108 Intro to Data Center Operations (3 CR.)
Provides the foundational aspects of data center fundamentals, data center compliance, operations, and physical infrastructure. Introduces mission critical operations as they apply to data centers. Teaches students the physical components of a data center, its interoperability, and the usage of data center equipment in a simulated data center environment. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

ENE 208 Critical Site Operations (3 CR.)
Provides a complete overview of a data center such as power systems, communications systems, cooling systems and fire and intrusion detection systems. Introduces commissioning and decommissioning concepts as they apply to data centers. Provides hands-on experience through laboratory exercises. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ENE 108

ENE 228 Building Automation & Energy Management Systems (3 CR.)
Introduces building automation and energy management systems. Studies how building systems HVAC, lighting, security systems, and alternative energy--can communicate through a network of intelligent control devices. Emphasizes how these controlling devices work together in common automation. Lecture 2 hours, Lab 2 hours, Total 4 hours per week An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

Engineering (EGR)

EGR 121 Foundations of Engineering (2 CR.)
Eligible for ENG 111. Introduces the engineering profession and its impact on society and the environment, including engineering problem solving, the engineering design process, and professional practices. Covers fundamental engineering calculations, descriptive statistics, basic spreadsheet and mathematical scripting language applications, professional ethics, teamwork, and communication Lecture 2 hours. Total 2 hour per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) MTH 167 or MTH 162
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

EGR 122 Engineering Design (3 CR.)
Applies engineering methods to a semester-long team design project with an emphasis on engineering software involving 2D and 3D computer aided design; data modeling and analysis; and iterative programming solutions. Covers design drawings and dimensioning; spreadsheet software usage; mathematical scripting language; and professional practices. 3 credits. Lecture 2 hours per week; lab 2 hours per week; total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EGR 121 or department permission

EGR 125 Introduction to Computer Programming for Engineers (4 CR.)
Introduces problem solving and implementation of computer software solutions using a high-level programming language in a structured environment. Includes concepts and practice of algorithm design, language syntax, control structures, arrays, and introduction to object-oriented programming. Covers engineering applications, such as mathematical modeling, file input and output, and basic numerical methods. The assignments in this course require mathematical problem-solving skills, algebraic modeling, and functions, and use of variables. Lecture 4 hours per week.
Prerequisite(s) MTH 162 or MTH 167 or equivalent
Corequisite(s) EGR 121

EGR 206 Engineering Economics (3 CR.)
Presents economic analysis of engineering alternatives. Studies economic and cost concepts, calculation of economic equivalence, comparison of alternatives, replacement economy, economic optimization in design and operation, depreciation, and after tax analysis. Lecture 3 hours per week.
Prerequisite(s) MTH 162 or MTH 167

EGR 240 Statics (3 CR.)
Introduces basic concepts of engineering mechanics, systems of forces and couples, equilibrium of particles and rigid bodies, and internal forces and analysis of structures, including SI and U.S. customary units. Includes trusses, frames, machines, beams, distributed forces, friction, and centroids. Lecture 3 hours per week.
Prerequisite(s) EGR 120, EGR 121, or EGR 122 and MTH 263 and PHY 241(or old PHY 231)

EGR 245 Dynamics (3 CR.)
Presents approach to kinematics and kinetics of particles (and systems of particles) in linear and curvilinear motion. Includes kinematics and kinetics of rigid bodies in plane motion. Teaches Newton's second law, work-energy, and impulse-momentum methods. Lecture 3 hours per week.
Prerequisite(s) MTH 265 and EGR 240

EGR 246 Mechanics of Materials (3 CR.)
TIntroduces concepts of stress, strain, deformation, internal equilibrium, and basic properties of engineering materials. Analyzes axial loads, torsion, bending, shear and combined loading. Studies stress transformation, principal stresses, and buckling. Lecture 3 hours per week.
Prerequisite(s) EGR 240

EGR 248 Thermodynamics For Engineering (3 CR.)
Studies formulation of the first and second law of thermodynamics. Presents energy conversion, concepts of energy, temperature, entropy, and enthalpy, equations of state of fluids. Covers reversibility and irreversibility in processes, closed and open systems, cyclical javascript:submitAction_win1(document.win1,'$ICField2$hdown $0');processes and problem solving using computers. Lecture 3 hours per week.
Prerequisite(s) MTH 264 and PHY 241 (or PHY 231)

EGR 270 Fundamentals of Computer Engineering (4 CR.)
Covers digital system analysis, design, and implementation. Includes digital logic, Boolean algebra, combinational and sequential circuits, hierarchical design, and introduction to computer organization and assembly language. Features in laboratory work the use of discrete logic, programmable logic devices, and hardware description language to design, simulate, implement, validate, and document digital circuits. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) EGR120, or EGR, 121 and either EGR 125 or CSC 221 (or CSC 200)

EGR 271 Electric Circuits I (4 CR.)
Covers fundamentals of electric circuits. Teaches resistive circuit analysis methods, including network theorems. Teaches operational amplifiers, capacitors, inductors, resistor-capacitor (RC), resistor-inductor (RL) and resistance-inductance-capacitance (RLC) circuit transient response. Introduces phasor representation of alternating current (AC) circuits. Utilizes circuit design processes, technical writing and computer software for problem solving. Includes laboratory analysis to explore course concepts. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week. Please note: Credit will not be awarded for both EGR 271: Electric Circuits I and EGR 251: Basic Electric Circuits I/EGR 255: Electric Circuits Laboratory An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) MTH 264 and EGR 121

EGR 272 Electric Circuits II (4 CR.)
Covers sinusoidal steady state circuit response using phasors; frequency analysis of linear circuits including frequency response, Bode plots, Fourier series analysis, and design of basic filters. Examines Laplace circuit analysis and transfer functions, AC power analysis; nonlinear diode models; and technical writing. Includes laboratory analysis and open-ended design project. Lecture 3 hours, Laboratory 3 hours, Total 6 hours per week. Please note: Credit will not be awarded for both EGR 272: Electric Circuits II and EGR 252: Basic Electric Circuits II An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) MTH 267 and EGR 271

EGR 280 Foundations of Environmental Engineering (3 CR.)
Provides an introduction to the concepts of environmental engineering including air pollution, water pollution, water treatment, waste management, and health risk assessment. Examines sustainability and global climate change in the context of contemporary environmental engineering. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) CHM 111

EGR 282 Hydraulics for Civil and Environmental Engineering (3 CR.)
Introduces the basic principles governing the statics and dynamics of fluids, especially incompressible fluids. Examines hydrostatic pressure; continuity, Bernoulli, and momentum equations; viscosity flow problems; measuring instruments; and applications to closed conduits and open channels. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) EGR 240 or departmental approval

English (ENG)

ENG 111 College Composition I (3 CR.)
Students enrolling in ESL 95 or EDE 11 must also register for the corresponding ENG 111 section. Introduces students to critical thinking and the fundamentals of academic writing. Through the writing process, students refine topics; develop and support ideas; investigate, evaluate, and incorporate appropriate resources; edit for effective style and usage; and determine appropriate approaches for a variety of contexts, audiences, and purposes. Writing activities will include exposition and argumentation with at least one researched essay. Lecture 3 hours per week.
Prerequisite(s) EDE 10 or direct placement
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ENG 112 College Composition II (3 CR.)
Continues to develop college writing with increased emphasis on critical essays, argumentation, and research, developing these competencies through the examination of a range of texts about the human experience. Requires students to locate, evaluate, integrate, and document sources and effectively edit for style and usage. Lecture 3 hours per week.
Prerequisite(s) ENG 111, and must be able to use word processing software
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ENG 113 Technical-Professional Writing (3 CR.)
Develops ability in technical writing through extensive practice in composing technical reports and technical documents. Guides students in achieving voice, tone, style, and content in formatting, editing, and graphics. Introduces students to technical discourse through selected readings. Provides instruction and practice in basic principles of oral communication/presentation. Lecture 3 hours per week.
Prerequisite(s) ENG 111

ENG 114 Scientific Writing (3 CR.)
Develops rhetorical expertise in the conventions of scientific argumentation and writing through reading scientific literature and composing scientific writings. Introduces plain style and common genres of scientific writing, Develops the ability to communicate scientific knowledge to diverse audiences. Guides the student in achieving typical voice, tone, style, audience, and content in formatting, editing, and graphics. Lecture 3 hours per week.
Prerequisite(s) ENG 111 or equivalent

ENG 115 Technical Writing (3 CR.)
Develops ability in technical writing through extensive practice in composing technical reports and other documents. Guides students in achieving voice, tone, style, and content in formatting, editing, and graphics. Introduces students to technical discourse through selected reading. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ENG 116 Writing For Business (3 CR.)
Develops ability in business writing through extensive practice in composing business correspondence and other documents. Guides students in achieving voice, tone, style, and content appropriate to a specific audience and purpose. Includes instruction in formatting and editing. Introduces students to business discourse through selected readings. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ENG 121 Introduction to Journalism (3 CR.)
IIntroduces students to the practice of journalism through researching, interviewing, writing, editing and revising articles for potential publication. Explores current issues in the field, media law, journalistic values, ethics and reporting. Acquaints students with Associated Press Style, copy editing, news and feature writing, and creative journalism. Lecture 3 hours per week.
Prerequisite(s) ENG 111 or 112 or division approval
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ENG 200 Introduction to Linguistics (3 CR.)
Introduces the scientific study of language. Focuses on brain and language, phonetics, phonology, morphology, syntax, semantics and pragmatics, and first and second language acquisition. Lecture 3 hours per week.
Prerequisite(s) ENG 111

ENG 205 Technical Editing (3 CR.)
*Prerequisite ENG 111 or equivalent. Prepares business and technical communicators to edit self-generated writings as well as writings prepared by others, including individual or collaborative authors. Teaches students to make editorial content decisions, verify information and copyright compliance, adapt and design formats for audience and purpose, and edit the work of several authors into a seamless final product. Covers basic proofreading and editing skills. Lecture 3 hours per week.

ENG 210 Advanced Composition (3 CR.)
Helps students refine skills in writing nonfiction prose. Guides development of individual voice and style. Introduces procedures for publication. Lecture 3 hours per week.
Prerequisite(s) ENG 112, ENG 125, or division approval
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ENG 211 Creative Writing I (3 CR.)
Introduces the student to the fundamentals of writing imaginatively. Students write in forms to be selected from poetry, fiction, drama, and essays. Lecture 3 hours per week.
Prerequisite(s) ENG 112, ENG 125, or division approval

ENG 212 Creative Writing II (3 CR.)
Introduces the student to the fundamentals of writing imaginatively. Students write in forms to be selected from poetry, fiction, drama, and essays. Lecture 3 hours per week.
Prerequisite(s) ENG 112, ENG 125, or division approval

ENG 215 Creative Writing - Fiction I (3 CR.)
Introduces the student, in a workshop setting, to the fundamentals and techniques of writing short and long fiction. Lecture 3 hours per week.
Prerequisite(s) Students must have successfully completed ENG 112 - College Composition II, ENG 125, Introduction to Literature, or the equivalent, or received division approval

ENG 219 Creative Writing - Drama (3 CR.)
Introduces the student to the fundamentals and techniques of writing plays. Lecture 3 hours per week.
Prerequisite(s) Students must have successfully completed ENG 112 - College Composition II, ENG 125, Introduction to Literature, or the equivalent, or received division approval

ENG 225 Reading Literature: Culture and Ideas (3 CR.)
Examines a set of literary texts linked by a particular theme, with inquiry into the historical, cultural, and/or social contexts of the texts and the theme. Emphasizes interpretive and critical analysis skills developed through close reading and intertextual study, as well as highlights an exploration of cultural ideas. Engages works of diverse genres, authors, and time periods. Specific themes will vary by section. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) ENG 112, ENG 113, or department approval
This is a Passport and UCGS transfer course.

ENG 230 Mystery in Literature & Film (3 CR.)
Studies the mystery as a genre, including history, types, and cultural aspects of stories, novels, plays, and film adaptations. Involves critical reading, writing, and viewing. Lecture 3 hours per week.
Prerequisite(s) ENG 112, ENG 125, or division approval

ENG 236 Introduction to the Short Story (3 CR.)
Examines selected short stories emphasizing the history of the genre. Involves critical reading and writing. Lecture 3 hours.
Prerequisite(s) ENG 112, ENG 125, or divisional approval

ENG 237 Introduction to Poetry (3 CR.)
Examines selected poetry, emphasizing the history of the genre. Involves critical reading and writing. Lecture 3 hours per week.
Prerequisite(s) ENG 112, ENG 125, or division approval

ENG 245 British Literature (3 CR.)
Examines British literary traditions and texts from diverse time periods, genres, and authors. Develops critical thinking and interpretive skills through close reading, discussion, and analysis of literary texts in their historical, cultural, social, and/or literary contexts. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) ENG 112, ENG 113, or division approval
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ENG 246 American Literature (3 CR.)
Examines American literary traditions and texts from diverse time periods, genres, and authors. Analyzes literary works within their historical, cultural, social, and/or literary contexts. Emphasizes skills of close reading. Develops critical thinking and interpretive skills through discussion, interpretation, and analysis of these texts. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) ENG 112 or ENG 113 or divisional approval
This is a Passport and UCGS transfer course.

ENG 250 Children's Literature (3 CR.)
Examines the history and development of children's literature of diverse genres, time periods, and authors. Focuses on analysis of texts for literary qualities and audience. Develops critical thinking and interpretive skills through close reading, discussion, and analysis of literary texts. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) ENG 112, ENG 113, or departmental approval
This is a Passport and UCGS transfer course.

ENG 255 World Literature (3 CR.)
Examines literary texts across a variety of cultures, genres, and time periods. Develops critical thinking and interpretive skills through close reading, discussion, and analysis of literary texts from around the world in their historical, cultural, social, and/or literary contexts. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) ENG 112, ENG 113 or divisional approval
This is a Passport and UCGS transfer course.

ENG 256 Literature of Science Fiction (3 CR.)
Examines the literary and social aspects of science fiction, emphasizing development of ideas and techniques through the history of the genre. Involves critical reading and writing. Lecture 3 hours per week.
Prerequisite(s) ENG 112, or divisional approval

ENG 257 Mythological Literature (3 CR.)
Studies selected mythologies of the world, emphasizing their common origins and subsequent influence on human thought and expression. Involves critical reading and writing. Lecture 3 hours per week.
Prerequisite(s) ENG 112 or ENG 125, or divisional approval

ENG 258 African American Literature (3 CR.)
Explores the stories African American authors tell about themselves, their communities, and the world. Examines common and diverging themes within African American literary traditions through the study of diverse authors, genres, and literary movements from a variety of time periods. Emphasizes interpretive and critical analysis skills developed through close reading and consideration of historical and cultural contexts. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) ENG 112, ENG 113, or department approval
This is a Passport and UCGS transfer course.

ENG 261 Advanced Creative Writing I (3 CR.)
Guides the student in imaginative writing in selected genres on an advanced level. Lecture 3 hours per week.
Prerequisite(s) ENG 112, ENG 125, or divisional approval

ENG 271 The Works of Shakespeare I (3 CR.)
Examines selected works of Shakespeare. Involves critical reading and writing. Lecture 3 hours per week.
Prerequisite(s) ENG 112, ENG 125, or divisional approval

ENG 275 Women in Literature (3 CR.)
Examines literary texts by women writers from diverse time periods, genres, and authors. Develops skills of close reading and literary analysis through analysis of texts within their historical, cultural, social, and/or literary contexts. Explores how women's experiences have shaped their literary contributions, the cultural forces affecting their lives, and how they have used writing to shape their cultures. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) ENG 112
This is a Passport and UCGS transfer course.

ENG 279 Film And Literature (3 CR.)
Prerequisite ENG 112, ENG 125, or divisional approval. Examines the translation of literature into film viewing and writing. Lecture 3 hours per week.

ENG 295 Topics In: (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

ENG 298 Seminar And Project (1-5 CR.)
Seminar And Project

English as a Second Language (ESL)

ESL 21 Written Communication II (5 CR.)
ESL 21, ESL 22 and ESL 24 are required to complete LEVEL 2. Provides instruction in writing at the low-intermediate level. Improves students' competence in grammatical patterns of written English. Requires practice in writing sentences and longer pieces of writing. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) An English placement recommendation for ESL Level 2

ESL 22 Reading and Vocabulary II (5 CR.)
ESL 21, ESL 22 and ESL 24 are required to complete LEVEL 2. Provides instruction and practice in reading and vocabulary development at the low-intermediate level. Improves students' reading fluency, proficiency, and vocabulary to enable them to function adequately in ESL Level 3 and prepare for college-level reading. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) An English placement recommendation for ESL Level 2

ESL 24 Oral & Written Communication I (5 CR.)
ESL 21, ESL 22 and ESL 24 are required to complete LEVEL 2. Provides practice in the sound, stress, intonation, structural patterns, grammar, vocabulary, and idioms of beginning-level English. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) An English placement recommendation for ESL Level 2

ESL 31 Composition I (5 CR.)
ESL 31, ESL 32 and ESL 33 are required to complete LEVEL 3. Provides instruction and practice in the writing process, emphasizing development of fluency in writing and competence in structural and grammatical patterns of written English. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) An English placement recommendation for ESL Level 3 or successful completion of ESL 21/22/24

ESL 32 Reading I (5 CR.)
ESL 31, ESL 32 and ESL 33 are required to complete LEVEL 3. Helps students improve their reading comprehension and vocabulary development. Improves students' reading proficiency to a level which would allow the students to function adequately in ESL 42 and other college classes. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) An English placement recommendation for ESL Level 3 or successful completion of ESL 21/22/24

ESL 33 Oral Communications I (5 CR.)
ESL 31, ESL 32 and ESL 33 are required to complete LEVEL 3. Helps students practice and improve listening and speaking skills as needed for functioning successfully in academic, professional, and personal settings. Assesses students' oral skills and includes, as needed, practice with pronunciation, rhythm, stress, and intonation. Provides exercises, practices, small and large group activities, and oral presentations to help students overcome problems in oral communication. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) An English placement recommendation for ESL Level 3 or successful completion of ESL 21/22/24

ESL 41 Composition II (5 CR.)
ESL 41 and ESL 42 are required to complete Level 4. Provides further instruction and practice in the writing process and introduces advanced language patterns. Includes practice in developing and improving writing strategies. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) An English placement recommendation for ESL Level 4 or successful completion of ESL 31/32/33

ESL 42 Reading II (5 CR.)
ESL 41 and ESL 42 are required to complete Level 4. Helps students improve their reading comprehension and vocabulary development. Improves students' reading proficiency to a level which would allow students to function adequately in the ESL 52 reading class and other college courses. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) An English placement recommendation for ESL Level 4 or successful completion of ESL 31/32/33

ESL 48 Writing Workshop (5 CR.)
Provides an opportunity for further practice in intermediate and advanced writing techniques taught in required ESL writing courses. Provides reinforcement in writing skills, including composing, organizing, revising and editing. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) Requires teacher recommendation from ESL 41

ESL 51 Composition III (5 CR.)
ESL 51 and ESL 52 are required to complete Level 5. Prepares for college-level writing by practice in the writing process, emphasizing development of thought in essays of greater length and complexity and use of appropriate syntax and diction. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) An English placement recommendation for ESL Level 5 or successful completion of ESL 41 (or ESL 48) and ESL 42

ESL 52 Reading III (5 CR.)
ESL 51 and ESL 52 are required to complete Level 5. Helps students improve their reading comprehension and vocabulary development. Improves students' reading proficiency to a level which would allow students to succeed in certificate and degree programs. Emphasizes applying and synthesizing ideas. Includes ways to detect organization, summarize, make inferences, draw conclusions, evaluate generalizations, recognize differences between facts and opinions, and introduces other advanced comprehension strategies. May also include comprehensive library skills. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) An English placement recommendation for ESL Level 5 or successful completion of ESL 41 (or ESL 48) and ESL 42

ESL 58 Writing Workshop II (5 CR.)
Provides an intensive writing seminar for students struggling with the writing process, editing, and self-correction in academic English. Helps students improve their fluency and command of American academic English. Credits are not applicable toward graduation. Lecture 5 hours per week.
Prerequisite(s) Requires teacher recommendation from ESL 51

ESL 67 English Composition Readiness for English Language Learners (3 CR.)
Provides English language learners with academic support for successful completion of ENG 111. Emphasizes development of necessary academic vocabulary and grammatical structures to support academic skills including critical reading, writing, thinking, and introductory research. Lecture 3 hours. Total 3 hours per week.
Corequisite(s) ENG 111

ESL 73 Accent Reduction (3 CR.)
Provides contextualized practice at the high intermediate/advanced level to improve the speech and intelligibility of nonnative speakers of English. Focuses on problems of American English pronunciation, unclear individual sounds and positional variants, stress, rhythm and intonation common to speakers of different language backgrounds. Credits are not applicable toward graduation. Lecture 3 hours per week.

ESL 95 Topics In: (3 CR.)
Students enrolling in ESL 95 must also register for the corresponding ENG 111 section. Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hrs.

English Direct Enrollment (EDE)

EDE 10 English Composition Preparation (3 CR.)
Provides academic skills and support for introductory composition. Students will identify and apply academic skills including critical reading, writing, thinking, and research. Upon successful completion of EDE 10, instructors recommend enrollment in EDE 11/ENG 111 or ENG 111 or ENG 115/ENG 131. Lecture 3 hours. Total 3 hours per week.

EDE 11 English Composition Readiness (3 CR.)
Students enrolling in EDE 11 must also register for the corresponding ENG 111 section. Provides academic support for successful completion of ENG 111. Students will identify and apply academic skills including critical reading, writing, thinking, and introductory research. Lecture 3 hours. Total 3 hours per week.
Corequisite(s) ENG 111

Environmental Science (ENV)

ENV 121 Foundations of Environmental Science (4 CR.)
Focuses on basic physical, chemical, and biological principles with an emphasis on the interactions between humans and the environment. Assignments require college-level reading fluency, coherent written and oral communication, and basic mathematical skills. Intended for students not majoring in science. Can be taken by itself or before or after ENV 122. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) Eligible for ENG 111, or completion of EDE 10
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ENV 122 Applications in Environmental Science (4 CR.)
ENV 121 is recommended. Applies the basic concepts of environmental science to human interactions with the environment. Examines environmental science in the context of the societal implications with a focus on sustainability. Assignments require college-level reading fluency, coherent written communication, and basic mathematical skills. Intended for students not majoring in science. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week..
Prerequisite(s) Eligible for ENG 111, or completion of EDE 10
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Financial Services (FIN)

FIN 107 Personal Finance (3 CR.)
Presents a framework of personal money management concepts, including establishing values and goals, determining sources of income, managing income, preparing a budget, developing consumer buying ability, using credit, understanding savings and insurance, providing for adequate retirement, and estate planning. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

FIN 108 Principles of Securities Investment (3 CR.)
Provides an introduction to the fundamentals of the security investment process. Reviews the investment strategy associated with various types of stock orders, discusses the fundamental and technical approaches to common stock analysis, and examines bond and preferred stock pricing mechanisms. Also reviews the unique aspects of derivative security, mutual fund, real estate, and limited partnership investments. Lecture 3 hours per week.

FIN 215 Financial Management (3 CR.)
Introduces basic financial management topics including statement analysis, working capital, capital budgeting, and long-term financing. Focuses on Net Present Value and Internal Rate of Return techniques, lease versus buy analysis, and Cost of Capital computations. Uses problems and cases to enhance skills in financial planning and decision making. Lecture 3 hours per week.

FIN 260 Financial Managment for Small Business (2 CR.)
Provides the tools of financial planning for the small business owner. Includes areas such as financial statements, ratio analysis, forecasting profit, cash flow, pricing, and obtaining capital. Lecture 2 hours per week.
Prerequisite(s) ACC 220 or ACC 211 and BUS 165

French (FRE)

FRE 101 Beginning French I (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic French sentence structure. Classes may be conducted in target language. Part I of II. Lecture 4 hours per week.
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

FRE 102 Beginning French II (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic French sentence structure. Classes may be conducted in target language. Part II of II. Lecture 4 hours per week.
Prerequisite(s) FRE 101, or two years of successful completion of high school French, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

FRE 201 Intermediate French I (3 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and introduces complex French sentence structures. Classes may be conducted in target language. Part I of II. Lecture 3 hours per week.
Prerequisite(s) FRE 102, or three years of successful completion of high school French, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

FRE 202 Intermediate French II (3 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and emphasizes complex French sentence structures. Classes may be conducted in the target language. Part II of II. Lecture 3 hours per week.
Prerequisite(s) FRE 201, or four years of successful completion of high school French, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

FRE 212 Inter French Conversation II (3 CR.)
Continues to develop fluency through emphasis on idioms and other complex sentence structures. Lecture 3 hours per week.
Prerequisite(s) FRE 211 or equivalent

Geographic Information Systems (GIS)

GIS 101 Introduction to Geospatial Technology (3 CR.)
Provides an introduction to the concepts of Geographic Information Systems (GIS), Global Positioning Systems, (GPS) and remote sension components of Geospatial Technology. Teaches the introductory concepts of geographic location and problem solving by using GIS and GPS units in demonstrating solutions to cross-curricular applications of the technology. Part I of II. Lecture 3 hours per week.
Prerequisite(s) Basic Computer Literacy

GIS 200 Geographic Information Systems I (GIS) (4 CR.)
Provides hands-on introduction to a dynamic desktop GIS (Geographic Information System). Introduces the components of a desktop GIS and their functionality. Emphasizes manipulation of data for the purpose of analysis, presentation, and decision-making. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

GIS 201 Geographic Information Systems II (GIS) (4 CR.)
Provides a continuation of GIS 200, with emphasis on advanced topics in problemsolving, decision-making, modeling, programming, and data management. Covers map projections and data formats, and methods for solving the problems they create. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.
Prerequisite(s) GIS 200

GIS 203 Cartography for GIS (3 CR.)
Prerequisite is GIS 200. Focuses on the fundamental cartographic concepts used in planning, designing, and creating effective maps. Provides the foundation to critically evaluate maps to produce accurate and visually pleasing cartographic displays that convey information in a manner that enables easy interpretation. Includes topics of map compilation, map design, map types, and critical evaluation of map content. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

GIS 205 GIS 3-Dimensional Analysis (4 CR.)
Introduces GIS 3D (three-dimensional) concepts and practices with a concentration on displaying, creating and analyzing spatial GIS data using 3D. Covers 3 D shape files, 3 D data formats such s Tin's, DEM's, grids and controlling the perspective and scale of 3 D data through rotating, panning and zooming. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.
Prerequisite(s) GIS 200

GIS 255 Exploring Our Earth: Introduction to Remote Sensing (3 CR.)
Prerequisite is GIS 200. Introduces material to understand the fundamental physical and mathematical principles and techniques of Remote Sensing. Introduces how each part of the electromagnetic spectrum is used to gather data about Earth. Describes limitations imposed by satellites, aircraft, and sensors. Surveys various methods to access and apply Earth observation/Remote Sensing data. Teaches students to use Remote Sensing software to process and manipulate Landsat, SPOT, photographic, and other imagery in a hands-on approach to Remote Sensing analysis. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

GIS 290 Coordinated Internship (1-5 CR.)
Supervised on-the-job training in selected business, industrial, or service firms coordinated by the college. Credit/work ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

Geography (GEO)

GEO 200 Introduction to Physical Geography (3 CR.)
Examines the global patterns and processes of the atmosphere, biosphere, lithosphere, and hydrosphere. Explores Earth's physical systems and the interrelationships among them through studying Earth-Sun geometry, climate and weather phenomena, landforms, biomes, and environmental change. Lecture 3 hours. Total 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

GEO 210 People & the Land: Intro. to Cultural Geography (3 CR.)
Focuses on the relationship between culture and geography. Presents a survey of modern demographics, landscape modification, material and nonmaterial culture, language, race and ethnicity, religion, politics, and economic activities. Introduces the student to types and uses of maps. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

GEO 220 World Regional Geography (3 CR.)
Studies physical and cultural characteristics of selected geographical regions of the world. Focuses upon significant problems within each of the regions, and examines the geographical background of those problems. Introduces the student to types and uses of maps. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

GEO 230 Political Geography (3 CR.)
Examines the influence of geography on political systems and nation states. Discusses historic and current events including campaigns, wars, trade, and treaties as functions of land, resources and energy requirements. Introduces students to types and uses of maps. Lecture 3 hours per week.

Geology (GOL)

GOL 105 Physical Geology (4 CR.)
Introduces the science of physical geology through a comprehensive systems-based examination of Earth's structure, composition, rocks and minerals, landforms, geomorphology, and agents responsible for shaping and modifying its environments. Explores the origin and evolution of Earth's topographic and bathymetric features, geologic phenomena, and geologic hazards, resulting from plate tectonics. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
This is a Passport and UCGS transfer course.

GOL 106 Historical Geology (4 CR.)
Traces the evolution of the earth and life through time. Presents scientific theories of the origin of the earth and life and interprets rock and fossil record. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per wee
This is a Passport and UCGS transfer course.

GOL 111 Oceanography I (4 CR.)
Examines the dynamics of the oceans and ocean basins. Applies the principles of physical, chemical, biological, and geological oceanography. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

GOL 112 Oceanography II (4 CR.)
Examines the dynamics of the oceans and ocean basins. Applies the principles of physical, chemical, biological, and geological oceanography. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) instructor permission

GOL 135 Field Studies in Geology (1 CR.)
Investigates geologic phenomena. Includes activities such as observation of regional geology and land forms, collection of samples, and measurement and interpretation of geologic structures. Field Studies - 3 hours per week.

GOL 206 Paleontology (4 CR.)
Prerequisite is GOL 106 or permission of instructor. Surveys major groups of fossil invertebrates and vertebrates. Covers form, function, ecology, and evolution for each group in the context of geologic time. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

GOL 207 Mineralogy (4 CR.)
Prerequisite is GOL 105. Provides details for study of minerals. Focuses on the structure and properties of minerals, their occurrence and uses. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

German (GER)

GER 101 Beginning German I (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic sentence structure. Part I of II.
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

GER 102 Beginning German II (4 CR.)
Part II of II. Lecture 4 hours per week.
Prerequisite(s) GER 101, or two years of successful completion of high school German, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

GER 201 Intermediate German I (3 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and introduces complex sentence structures. Classes may be conducted in target language. Part I of II. Lecture 3 hours per week.
Prerequisite(s) GER 102, or three years of successful completion of high school German, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

GER 202 Intermediate German II (3 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and emphasizes complex sentence structures. Classes may be conducted in the target language. Part II of II. This is UCGS transfer course. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) GER 201, or four years of successful completion of high school German, or demonstrated experiential learning, or by placement test, or equivalent
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Health (HLT)

HLT 105 Cardiopulmonary Resuscitation (1 CR.)
Provides training in coordinated mouth-to-mouth artificial ventilation and chest compression techniques, includes life-saving practices for choking, life-threatening emergencies, and sudden illness. Lecture 1 hour per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HLT 110 Personal and Community Health (3 CR.)
Introduces students to the basic concepts of health and dimensions of wellness through exploration of a variety of personal health topics. Identifies factors that affect the health status of individuals in addition to health promotion and disease prevention at the personal and community level. Lecture 3 hours per week.

HLT 141 Introduction to Medical Terminology (1 CR.)
Focuses on medical terminology for students preparing for careers in the health professions. Lecture 1 hour per week.

HLT 143 Medical Terminology I (3 CR.)
Provides an understanding of medical abbreviations and terms. Includes the study of prefixes, suffixes, word stems, and technical terms with emphasis on proper spelling, pronunciation, and usage. Emphasizes more complex skills and techniques in understanding medical terminology. Lecture 3 hours per week.

HLT 145 Ethics For Healthcare Personnel (2 CR.)
Focuses on ethical concepts of health care. Emphasizes confidentiality, maintaining patient records, personal appearance, professionalism with patients/clients, associates, and an awareness of health care facilities. Lecture 2 hours per week.

HLT 206 Introduction to Kinesiology (3 CR.)
Introduces the study of various forms of physical activity and how they promote human health. Examines the study of physical activity from the perspectives of professional practice, scholarly study and experience. Provides a broad overview of the history, scientific principles, methodologies, and research among the major subdisciplines to prepare students for further study in kinesiology and health sciences. Explores current issues, future directions, certifications, professional associations, and career opportunities. Lecture 3 hours. Total 3 hours per week.

HLT 220 Concepts of Disease (3 CR.)
Emphasizes general principles, classifications, causes, and treatments of selected disease processes. Intended primarily for students enrolled in health technology programs. Lecture 3 hours per week.

HLT 228 Introduction to Public Health (3 CR.)
Provides an overview of public health systems in the United States and globally with an emphasis on core functions, essential services and health determinants. Explores the history, core areas and current trends within public health as well as how public health affects individuals and populations. The assignments in the course require college-level reading fluency and coherent communication through documented written reports. Lecture 3 hours. Total 3 hours per week.

HLT 230 Principles of Nutrition (3 CR.)
Introduces students to the basic concepts of nutrition and its impact on personal wellness. Emphasizes an evidence-based approach to various topics, such as the nutrient components of food, the components of a healthy eating pattern, and the relationship between diet and health. Provides a behavioral approach to nutrient guidelines for the development and maintenance of optimum wellness. The assignments in the course require college-level reading fluency and coherent communication through documented written reports. Lecture 3 hours per week.

HLT 241 Global Health Perspectives (3 CR.)
Examines global health theories, concepts, issues and prevention efforts. Analyzes the complex relationship between economics, environment, culture and values in addressing health disparities and access to healthcare around the globe. Explores health inequities across the globe by using contemporary, evidence-based topics. Lecture 3 hours. Total 3 hours per week.

HLT 250 General Pharmacology (3 CR.)
Emphasizes general pharmacology for the health-related professions; covers general principles of drug actions/reactions, major drug classes, specific agent within each class, and routine mathematical calculations needed to determine desired dosages. Lecture 3 hours per week.

Health Information Management (HIM)

HIM 110 Introduction to Human Pathology (3 CR.)
Introduces the basic concepts, terminology, etiology, and characteristics of pathological processes. Lecture 3 hours per week.

HIM 111 Medical Terminology (3 CR.)
Introduces the student to the language used in the health record. Includes a system-by-system review of anatomic, disease, and operative terms, abbreviations, radiography procedures, laboratory tests, and pharmacology terms. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HIM 130 Healthcare Information Systems (3 CR.)
Teaches basic concepts of microcomputer software (to include operating systems, word processing, spreadsheets, and database applications. Focuses on microcomputer applications and information systems in the Healthcare environment. Provides a working introduction to electronic health information systems for allied health, teaching students how the adoption of electronic health records affects them as future healthcare professionals. Lecture 3 hours per week. Total 3 hours per week.

HIM 141 Fundamentals of Health Information Systems I (3 CR.)
Focuses on health data collection, storage, retrieval and reporting systems, with emphasis on the role of the computer in accomplishing these functions. Part I of II. Lecture 3 hours per week.

HIM 142 Fundamentals of Health Information Systems II (3 CR.)
Prerequisite is ITE 115 or permission of instructor. Focuses on health data collection, storage, retrieval, and reporting systems, with emphasis on the role of the computer in accomplishing these functions. Lecture 3 hours per week.

HIM 199 Supervised Study (1-5 CR.)
Assignment of problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hrs.

HIM 220 Health Statistics (3 CR.)
Introduces the student to basic statistical principles as applied in the health care environment. Lecture 3 hours per week.
Prerequisite(s) HIM 130 and HIM 141 or permission of instructor

HIM 226 Legal Aspects/Health Record Documentation (2 CR.)
Prerequisite is HIM 141 or permission of instructor. Presents the legal requirements associated with health record documentation. Emphasizes the policies and procedures concerning the protection of the confidentiality of the patient's health record. Lecture 2 hours per week.

HIM 229 Performance Improvement in Health Care Settings (2 CR.)
Focuses on concepts of facility wide performance improvement, resource management and risk management. Applies tools for data collection and analysis. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

HIM 230 Information Systems and Technology in Health Care (3 CR.)
Explores computer technology and system application in health care. Introduces the information systems life cycle. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

HIM 233 Electronic Health Records Management (3 CR.)
Studies new trends in management and processing of health information with emphasis on the electronic health record (EHR). Covers the definition, benefits, standards, functionality, confidentiality and security, and impact of the EHR in the healthcare environment. Explores implementation of the EHR including infrastructure required, project management techniques, information technology systems, workflow processes and redesign in various healthcare settings. Discusses legal issues created by implementation of the EHR. Lecture 3 hours per week.
Prerequisite(s) HIM 130, HIM 230 and program placement into the Health Information Management degree program or the Clinical Data Coding Career Studies Certificate or permission of the instructor

HIM 249 Supervision & Mgt. Practices For HIM (3 CR.)
Introduces supervision and management principles with emphasis on the application of these principles in the health information setting. Lecture 3 hours per week.

HIM 250 Health Data Classification Systems (4 CR.)
Focuses on the current classification systems used in the healthcare industry. Introduces the professional standards for coding and reporting of inpatient/outpatient diagnostic codes as well as inpatient procedures. Utilizes standards in identifying and accurately assigning codes to diseases and procedures as they relate to statistical research and healthcare financing. Lecture 4 hours per week.
Prerequisite(s) HIM 110 and HIM 111 plus either BIO 141-142 or permission of instructor

HIM 251 Clinical Practice I (3 CR.)
Prepares the Health Information Technology Student to perform all functions commonly allocated to health record services. Gives practice in various settings under the supervision of a clinical practice supervisor. Part I of II. Clinical 6 hours per week.
Prerequisite(s) HIM 226

HIM 252 Clinical Practice II (3 CR.)
Prepares the Health Information Technology student to perform all functions commonly allocated to health record services. Gives practice in various settings under the supervision of a clinical practice supervisor. Clinical practice at various facilities 6 hours per week.

HIM 254 Advanced Coding & Reimbursement (3 CR.)
Focuses on the applications and evaluation of advanced coding skills through practical exercises using actual healthcare data; while examining the components of DRGs, APCs and APGs and other prospective payment in the healthcare environment. Utilizes current coding standards in identifying payment methodologies, revenue cycle management and reimbursement.
Prerequisite(s) HIM 250 and HIM 255

HIM 255 Health Data Class. Systems II/CPT (2 CR.)
Prerequisites are HIM 110 and HIM 111 plus either BIO 141-142 or NAS 150 or permission of instructor. Focuses on procedure classification using CPT. This system is currently utilized for collecting health data for the purposes of statistical research and financial reporting. Lecture 2 hours per week.

HIM 260 Pharmacology For Health Info Management (3 CR.)
Emphasizes general pharmacology for Health Information professions. Covers general principles of drug actions/reactions, major drug classes, specific agents wthin each class and routine mathematical calculation needed to determine desired dosages. Lecture 3 hours per week.
Prerequisite(s) All students should have a background in anatomy, physiology, and medical terminology, HIM 111, BIO 142 and BIO 145 or permission of the instructor

HIM 280 HIM Capstone (1 CR.)
Prerequisites are HIM 226, HIM 229, HIM 230, and HIM 254. Co-requisites are HIM 233 and HIM 252. Integrates and applies knowledge and skills learned in prior HIM courses, focusing on those required to prepare for national certification in American Health Information Management Association¿s Domains, Sub-domains and Tasks. Includes a capstone project in which students apply principles of good practice in Health Information Management. Lecture is one hour per week.

History (HIS)

HIS 101 Western Civilizations Pre-1600 CE (3 CR.)
Examines the development of western civilization from ancient times to 1600 CE. HIS 102, 101, 112, 111, 122, 121 can be taken in any order. Consult your specific degree or transfer pathway and chose based on the topic that most interests you.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HIS 102 Western Civilizations Post-1600 CE (3 CR.)
Examines the development of western civilization from 1600 CE to the present. HIS 102, 101, 112, 111, 122, 121 can be taken in any order. Consult your specific degree or transfer pathway and chose based on the topic that most interests you.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HIS 111 World Civilizations Pre-1500 CE (3 CR.)
Surveys the history of Asia, Africa, the Americas, and Europe from antiquity to approximately 1500. HIS 102, 101, 112, 111, 122, 121 can be taken in any order. Consult your specific degree or transfer pathway and chose based on the topic that most interests you.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HIS 112 World Civilizations Post-1500 CE (3 CR.)
Surveys the history of Asia, Africa, Europe, and the Americas from approximately 1500 CE through the present. Lecture 3 hours. Total 3 hours per week. HIS 102, 101, 112, 111, 122, 121 can be taken in any order. Consult your specific degree or transfer pathway and chose based on the topic that most interests you.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HIS 121 United States History to 1877 (3 CR.)
Introduces the history of the United States from its origins to 1877. Includes the European exploration, development of the American colonies and their institutions, the Revolution, major political, social and economic developments, geographical expansion, the Civil War, and Reconstruction. Lecture 3 hours. Total 3 hours per week. HIS 102, 101, 112, 111, 122, 121 can be taken in any order. Consult your specific degree or transfer pathway and chose based on the topic that most interests you.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HIS 122 United States History Since 1865 (3 CR.)
Introduces the history of the United States from 1865 to present. Includes major political, social and economic developments since 1865, overseas expansion, the two world wars, the Cold War and the post-Cold War era. Lecture 3 hours. Total 3 hours per week. HIS 102, 101, 112, 111, 122, 121 can be taken in any order. Consult your specific degree or transfer pathway and chose based on the topic that most interests you.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HIS 127 Women in American History (3 CR.)
Studies the role of women and attitudes toward women in American society from colonial times to the present. Lecture 3 hours per week.

HIS 141 African-American History I (3 CR.)
Surveys the history of African-Americans from their African origins to the present. Lecture 3 hours per week.

HIS 142 African-American History II (3 CR.)
Surveys the history of African-Americans from their African origins to the present. Lecture 3 hours per week.

HIS 180 Historical Archaeology (3 CR.)
Introduces both the methods and theories in historical archaeology as practiced in the United States and worldwide. Includes time and space, field survey, excavation, and archival and laboratory research. Some field trips to site excavations. Lecture 3 hours per week.

HIS 181 Introduction to Historic Preservation (3 CR.)
Provides a foundation and introduction to historic preservation practices and issues in Virginia and the United States. Emphasizes legislation, policies, and methodologies that form our present national, state, and local preservation systems. Includes specific treatment of Alexandria, Arlington, Fairfax, and Loudoun counties. Lecture 3 hours per week.

HIS 183 Survey of Museum Practice (3 CR.)
Explores the role of the museum in society and traces the foundations upon which these public, cultural, and educational institutions are built. Emphasizes the management and interpretation of historic properties and collections. Lecture 3 hours per week.

HIS 186 Collections Management (3 CR.)
Discusses the fundamentals of collections policy, deaccessioning, appraisal, and curatorial management. Lecture 3 hours per week.

HIS 187 Interpreting Material Culture (3 CR.)
Surveys America's material culture and provides techniques to interpret artifacts. Lecture 3 hours per week.

HIS 190 Coordinated Internship (1-5 CR.)
Supervised on-the-job training in selected business, industrial, or service firms coordinated by the College. Credit/work ratio maximum 1:5 hrs. May be repeated for credit. Variable hrs.

HIS 193 Studies in (1-5 CR.)
Studies in:

HIS 203 History of African Civilizations (3 CR.)
Examines major social, economic, political and religious developments across the African continent from earliest times to the present. The assignments in the course require college-level reading fluency and coherent communication through written reports. Lecture 3 hours. Total 3 hours per week.

HIS 205 Local History (3 CR.)
Studies the history of the local community and/or region. Lecture 3 hours per week.

HIS 218 Introduction to Digital History (3 CR.)
Introduces the methods, theories and practices of digital history. Lecture 3 hours. Total 3 hours per week.

HIS 231 Introduction to Latin American History (3 CR.)
Examines the development of Latin American civilizations from the pre-Columbian era to the present. Lecture 3 hours per week.

HIS 241 History of Russia I (3 CR.)
Surveys history of Russia from earliest times to the present. Includes political, economic, multi-national, social, and cultural aspects of Russian and Soviet history. Lecture 3 hours per week.

HIS 243 History of The Ancient World I (3 CR.)
Studies the history of the ancient world from the dawn of civilization in the Near East to the fall of Rome. Lecture 3 hours per week.

HIS 251 History of Middle East Civilization I (3 CR.)
Surveys intellectual, cultural, social, economic and religious patterns in the civilizations of the Middle East. Covers Semitic, Indo-European, and Turkic-speaking peoples from pre-Islamic to the present. Lecture 3 hours per week.

HIS 254 History of Modern East Asian Civilizations (3 CR.)
Examines East Asian civilizations from the early modern period through the present day. Lecture 3 hours per week.

HIS 267 The Second World War (3 CR.)
The Second World War

HIS 269 Civil War & Reconstruction (3 CR.)
Studies factors that led to the division between the States. Examines the war, the home fronts, and the era of Reconstruction. Lecture 3 hours per week.

HIS 276 US History Since World War II (3 CR.)
Investigates United States history from 1946 to the present, studying both domestic developments and American involvement in international affairs. Lecture 3 hours per week.

HIS 279 Age of The American Revolution (3 CR.)
Examines the factors that led to the separation of the American Britain colonies from Great Britain. Covers the Revolutionary War, the problems faced by the revolutionary government, and postwar events that led to the adoption the United States Constitution. Lecture 3 hours per week.

HIS 280 American Foreign Policy Since 1890 (3 CR.)
Examines American foreign policy since 1890 with an emphasis on current events and diverse points of view. Lecture 3 hours per week.

HIS 281 History of Virginia I (3 CR.)
Examines the cultural, political, and economic history of the Commonwealth from its beginning to the present. Lecture 3 hours per week.

Horticulture (HRT)

HRT 100 Introduction to Horticulture (3 CR.)
Introduces commercial horticulture industry with emphasis on career opportunities. Examines equipment, facilities, and physical arrangements of production, wholesale and retail establishments. Surveys individual areas within horticulture industry. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 115 Plant Propagation (3 CR.)
Teaches principles and practices of plant propagation. Examines commercial and home practices. Provides experience in techniques using seed-spores, cuttings, grafting, budding, layering, and division. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 120 History of Garden Design (3 CR.)
Studies the development of gardens as they chronicle the development of civilization. Introduces the periods, in both Europe and North America, beginning with settlement, on through industrial development, land and space utilization, to current environmental concerns. Explores physical and cultural influences on garden design and utilization. Lecture 3 hours per week.

HRT 121 Greenhouse Crop Production I (3 CR.)
Examines commercial practices related to production of floricultural crops. Considers production requirements, environmental control and management, and cultural techniques affecting production of seasonal crops. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 125 Chemicals in Horticulture (3 CR.)
Emphasizes basic chemical principles and their application to horticulture. Introduces principles of inorganic and organic chemicals. Studies chemical activities of insecticides, fungicides, herbicides, fertilizers, and growth regulators. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 127 Horticultural Botany (3 CR.)
Studies taxonomy, anatomy, morphology, physiology, and genetics of plants as applied to identification, propagation, and culture. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 134 Four Season Food Production (3 CR.)
Familiarizes students with organic small-scale food production through lecture and demonstration. Includes seed saving, cover crops, and gardening planning. Lecture 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 135 Training for Commercial Pesticide Application (3 CR.)
Introduces students to the principles and practices for safe pesticide usage as required by law in the state of Virginia. Prepares students for the official tests administered by VDACS (Virginia Department of Agriculture and Consumer Services). Lecture 3 hours. Total 3 hours per week.

HRT 160 Applied Mathematics for the Green Industry (2 CR.)
Covers the basic math skills needed in the Green Industry to include areas, volumes, calibration calculations, profit and loss statements, and topics specific to turf, landscape, greenhouse, nursery, and interior landscapes.

HRT 201 Landscape Plants I (3 CR.)
Studies landscape use of plants. Considers ornamental value, growth habit, identification, and limitations. Part I of II. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 202 Landscape Plants II (3 CR.)
Studies landscape use of plants. Considers ornamental value, growth habit, identification, and limitations. Part II of II. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 205 Soils (3 CR.)
Teaches theoretical and practical aspects of soils and other growing media. Examines media components, chemical and physical properties, and soil organisms. Discusses management and conservation. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 207 Plant Pest Management (3 CR.)
Teaches principles of plant pest management. Covers morphology and life cycles of insects and other small animal pests and plant pathogens. Lab stresses diagnosis, chemical and nonchemical control of specific pests, and pesticide safety. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 230 Site Analysis (2 CR.)
Examines basic landscape and site planning techniques, environmental considerations, and construction principles. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 231 Planting Design I (3 CR.)
Applies landscape theory and principles of drawing to the planning of residential and small-scale commercial projects. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 232 Planting Design II (3 CR.)
Prerequisite is HRT 231. Applies landscape theory and principles of drawing to the planning of large-scale landscape designs. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 233 Landscape Drawing Applications (3 CR.)
Applies theories of landscape design and drawing to actual design projects and tasks. Emphasizes drawing techniques and use of advanced media in applications. Includes hard line, free-style, and computer-assisted landscape drawing in simple landscape drawing applications. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 244 Computer Aided Drafting and Design (CADD) for Landscape Designers (3 CR.)
Prerequisite is HRT 231. Co-requisite is HRT 232. Provides instruction in the use of computer-aided drafting and design software for developing landscape plans and supporting information for drawings such as dimensions and area calculations. Lecture 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 245 Woody Plants (3 CR.)
Studies identification, culture, and uses of woody plants in landscaping. Includes deciduous and evergreen, native and cultivated shrubs, trees, and vines. Teaches scientific and common names of plants. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 246 Herbaceous Plants (3 CR.)
Studies identification, culture and uses of herbaceous plants in landscaping. Includes perennials, biennials, common bulbs, and annuals. Teaches scientific and common names of plants. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 247 Indoor Plants (2 CR.)
Studies identification, culture, and uses of indoor plants in interior landscaping. Includes tropical, subtropical and non-hardy temperate plants. Teaches scientific and common names of plants. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 250 Plant Composition (2 CR.)
Prerequisites are HRT 245 or HRT 201. Applies basic identification and landscape traits of woody plants to the creation of groupings/ combinations for effect in design. Lecture 2 hours per week.

HRT 259 Arboriculture (3 CR.)
Studies the techniques of tree care. Covers surgery, pruning, insect and disease recognition and control, fertilization, cabling, and lightning rod installation. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 260 Introduction to Floral Design (3 CR.)
Teaches skills required for the composition of basic table arrangements. Includes the history of design styles, identification of flowers and greens, identification and use of equipment, and conditioning and handling of flowers. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 269 Professional Turf Care (3 CR.)
Covers turfgrass identification, selection, culture, propagation, and pest control. Surveys commercial turf care operations and use of common equipment. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 275 Landscape Construction & Maintenance (3 CR.)
Examines practical applications of commercial landscape construction techniques, and materials used. Covers construction, planting, and maintenance. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

HRT 290 Coordinated Internship (1-5 CR.)
Coordinated Internship

HRT 297 Cooperative Education (1-5 CR.)
Cooperative Education

HRT 298 Seminar & Project (1-5 CR.)
Completion of a project or research report related to the student¿s occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

Hospitality Management (HRI)

HRI 102 Hotel/Restaurant Org And Mgmt II (3 CR.)
Introduces the history, opportunities, problems, and trends of the hospitality industry. Covers the organization of the various sectors of the hospitality industry including human resources, general business considerations, and management theory. Lecture 3 hours per week.

HRI 107 Principles of Culinary Arts II (3 CR.)
Introduces the fundamental principles of food preparation and basic culinary procedures. Stresses the use of proper culinary procedures combined with food science, proper sanitation, standards of quality for food items that are made, and proper use and care of kitchen equipment. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HRI 126 The Art of Garnishing (1 CR.)
Focuses on the relationship between colors and shapes and how they pertain to garnishes. Provides student with knowledge to create impressive presentations. Lecture 1 hour per week.

HRI 138 Commercial Food Production Mgmt (3 CR.)
Prerequisite is HRI 120 or approval of instructor. Teaches commercial cooking. Studies management's role in setting up and running commercial cooking operations, menu planning, menu evaluation, standardization of recipes, and scheduling of manpower. Lecture 3 hours per week.

HRI 215 Food Purchasing (3 CR.)
Presents the method and procedures for purchasing food for hotels, restaurants, and institutions. Deals with markets, federal and trade grades, governmental regulations, packaging, comparative versus price buying, yields, and quality control. Lecture 3 hours per week.

HRI 231 Principles of Event Planning & Mgt. (3 CR.)
Focuses on the detailed aspects of how to produce, stage, script, and manage special events within the context of achieving organizational goals. Emphasizes the five critical stages in planning and managing special events: research needs and make goal assessments; design events to meet organizational purposes; planning the effective event; coordination and on-site management; and post-event evaluation. Lecture 3 hours per week.

HRI 256 Princ. & Applications of Catering (3 CR.)
Prerequisite is HRI 138 or approval of instructor. Analyzes and compares the principles of on-premise and off-premise catering. Includes student presentations in a series of catered functions where they assume typical managerial/employee positions emphasizing planning, organizing, operating, managing, and evaluating. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

HRI 275 Hospitality Law (3 CR.)
Studies legal principles governing hospitality operations. Includes applications of common law and statutory decisions, discussion of legal theory, and regulations governing management of hospitality enterprise. Lecture 3 hours per week.

Human Services (HMS)

HMS 100 Introduction to Human Services (3 CR.)
Introduces human service agencies, roles and careers. Presents an historical perspective of the field as it relates to human services today. Additional topics include values clarification and needs of target populations. Lecture 3 hours per week.

HMS 121 Basic Counseling Skills I (3 CR.)
Develops skills needed to function in a helping relationship. Emphasizes skills in attending, listening, and responding. Clarifies personal skill strengths, deficits, and goals for skill improvement. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HMS 141 Group Dynamics I (3 CR.)
Examines the stages of group development, group dynamics, the role of the leader in a group, and recognition of the various types of group processes. Discusses models of group dynamics that occur as a result of group membership dynamics. Lecture 3 hours per week.

HMS 142 Group Dynamics II (3 CR.)
Examines group dynamics, group leadership, group cohesion, transference, and group helping through experiential involvement in group facilitating and leadership. Increases group skills through active classroom participation in group experiences. Lecture 3 hours per week.

HMS 145 Effects of Psychoactive Drugs (3 CR.)
Provides information on the biochemical, physiological, and behavioral aspects of substance addiction and reviews the symptoms of addiction. Emphasizes areas of chemical dependency, medical epidemiology, physiological threats of addiction, and methods of identifying multiple drug abusers. Lecture 3 hours per week.

HMS 251 Substance Use Treatment I (3 CR.)
Provides knowledge, skills, and insight for working in substance use programs. Emphasizes personal growth and client growth measures in helping relationships. Stresses various methods of individual and group techniques for helping the individual with substance use disorder. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HMS 252 Substance Use Treatment II (3 CR.)
Expands knowledge and skill in working with individuals with substance use disorder. Focuses on assisting people with substance use disorder in individual and group settings and explores client treatment modalities. May provide opportunities for field experience in treatment centers. Lecture 3 hours per week.
Prerequisite(s) HMS 251

HMS 258 Case Management And Substance Abuse (3 CR.)
Focuses on the process for interviewing substance abuse clients. Includes intake, assessment, handling denial, and ending the interview. Teaches skills for writing short-term goals and treatment plans with emphasis on accountability. Examines various reporting devices. Lecture 3 hours per week.

HMS 266 Counseling Psychology (3 CR.)
Studies major counseling theories, their contributions and limitations, and the application of each to a counselinginteraction. Students develop their own personal counseling theory. Lecture 3 hours per week.

HMS 290 Coordinated Internship (1-5 CR.)
Supervised on-the-job training in selected business, industrial, or service firms coordinated by the College. Credit/work ratio maximum 1:5 hrs. May be repeated for credit. Variable hrs.

Humanities (HUM)

HUM 201 Early Humanities (3 CR.)
Examines the values and expression of ideas of selected western and non-western cultures from prehistory up to the 1300s, integrating the arts, literature, religion, and philosophy within the context of history. The assignments in this course require college-level reading, analysis of scholarly studies, and coherent communication through properly cited and formatted written reports. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

HUM 202 Modern Humanities (3 CR.)
Examines the values and expression of ideas of selected western and non-western cultures from the 1300s until 1900s, integrating the visual arts, literature, religion, music and philosophy within the context of history. The assignments in this course require college-level reading, analysis of scholarly studies, and coherent communication through properly cited and formatted written reports. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

HUM 210 Introduction to Women and Gender Studies (3 CR.)
Broadens understanding and awareness of women by exploring different cultural, historical, and gendered experiences of social groups throughout the world in relationship to such fields as art, literature, religion, philosophy, social sciences, and music. The assignments in this course require college-level reading, analysis of scholarly studies, and coherent communication through properly cited and formatted written reports. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

HUM 220 Introduction to African American Studies (3 CR.)
Presents an interdisciplinary approach to the study of African-American life, history, and culture. Examines specific events, ideologies, and individuals that have shaped the contours of African-American life. Studies the history, sociology, economics, religion, politics, psychology, creative productions, and culture of African- Americans. The assignments in this course require college-level reading, analysis of scholarly studies, and coherent communication through properly cited and formatted written reports.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

HUM 256 Mythology in Literature and the Arts (3 CR.)
Studies cultural expressions of mythology in literature and the arts. Considers several of the following mythologies, with emphasis on parallels and divergencies: Egyptian, Near-Eastern, Greek, Roman, Celtic, Norse, Asian, and African. Lecture 3 hours per week.

HUM 259 The Greek and Roman Tradition (3 CR.)
Explores the significance of Greek and Roman cultures on the individual and society, expressed prominently from the Classical Age in Athens to its survival during Roman times. Examines the key contributions that the Greeks and Romans have imparted upon storytelling, theater, philosophy, civics, political morphology, and the arts and the impact they have in the modern world. The assignments in this course require college-level reading, analysis of scholarly studies, and coherent communication through properly cited and formatted written reports. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

HUM 298 Seminar And Project (1-5 CR.)
Completion of a project or research report related to the student's occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hrs.

Industrial Engineering Tech (IND)

IND 123 Introduction to Lean Manufacturing and Six Sigma (1 CR.)
Covers basic Lean and Six Sigma concepts. Examines the importance of Lean and Six Sigma as pertaining to the world of manufacturing. Provides students with the opportunity to demonstrate the impact of Lean and Six Sigma manufacturing environment. Lecture 1 hour, Total 1 hour per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

IND 137 Team Concepts & Problem Solving (3 CR.)
Studies team concepts and problem solving techniques to assist project teams in improving quality and productivity. Provides knowledge of how to work as a team, plan and conduct good meetings, manage logistics and details, gather useful data, communicate the results and implement changes. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Information Technology Design and Database (ITD)

ITD 110 Web Page Design I (3 CR.)
Stresses a working knowledge of Web site designs, construction, and management using HTML or XHTML. Course content includes headings, lists, links, images, image maps, tables, forms, and frames. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITD 132 Structured Query Language (3 CR.)
Incorporates a working introduction to commands, functions and operators used in SQL for extracting data from standard databases. Lecture 3 hours per week.

ITD 134 PL/SQL Programming (3 CR.)
Presents a working introduction to PL/SQL programming within the Oracle RDBMS environment. Course content includes PL/SQL fundamentals of block program structure, variables, cursors and exceptions, and creation of program units of procedures, functions, triggers and packages. Lecture 3 hours per week.
Prerequisite(s) ITD 132

ITD 140 Machine Learning I (3 CR.)
Introduces students to artificial intelligence and machine learning. Examines basic theory, algorithms, and applications. Focuses on feature engineering and machine learning applications within the larger world of artificial intelligence. Part I of II. Lecture 3 hours per week.

ITD 145 Applied Data Science Techniques (3 CR.)
Reviews the fundamentals of descriptive and inferential statistics, probability, and distributions, as well as basic dataset manipulation and plotting techniques. Focuses on application to real datasets using graphical user interface (GUI) software tools as well as Python. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITD 195 Topics in (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

ITD 210 Web Page Design II (3 CR.)
Incorporates advanced techniques in Web site planning, design, usability, accessibility, advanced site management, and maintenance utilizing Web editor software(s). Lecture 3 hours per week.
Prerequisite(s) ITD 110

ITD 240 Machine Learning II (3 CR.)
Examines theory, algorithms, applications, and issues within the subfield of pattern recognition and machine learning, including feature engineering and extraction, supervised and unsupervised learning. Focuses on theory and practice, with coverage of underlying mathematical and heuristic concepts. Part II of II. Lecture 3 hours per week.
Prerequisite(s) ITD 140 or division approval

ITD 245 Advanced Applied Data Science Techniques (3 CR.)
Surveys Big Data and data analytics, including demonstrations and applications of widely used tools and methods. Offers practice in data extraction and visualization. Lecture 3 hours per week.
Prerequisite(s) ITD 145 and recommended: ITP 150
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITD 256 Advanced Database Management (3 CR.)
Focuses in-depth instruction in the handling of critical tasks of planning and implementing large databases. Course content includes an introduction to concepts of advanced data warehousing and database configuration. Lecture 3 hours per week.
Prerequisite(s) ITE 152
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITD 260 Data Modeling and Design (3 CR.)
Introduces life cycle application development methodologies in a systematic approach to developing relational databases and designing applications. Presents content introducing functional and business process modeling, using modeling information to produce application designs, analyzing data requirements as entities, attributes, and relationships and map an entity relationship diagram to an initial database design. Identifies the available automated development tools and utilizes Oracle Developer software to perform practical applications of these concepts. Prerequisite: Oracle or SQL programming including DDL, DML, transaction control & queries with SELECT statement and some exposure to procedural language programming. Lecture 3 hours per week.
Prerequisite(s) ITE 152

Information Technology Essentials (ITE)

ITE 100 Introduction to Information Systems (3 CR.)
Introduces students to general concepts of computer information systems. Presents terminology and effects of computers on daily life. Discusses available hardware and software as well as their applications. Exposes students to the system development process. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITE 140 Spreadsheeting for Business (3 CR.)
Provides a working knowledge of a commercial spreadsheet package to include design and development of a variety of worksheets, preparing graphs, working with database queries, macro writing, menu techniques, and decision analysis tools. Lecture 3 hours. Total 3 hours per week.

ITE 152 Introduction to Digital and Information Literacy and Computer Applications (3 CR.)
Develops understanding of digital and information literacy. Introduces basic computer concepts in hardware, software, cyber, cloud, database, and operating systems. Includes hands-on experience developing word processing, spreadsheet and presentation documents. Evaluates the reliability of sources. Covers creating a simple web page. Examines topics such as social, legal, and ethical issues. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITE 170 Multimedia Software (3 CR.)
Explores technical fundamentals of creating multimedia projects with related hardware and software. Students will learn to manage resources required for multimedia production and evaluation and techniques for selection of graphics and multimedia software. Lecture 3 hours per week.

ITE 180 Help Desk Support Skills (3 CR.)
Emphasizes instruction in customer support techniques required for analyzing and coordinating software and hardware solutions for end-user needs. Includes evaluation and communication techniques required to provide help desk support necessary to transfer knowledge and achieve a solution. Lecture 3 hours per week.
Prerequisite(s) ITE 152
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITE 221 PC Hardware & O/S Architecture (3 CR.)
Covers instruction about processors, internal functions, peripheral devices, computer organization, memory management, architecture, instruction format, and basic OS architecture. Lecture 3 hours per week.
Prerequisite(s) ITE 152 or ITE 115 or ITE 119
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITE 270 Advanced Multimedia Development (3 CR.)
Refines multimedia skills, focusing on project development using digital media; video clips, still images, and audio (sounds, music, and narration). Lecture 3 hours per week.
Prerequisite(s) ITE 170

Information Technology Networking (ITN)

ITN 100 Intro to Telecommunications (3 CR.)
Surveys data transmission systems, communication lines, data sets, network, interfacing, protocols, and modes of transmission. Emphasizes network structure and operation. Lecture 3 hours per week.
Prerequisite or Corequisite ITE 152

ITN 101 Introduction to Network Concepts (3 CR.)
Provides instruction in networking media, physical and logical topologies, common networking standards and popular networking protocols. Course content emphasizes the TCP/IP protocol suite and related IP addressing schemes, including CIDR. Course content also includes selected topics in network implementation, support and LAN/WAN connectivity. Lecture 3 hours per week.
Prerequisite(s) ITE 152
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 106 Microcomputer Operating Systems (3 CR.)
Teaches use of operating system utilities and multiple-level directory structures, creation of batch files, and configuration of microcomputer environments. May include a study of graphic user interfaces. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 107 Pers. Computer Hardware & Troubleshooting (3 CR.)
Includes specially designed instruction to give students a basic knowledge of hardware and software configurations. It includes the installation of various peripheral devices as well as basic system hardware components. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 154 Introduction to Networks - CISCO (4 CR.)
Provides instruction in the fundamentals of networking environments, the basics of router operations, and basic router and switch configuration. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 155 Switching, Wireless, And Wireless Essentials - Cisco (4 CR.)
Provides the skills and knowledge to install, operate, and troubleshoot routers and switches in small networks. Introduces students to wireless local area networks (WLANS) and network security concepts. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.
Prerequisite(s) ITN 154
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 156 Enterprise Networking, Security, and Automation - Cisco (4 CR.)
Centers instruction in LAN segmentation using bridges, routers, and switches. Course content includes fast Ethernet, access lists, routing protocols, spanning tree protocol, virtual LANs, and network management. Lecture 4 hours per week.
Prerequisite(s) ITN 155
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 157 WAN Technologies - CISCO (4 CR.)
Concentrates on an introduction to Wide Area Networking (WANs). Course content includes WAN design, LAPB, Frame Relay, ISDN, HDLC, and PPP. Lecture 4 hours per week.
Prerequisite(s) ITN 156

ITN 170 LINUX System Administration (3 CR.)
Focuses instruction on the installation, configuration and administration of the Linux operating system and emphasizes the use of Linux as a network client and workstation. Lecture 3 hours per week.
Prerequisite(s) ITE 152 (ITE 115 or ITE 119)
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 171 UNIX I (3 CR.)
Provides an introduction to UNIX operating systems. Teaches login procedures, file creation, UNIX file structure, input/output control, and the UNIX shell. Lecture 3 hours per week.
Prerequisite(s) ITE 152 (or ITE 119, 115)

ITN 200 Administration of Network Resources (3 CR.)
Students must be able to read and write at a college level. Focuses on the management of local area network servers. Teaches proper structuring of security systems. Explains print queues, disk management, and other local area network (LAN) issues. Presents concerns and issues for the purchase and installation of hardware and software upgrades. The course can be taught using any network operating system or a range of operating systems as a delivery tool. Lecture 3 hours per week.
Prerequisite(s) ITN 100 or ITN 101
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 213 Information Storage & Management (3 CR.)
Focuses on advanced storage systems, protocol, and architectures including Storage Area Networks (SAN), Network Attached Storage (NAS), Fibre Channel Networks, Internet Protocol SANs (IPSAN), iSCSI, and Content Addressable Storage (CAS). Lecture 3 hours per week.
Prerequisite(s) ITD 256 and ITN 257
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 254 Virtual Infrastructure: Installation and Configuration (4 CR.)
Explores concepts and capabilities of virtual architecture with a focus on the installation, configuration, and management of a virtual infrastructure, ESX Server, and Virtual Center. Covers fundamentals of virtual network design and implementation, fundamentals of storage area networks, virtual switching, virtual system management, and engineering for high availability. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.
Prerequisite(s) ITN 213 and ITN 257

ITN 257 Cloud Computing: Infrastructure and Services (3 CR.)
Cloud Computing: Infrastructure and Services Focuses on cloud infrastructure, deployment, security models, and the key considerations in migrating to cloud computing. Covers the technologies and processes required to build traditional, virtualized, and cloud data center environments, including computation, storage, networking, desktop and application virtualization, business continuity, security, and management. Lecture 3 hours. Total 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 260 Network Security Basics (3 CR.)
Explores the basics of network security in depth. Includes security objectives, security architecture, security models and security layers. Discusses risk management, network security policy, and security training. Discusses the five security keys: confidentiality, integrity, availability, accountability, and auditability. Lecture 3 hours per week.
Prerequisite(s) ITN 100 or ITN 101
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 261 Network Attacks, Computer Crime, & Hacking (4 CR.)
Provides an in-depth exploration of various methods for attacking and defending a network. Explores network security concepts from the point of view of hackers and their attack methodologies. Discusses hackers, attacks, Intrusion Detection Systems (IDS), malicious code, computer crime, and industrial espionage. Lecture 4 hours per week.
Prerequisite(s) ITN 260
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 262 Network Comm, Security & Authentication (4 CR.)
Provides an in-depth exploration of various communication protocols with a concentration on TCP/IP. Explores communication protocols from the point of view of the hacker in order to highlight protocol weaknesses. Discusses Internet architecture, routing, addressing, topology, fragmentation, and protocol analysis. Includes the use of various utilities to explore TCP/IP. Lecture 4 hours per week.
Prerequisite(s) ITN 260
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITN 263 Inter/Intranet Firewalls/E-Comm. Sec (4 CR.)
Provides an in-depth exploration of firewalls, Web security, and e-commerce security. Explores firewall concepts, types, topology, and the firewall's relationship to the TCP/IP protocol. Explores client/server architecture, the Web server, HTML, and HTTP in relation to Web security. Discusses digital certification, 7D.509, and Public Key Infrastructure (PKI). Lecture 4 hours per week.
Prerequisite(s) ITN 260

ITN 264 Introduction to Malware Analysis (3 CR.)
Provides instruction in fundamentals of malware analysis using open-source tools. Emphasizes malware detection as well as the utilization of industry standard tools to analyze malwares using both static and dynamic techniques. Lecture 3 hours per week.
Prerequisite(s) ITN 261

ITN 266 Network Security Layers (3 CR.)
Provides an in-depth exploration of various security layers needed to protect the network. Explores network security from the point of view of the environment in which the network operates and the necessity to secure that environment in order to lower the risk to the network. Discusses physical security, personnel security, operating system security, software security and database security. Lecture 3 hours per week.
Prerequisite(s) ITN 260

ITN 267 Legal Topics in Network Security. (3 CR.)
Provides an in-depth exploration of the civil and common law issues that apply to network security. Explores statutes, jurisdictional and constitutional issues related to computer crime and privacy. Discusses rules of evidence, seizure and evidence handling, court presentation and computer privacy in the digital age. Lecture 3 hours per week.

ITN 276 Computer Forensics I (3 CR.)
Prerequisite is ITN 106, ITN 107 or ITE 221. Teaches computer forensic investigation techniques for collecting computer-related evidence at the physical layer from a variety of digital media, (hard drives, compact flash and PDAs) and performing analysis at the file system layer. Lecture 3 hours per week.
Corequisite(s) ITN 260

ITN 277 Computer Forensics II (3 CR.)
Develops skills in the forensic extraction of computer evidence at a logical level using a variety of operating systems and applications (i.e. e-mail), and learn techniques for recovering data from virtual memory, temporary internet files, and intentionally hidden files. Lecture 3 hours per week.
Prerequisite(s) ITN 276

ITN 290 Coord. Internship (1-5 CR.)
Supervised on-the-job training in selected business, industrial, or service firms coordinated by the college. Credit/work ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

ITN 295 Topics In: (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

Information Technology Programming (ITP)

ITP 100 Software Design (3 CR.)
Introduces principles and practices of software development. Course content includes instruction in critical thinking, problem solving skills, and essential programming logic in structured and object-oriented design using contemporary tools. Lecture 3 hours per week.

ITP 120 JAVA Programming I (4 CR.)
Entails instruction in fundamentals of object-oriented programming using Java. Emphasizes program construction, algorithm development, coding, debugging, and documentation of console and graphical user interface applications. Lecture 4 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITP 132 C++ Programming I (4 CR.)
Presents fundamentals of object-oriented programming and design using C++. Course content emphasizes program construction, algorithm development, coding, debugging, and documentation of C++ applications. Lecture 4 hours per week.

ITP 137 Programming IOS Devices (4 CR.)
Examines object-oriented Objective C design and programming concepts for Mac OS X, iPhone and iPad. Introduces the tools and APIs for the latest iOS SDK, and how they fit together to build full-featured iOS and Mac OS X applications.

ITP 140 Client Side Scripting (4 CR.)
Provides instruction in fundamentals of Internet application design, development, and deployment using client side scripting language(s). Lecture 4 hours per week.
Prerequisite(s) ITD 110
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITP 150 Python Programming (4 CR.)
Entails instruction in fundamentals of object-oriented programming using Python. Emphasizes program construction, algorithm development, coding, debugging, and documentation of Python applications.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITP 160 Introduction to Game Design and Development (4 CR.)
Introduces object-oriented game design and development. Provides overview of the electronic game design and development process and underlines the historical contest, content creation strategies, game careers, and future trends in the industry. Utilizes a game language environment to introduce game design, object-oriented paradigms, software design, software development and product testing. Teaches skills of writing a game design document and creating a game with several levels and objects. Integrate 2D animations, 3D models, sound effects, and background music as well as graphic backgrounds. Lecture 4 hours per week.

ITP 165 Gaming and Simulation (4 CR.)
Introduces students to the concepts and applications of gaming and simulation through the use of gaming and simulation tools, as well as through basic programming skills. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) MTH 154

ITP 170 Project Management (3 CR.)
Introduces the concepts of project management as defined within pmi.org, the accreditation body for project management. Lecture 3 hours per week.
Prerequisite(s) ITE 152, or ITE 115 or ITE 119
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITP 195 Topics In (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

ITP 220 Java Programming II (4 CR.)
Prerequisite:ITP 120. Instruction in the application of advanced object-oriented techniques to application development using Java. Course content emphasizes database connectivity, inner classes, collection classes, networking, and threads. Lecture 4 hours per week.

ITP 225 Web Scripting Languages (4 CR.)
Introduces students to the principles, systems, and tools used to implement Web applications. Provides students with a comprehensive introduction to the programming tools and skills required to build and maintain interactive Web sites. Students will develop Web applications utilizing client-side and server-side scripting languages along with auxiliary tools needed for complete applications. Lecture 4 hours per week.
Prerequisite(s) ITD 110, ITP 100
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

ITP 226 Mobile Java Development (4 CR.)
Provides the necessary design and programming skills required for developing applications on mobile devices (smartphones, tablets, etc.). Utilize the Java-based Android Development Kit to create Android applications, from concept to business model to final product. Lecture 4 hours per week.

ITP 227 Advanced Android Application Development (4 CR.)
Focuses on the development of the advanced Android app. Surveys tools, technologies, principles, and patterns that underpin all Android app development. Emphasizes communication protocols in the Android Platform and secure coding practices of mobile app development. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) ITP 226

ITP 232 C++ Programming II (4 CR.)
Prerequisite is ITP 132. Presents in-depth instruction of advanced object-oriented techniques for data structures using C++. Lecture 4 hours per week.

ITP 250 Advanced Python Programming (4 CR.)
object-oriented design and advanced programming concepts using Python through instruction and hands-on programming. Emphasizes Object-oriented design (OOD) Object Orient Programming (OOP) concepts, such as classes, inheritance, polymorphism, Object-oriented design patterns, and Unified Modeling Language (UML). Examines best practices, code reusability, and exploration of Python modules and advanced topics. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) ITP 150

ITP 270 Programming For Cybersecurity (4 CR.)
Teaches scripting and software development techniques for automating security tasks such as network monitoring and penetration testing using Python. Additional topics include writing custom tools and the basics of developing software exploits. Lecture 4 hours per week.
Prerequisite(s) ITP 100

ITP 295 Topics In: (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

Instrumentation (INS)

INS 230 Instrumentation I (3 CR.)
Presents the fundamental scientific principles of process control including temperature, pressure, level, and flow measurements. Topics include transducers, thermometers, and gauges are introduced along with calibration. Lecture 3 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

INS 233 Process Control Integration (4 CR.)
Presents computer automation including PLCs, SCADA, and PC-based systems to control processes. Topics such as PLC control and computer data acquisition are introduced where students will use existing systems or build systems and control these systems with PLCs and computer data acquisition systems. Assesses students through test and project evaluations and the course will be assessed by graduate feedback. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) INS 230 and ELE 233

Interior Design (IDS)

IDS 100 Theory & Techniques of Interior Design (3 CR.)
Introduces drafting and presentation, color theory, and coordination, space planning, and arrangement of furnishings. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

IDS 105 Arch Drafting For Interior Design (3 CR.)
Introduces tools and equipment, lettering, methods of construction, designing and delineation of architecture. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

IDS 106 3-D Drawing & Rendering (3 CR.)
Provides instruction in graphic presentation of three dimensionally drawn interiors. Presents the use of colored media to render three dimensional drawings. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) IDS 100

IDS 109 Styles of Furniture And Interiors (3 CR.)
Teaches history of furnishings and interiors from the ancient world to the present. Lecture 3 hours per week.
Prerequisite(s) ART 101

IDS 130 Introduction to Kitchen and Bath Design Systems (3 CR.)
Introduces quality kitchen and bath design elements in accordance with recognized industry standards. Presents basic components of kitchen and bath design, including assessment of existing conditions and construction systems, measurement, product selection, specification, and communication of the design. Teaches coordination of kitchen and bath design with existing structural, electrical, mechanical, plumbing, and ventilation systems. 3 lecture hours. 3 hours per week.
Prerequisite(s) IDS 100 and IDS 105

IDS 205 Materials And Sources (3 CR.)
Presents textiles, floor and wall coverings, and window treatments. Emphasizes construction, fiber, finish, and code applications. May use research and field trips to trade sources representing these elements. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) IDS 100 and IDS 105

IDS 206 Lighting Design for Interiors (3 CR.)
Provides instruction in lighting terminology including sources of light, lamp types, fixture types and controls. Explore lighting design using layering techniques and lighting calculations that are used to determine lighting needs for a variety of spaces. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) IDS 100, IDS 105 and IDS 245

IDS 215 Theory & Research in Commercial Design (3 CR.)
Teaches graphic standards and specifications in interior design. Explains best practices of accessibility and code compliance for commercial applications. Focuses on program analysis and effective space planning. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) IDS 245

IDS 221 Designing Commercial Interiors I (4 CR.)
Prerequisite and Corequisite IDS 215. Presents problems in designing and developing presentations with emphasis on retail spaces. Lecture 2 hours. Laboratory 4 hours. Total 6 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) IDS 105, IDS 106, IDS 205, and IDS 206

IDS 225 Business Procedures (3 CR.)
Introduces the preparation of documents related to the business of design including contracts, purchase orders, and specifications. Covers business formats, legal issues, and ethics related to interior design as well as interviewing techniques and a discussion of portfolio requirements. Lecture 3 hours per week.
Prerequisite(s) IDS 100

IDS 235 Antiques (3 CR.)
Involves research, authentication, and provenance of historic objects. Covers examples of furnishings, fixtures, textiles, glass, and ceramics. May provide field trips, lectures, examination, and discussion to assist in determining age, condition, and other properties. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

IDS 245 Comp. Aided Drafting/Int. Designers (3 CR.)
Instructs in the use of computer aided drawing software for drafting of floor plans, elevations, perspectives, and other drawings used to convey design ideas. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) IDS 105

IDS 246 Advanced CADD for Interior Designers (3 CR.)
Introduces advanced methods of designing project spaces using BIM (Building Information Modeling) software. Includes the development of rendered three dimensional drawings with specialized light settings, entourage, and photo-realistic images. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

IDS 285 Portfolio and Resume Preparation for Interior Designers (3 CR.)
Prerequisite and Corequisite IDS 215. Introduces the proper elements of a professional resume for employment in the field. Focuses on the organization of portfolio content and introduces various methods of digital portfolio production as well as traditional formats. Includes detailed instruction on proper oral presentation skills, interview preparation and techniques, and professional attire and behavior. Lecture 2 hours. Laboratory 2 hours. Total Contact 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) IDS 105, IDS 106, IDS 205, and IDS 206

IDS 290 Coordinated Internship (1-5 CR.)
Coordinated Internship

Interpreter Education (INT)

INT 105 Interpreting Foundations I (3 CR.)
Develops fundamental skills of interpreting, including cognitive processes and intralingual language development in English and ASL. Reviews Process Models of Interpreting, and uses one to analyze interpretations. Develops feedback skills essential to the team interpreting process. Lecture 3 hours per week.

INT 106 Interpreting Foundations II (3 CR.)
Develops fundamental skills of interpreting, including cognitive processes and intralingual language development in English and ASL. Reviews Process Models of Interpreting, and uses one to analyze interpretations. Develops feedback skills essential to the team interpreting process. Lecture 3 hours per week.

INT 107 Translation Skills (3 CR.)
Continues developing fundamental skills needed for the task of interpreting Targets comprehending source language (either ASL or English), transferring content into memory store (breaking from original form), restructuring into target language, maintaining message equivalence, conveying implicit and inferred information, and applying appropriate discourse structure. Reviews Process Model of interpreting, and uses it to analyze translations. Further develops feedback skills essential to the team interpreting process. Lecture 3 hours per week.
Prerequisite(s) INT 105 (was SCM 198)

INT 130 Interpreting: Intro to The Profession (3 CR.)
Introduces basic principles and practices of interpreting, focusing on the history of the profession, logistics of interpreting situations, regulatory and legislative issues, resources, and the Code of Ethics. Describes the state quality assurance screening and national certification exam systems, including test procedures. Lecture 3 hours per week.

INT 133 ASL-to-English Interpretation I (3 CR.)
Begins consecutively interpreting monologues from the source language (ASL) to the target language (English). Watch entire ASL monologues, process them, analyze them, then choose appropriate English to match the message. Eventually interpret the monologue into English. Puts interpreting theory into practice in a lab environment. Conducts research in the field of interpretation. Develops team interpreting techniques. Interacts with consumers of ASL-English interpretation. Lecture 3 hours per week.
Prerequisite(s) INT 107

INT 134 English-To-Asl Interpretation I (3 CR.)
Begins consecutively interpreting monologues from the source language (English) to the target language (ASL). Listen to entire English monologues, process them, analyze them, then choose appropriate ASL to match the message. Puts interpreting theory into practice in a lab environment. Conducts research into the field of interpretation. Develops team interpreting techniques. Encourages interaction with consumers of ASL-English interpretation. Lecture 3 hours per week.
Prerequisite(s) INT 107

INT 141 Transliterating I (3 CR.)
Prerequisite ASL 202 or INT 107. Studies the skills required to transmit spoken English into a manual code for English or an interpreting product with more obvious English influences, and vice versa. Introduces a variety of manual codes and their relationship to American Sign Language and Contact Signing. Lecture 3 hours per week.

INT 142 ASL Discourse Analysis (3 CR.)
Introduces the study of language and communication between Deaf and hearing clients. Focuses on the features of language use and their impact on communication success in American Sign Language and spoken English. Lecture 3 hours per week.
Prerequisite(s) ASL 202

INT 233 ASL-To-English Interpretation II (3 CR.)
Perform simultaneous interpretations of monologues in the source language (ASL) to the target language (English). Process an incoming ASL monologue while simultaneously producing an appropriate interpretation in English. Conduct research in the field of interpretation. Apply team interpreting techniques. Interact with consumers of interpretation. Lecture 3 hours per week.
Prerequisite(s) INT 133 & INT 134

INT 234 English-To-ASL Interpretation II (3 CR.)
Perform simultaneous interpretations of monologues in the source language (English) into the target language (ASL). Processes an incoming English monologue while simultaneously producing an appropriate interpretation in ASL. Conduct research in the field of interpretation. Apply team interpreting techniques. Interact with consumers of interpretation. Lecture 3 hours per week.
Prerequisite(s) INT 133 & INT 134

INT 237 Interpreting ASL in Safe Settings (2 CR.)
Studies roles, responsibilities, and experiences involved in working community and educational settings, including ethical and business practices. Analyzes the specific linguistic needs of the clients, managing the environment, and resolving ethical concerns for interpreters. Lecture 2 hours per week.
Prerequisite(s) INT 133 and INT 134

INT 250 Dialogic Interpretation I (3 CR.)
Apply interpreting fundamentals. Interpret dialogs between spoken English and ASL users. Analyze interpretations by using a Process Model of Interpreting. Conduct research. Practice team interpreting skills in an interactive interpreting environment. Prepare for the interactive nature of standard interpreting evaluations. Lecture 3 hours per week.
Prerequisite(s) INT 233 & INT 234

INT 290 Coordinated Internship (1-5 CR.)
Supervised on-the-job training in selected business, industrial, or service firms coordinated by the College. Credit/work ratio maximum 1:5 hours. May be repeated for credit. Variable hours.

Japanese (JPN)

JPN 101 Beginning Japanese I (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic sentence structure. Part I of II. Lecture 4 hours per week.
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

JPN 102 Beginning Japanese II (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic sentence structure. Part II of II. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) JPN 101, or two years of successful completion of high school Japanese, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

JPN 201 Intermediate Japanese I (4 CR.)
PrJPN 102, or three years of successful completion of high school Japanese, or demonstrated experiential learning, or by placement test, or equivalent. Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and introduces complex sentence structures. Classes may be conducted in target language. Part I of II. Lecture 4 hours. Total 4 hours per week.
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

JPN 202 Intermediate Japanese II (4 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and emphasizes complex sentence structures. Classes may be conducted in the target language. Part II of II. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) JPN 201, or four years of successful completion of high school Japanese, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Latin (LAT)

LAT 101 Beginning Latin I (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic sentence structure. Part I of II. Lecture 4 hours. Total 4 hours per week.
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

LAT 102 Beginning Latin II (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic sentence structure. Part II of II. Lecture 4 hours. Total hours 4 per week.
Prerequisite(s) LAT 101, or two years of successful completion of high school Latin, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

LAT 201 Intermediate Latin I (3 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and introduces complex sentence structures. Classes may be conducted in target language. Part I of II. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) LAT 102, or three years of successful completion of high school Latin, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

LAT 202 Intermediate Latin II (3 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and emphasizes complex sentence structures. Classes may be conducted in the target language. Part II of II. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) LAT 201, or four years of successful completion of high school Latin, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Legal Assisting (LGL)

LGL 110 Introduction to Law And The Paralegal (3 CR.)
Introduces various areas of law in which a paralegal may be employed. Includes study of the court system (Virginia and federal), as well as a brief overview of criminal law, torts, domestic relations, evidence, ethics, role of the legal assistant, and other areas of interest. Lecture 3 hours per week.
Prerequisite or Corequisite ENG 111
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

LGL 115 Real Estate Law (3 CR.)
Studies law of real property, and gives in-depth survey of more common types of real estate transactions and conveyances such as deeds, contracts, leases, and deeds of trust. Focuses on drafting these various instruments, and studies the system of recording and searching public documents. Lecture 3 hours per week.

LGL 117 Family Law (3 CR.)
Studies elements of a valid marriage, grounds for divorce and annulment, separation, defenses, custody, support, adoptions, and applicable tax consequences. Includes property settlement agreements, pre- and ante-nuptial agreements, pleadings, and rules of procedure. May include specific federal and Virginia consumer law. Lecture 3 hours per week.

LGL 125 Legal Research (3 CR.)
Provides an understanding of various components of a law library, and emphasizes research skills through the use of digests, encyclopedias, reporter systems, codes, Citations, ALR, and other research tools. May include research through electronic database, overview of computer applications and writing projects. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

LGL 126 Legal Writing (3 CR.)
Studies proper preparation of various legal documents, including case and appeal briefs, legal memoranda, letters, and pleadings. Involves practical applications. Lecture 3 hours per week.
Prerequisite(s) LGL 125
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

LGL 200 Ethics for the Paralegal (1 CR.)
Examines general principles of ethical conduct applicable to legal assistants. Includes the application of rules of ethics to the practicing legal assistant. Lecture 1 hour per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

LGL 215 Torts (3 CR.)
Studies fundamental principles of the law of torts. May include preparation and use of pleadings and other documents involved in the trial of a civil action. Emphasizes personal injury, products liability, and medical malpractice cases. Lecture 3 hours per week.

LGL 217 Trial Practice & Law of Evidence (3 CR.)
Introduces civil and criminal evidence: kinds, degrees, and admissibility of evidence; and methods and techniques of its acquisition. Emphasizes Virginia and federal rules of evidence and procedure. Focuses on elements of a trial and various problems associated with the trial of a civil or criminal case. Lecture 3 hours per week.

LGL 218 Criminal Law (3 CR.)
Focuses on major crimes, their classification, elements of proof, intent, conspiracy, responsibility, parties, and defenses. Emphasizes Virginia and federal law. Gives general principles of applicable constitutional law and criminal procedure. Lecture 3 hours per week.

LGL 225 Estate Planning & Probate (3 CR.)
Introduces various devices used to plan an estate, including wills, trusts, joint ownership, and insurance. Considers various plans in light of family situations and estate objectives. Focuses on practices involving administration of an estate, including taxes and preparation of forms. Lecture 3 hours per week.

LGL 230 Legal Transactions (3 CR.)
Presents an in-depth study of general contract law, including formation, breach, enforcement, and remedies. Includes an overview of Uniform Commercial Code provisions governing sales, commercial paper, and collections. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

LGL 235 Legal Aspects of Bus. Organizations (3 CR.)
Studies fundamental principles of agency law and the formation of business organizations. Includes sole proprietorships, partnerships, corporations, limited liability companies, and other business entities. Reviews preparation of the documents necessary for organization and operation of business. Lecture 3 hours per week.

LGL 250 Immigration Law (3 CR.)
Provides an introduction to immigration law and policy, giving an overview of the United States legal system that regulates the admission, exclusion, removal, and naturalization of immigrants. Includes issues concerning refugees, asylum seekers, illegal immigrants, and undocumented aliens. Lecture 3 hours per week.

LGL 290 Coordinated Internship (1-5 CR.)
Coordinated Internship

LGL 295 Topics in (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

LGL 298 Seminar And Project (1-5 CR.)
Completion of a project or research report related to the student¿s occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

Marketing (MKT)

MKT 201 Introduction to Marketing (3 CR.)
Introduces students to the discipline of marketing and the need to create customer value and relationships in the marketplace. Presents an overview of the marketing principles and management strategies, along with the analytical tools used by organizations in the creation of a marketing plan. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MKT 215 Sales and Marketing Management (3 CR.)
Emphasizes the relationship of professional sales skills and marketing management techniques to successful profit and nonprofit organizations. Focuses on challenges connected with the sales and distribution of products and services, including pricing, promotion, and buyer motivation. Demonstrates uses of the Internet to enhance marketing. Studies legal and ethical considerations. Introduces sales management in planning, organizing, directing, and controlling for a well-coordinated sales effort. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MKT 221 Public Relations (3 CR.)
Introduces public relations as a marketing activity and focuses on media relations, publicity, strategic planning, public relations research, communication with multiple audiences, and the elements of an effective public relations campaign to influence public opinion. Equips students with the basic skills for writing publicity materials and coordinating public relations campaigns and media kits. This course applies basic writing and communication skills to the principles of public relations. This is an upper level course intended for students planning to study in this or a related field. This course is cross-listed with CST 221. Credit will not be awarded for both. 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MKT 227 Merchandise Buying And Control (3 CR.)
Studies the merchandising cycle. Explores techniques used in the development of buying resources, merchandising plans, model stock, unit control, and inventory systems. Highlights merchandise selection, policy pricing strategies, and inventory control methods. Lecture 3 hours per week.

MKT 228 Promotion (3 CR.)
Presents an overview of promotion activities including advertising, visual merchandising, publicity, and sales promotion. Focuses on coordinating these activities into an effective campaign to promote sales for a particular product, business, institution, or industry. Emphasizes budgets, selecting media, and analyzing the effectiveness of the campaign. Lecture 3 hours per week.

MKT 275 International Marketing (3 CR.)
Examines the role of the multinational firm, as well as the environments in which they operate. Covers such factors as exchange rates, government foreign trade policy, and social-cultural factors. Compares international market planning with domestic market planning. Lecture 3 hours per week.

MKT 282 Principles of E-Commerce (3 CR.)
Studies online business strategies, and the hardware and software tools necessary for Internet commerce. Includes the identification of appropriate target segments, the development of product opportunities, pricing structures, distribution channels and the execution of successful marketing strategies. Lecture 3 hours per week.

MKT 284 Social Media Marketing (3 CR.)
Prerequisite is an understanding of basic marketing, computer and business activities is desirable. Surveys the use of social networks and online communities such as blogs, wikis, virtual events that allow companies to expand their interaction with customers and develop relationships with collaborative communities. Emphasizes the ongoing transformation of the way companies adjust their marketing plans to improve interaction with customers online. Lecture 3 hours per week.

Math Direct Enrollment (MDE)

MDE 10 Introduction to Algebra (3 CR.)
Covers topics in arithmetic through introduction to variables and equations. Lecture 3 hours. Total 3 hours per week.

MDE 54 Learning Support for Quantitative Reasoning (3 CR.)
MDE 10, or placement procedures in College Catalog. Provides support to ensure success for students co-enrolled in Quantitative Reasoning (MTH 154). Course will review foundational topics through direct instruction, guided practice, and individualized support. Lecture 3 hours. Total 3 hours per week.
Corequisite(s) MTH 154

MDE 55 Learning Support for Statistical Reasoning (3 CR.)
MDE 10, or placement procedures in College Catalog. Provides support to ensure success for students co-enrolled in Statistical Reasoning (MTH 155). Course will review foundational topics through direct instruction, guided practice, and individualized support. Lecture 3 credits. Total 3 hours per week.
Corequisite(s) MTH 155

MDE 60 Intermediate Algebra (3 CR.)
MDE 10, or placement procedures in College Catalog. Covers topics in algebra. Lecture 3 hours. Total 3 hours per week.

MDE 61 Learning Support for Pre-Calculus (3 CR.)
MDE 60, or placement procedures in College Catalog. Provides support to ensure success for students co-enrolled in Pre-Calculus (MTH 161). Course will review foundational topics through direct instruction, guided practice, and individualized support. Lecture 3 hours. Total 3 hours per week.
Corequisite(s) MTH 161

Mathematics (MTH)

MTH 111 Basic Technical Mathematics (3 CR.)
Provides a foundation in mathematics with emphasis in arithmetic, unit conversion, basic algebra, geometry and trigonometry. This course is intended for CTE programs. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) At least one of MTE units 1-3; MDE 10; or other placement methods
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MTH 133 Mathematics for Health Professions (3 CR.)
Presents in context the arithmetic of fractions and decimals, the metric system and dimensional analysis, percents, ratio and proportion, linear equations, topics in statistics, topics in geometry, logarithms, topics in health professions including dosages, dilutions and IV flow rates. This course is intended for programs in the Health Professions. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) At least one of MTE units 1-3; MDE 10; or other placement methods
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MTH 154 Quantitative Reasoning (3 CR.)
Some students may be required to take MTH 154 with MDE 54. Presents topics in proportional reasoning, modeling, financial literacy and validity studies (logic and set theory). Focuses on the process of taking a real-world situation, identifying the mathematical foundation needed to address the problem, solving the problem and applying what is learned to the original situation. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) MDE 10, or placement procedures in College Catalog
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MTH 155 Statistical Reasoning (3 CR.)
Some students may be required to take MTH 155 with MDE 55. Presents elementary statistical methods and concepts including visual data presentation, descriptive statistics, probability, estimation, hypothesis testing, correlation and linear regression. Emphasis is placed on the development of statistical thinking, simulation, and the use of statistical software. Credit will not be awarded for both MTH 155: Statistical Reasoning and MTH 245: Statistics I or equivalent.
Prerequisite(s) MDE 10, or placement procedures in College Catalog
This is a Passport and UCGS transfer course.

MTH 161 PreCalculus I (3 CR.)
Some students may be required to take MTH 161 with MDE 61. Presents topics in power, polynomial, rational, exponential, and logarithmic functions, and systems of equations and inequalities. Credit will not be awarded for both MTH 161: Precalculus I and MTH 167: Precalculus with Trigonometry or equivalent. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) MDE 60, or placement procedures in College Catalog
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MTH 162 PreCalculus II (3 CR.)
Presents topics in power, polynomial, rational, exponential, and logarithmic functions, and systems of equations and inequalities. Credit will not be awarded for both MTH 161: Precalculus I and MTH 167: Precalculus with Trigonometry or equivalent. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) Placement or completion of MTH 161, or equivalent with a grade of C or better
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MTH 167 PreCalculus with Trigonometry (5 CR.)
Presents topics in power, polynomial, rational, exponential, and logarithmic functions, systems of equations, trigonometry, and trigonometric applications, including Law of Sines and Cosines, and an introduction to conics. Credit will not be awarded for both MTH 167: Precalculus with Trigonometry and MTH 161/MTH 162: Precalculus I and II or equivalent. Lecture 5 hours. Total 5 hours per week.
Prerequisite(s) Completion of MTE 1-9 or other placement methods
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MTH 245 Statistics I (3 CR.)
Presents an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, correlation, and linear regression. Credit will not be awarded for both MTH 155: Statistical Reasoning and MTH 245: Statistics I or equivalent. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) Completion of MTH 154, or MTH 161 or MTH 167 or equivalent with a grade of C or better
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MTH 246 Statistics II (3 CR.)
Continues the study of estimation and hypothesis testing with emphasis on advanced regression topics, experimental design, analysis of variance, chi-square tests and non-parametric methods. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) Completion of MTH 245 or equivalent with a grade of C or better

MTH 261 Applied Calculus I (3 CR.)
Introduces limits, continuity, differentiation and integration of algebraic, exponential and logarithmic functions, and techniques of integration with an emphasis on applications in business, social sciences and life sciences. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) Completion of MTH 161 or equivalent with a grade of C or better
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MTH 262 Applied Calculus II (3 CR.)
Covers techniques of integration, an introduction to differential equations and multivariable calculus, with an emphasis throughout on applications in business, social sciences and life sciences. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) Completion of MTH 261 or equivalent with a grade of C or better

MTH 263 Calculus I (4 CR.)
Presents concepts of limits, derivatives, differentiation of various types of functions and use of differentiation rules, application of differentiation, antiderivatives, integrals and applications of integration. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) Completion of MTH 167 or MTH 161/162 or equivalent with a grade of C or better
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MTH 264 Calculus II (4 CR.)
Continues the study of calculus of algebraic and transcendental functions including rectangular, polar, and parametric graphing, indefinite and definite integrals, methods of integration, and power series along with applications. Features instruction for mathematical, physical and engineering science programs. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) Completion of MTH 263 or equivalent with a grade of C or better
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MTH 265 Calculus III (4 CR.)
Focuses on extending the concepts of function, limit, continuity, derivative, integral and vector from the plane to the three dimensional space. Covers topics including vector functions, multivariate functions, partial derivatives, multiple integrals and an introduction to vector calculus. Features instruction for mathematical, physical and engineering science programs. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) Completion of MTH 264: Calculus II or equivalent with a grade of C or better

MTH 266 Linear Algebra (3 CR.)
Covers matrices, vector spaces, determinants, solutions of systems of linear equations, basis and dimension, eigenvalues, and eigenvectors. Features instruction for mathematical, physical and engineering science programs. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) Completion of MTH 263 or equivalent with a grade of B or better or MTH 264 or equivalent with a grade of C or better

MTH 267 Differential Equations (3 CR.)
Introduces ordinary differential equations. Includes first order differential equations, second and higher order ordinary differential equations with applications and numerical methods. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) Completion of MTH 264 or equivalent with a grade of C or better

MTH 283 Probability and Statistics (3 CR.)
Prior completion of MTH 265 is preferred. Presents basic concepts of probability, discrete and continuous random variables, and probability distributions. Presents sampling distributions and the Central Limit Theorem, properties of point estimates and methods of estimation, confidence intervals, hypothesis testing, linear models and estimation by least squares, and analysis of variance. Lecture 3 hours. Total 3 hours per week. In-person, proctored testing will be required for this course and is mandatory for exams. Exams will be held on-campus and/or through an approved proctoring testing facility. Distance Course requiring some on-campus meetings.
Prerequisite(s) Completion of MTH 264 with a grade of C or better or equivalent
Corequisite(s) Enrollment in MTH 265

MTH 288 Discrete Mathematics (3 CR.)
Presents topics in sets, counting, graphs, logic, proofs, functions, relations, mathematical induction, Boolean Algebra, and recurrence relations. Lecture 3 credits.
Prerequisite(s) Completion of MTH 263, Calculus I with a grade of C or better or equivalent

MTH 289 Differential Equations Extended (3 CR.)
Presents systems of differential equations, power series solutions, Fourier series, Laplace transform and Fourier transform, partial differential equations, and boundary value problems. Designed as math elective course for mathematical, physical, and engineering science programs. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) Completion of MTH 267 with a grade of C or better or equivalent

Mechanical Engineering Technology (MEC)

MEC 140 Introduction to Mechatronics (3 CR.)
Presents foundational concepts in mechatronics including analog and digital electronics, sensors, actuators, microprocessors, and microprocessor interfacing to electromechanical systems. Surveys components and measurement equipment used in the design, installation, and repair of mechatronic equipment and circuits. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) divisional approval

MEC 230 Mechatronics Process Control (3 CR.)
Studies systems integrating mechanical components with electrical components and logic devices used to control manufacturing operations. Surveys electromechanical actuators, sensors, digital to analog conversion, and methods of computer control as related to the managing and monitoring of manufacturing processes. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) MEC 140 and ELE 150

MEC 266 Application of Fluid Mechanics (3 CR.)
Teaches theory of hydraulic and pneumatic circuits including motors, controls, actuators, valves, plumbing, accumulators, reservoirs, pumps, compressors, and filters. Lecture 3 hours per week.

MEC 270 Computation for Engineering Technology (3 CR.)
Presents the use of spreadsheets and Matlab or equivalent to solve a variety of problems in introductory engineering analysis, such as graphing data, unit conversions, simple statistical analysis, sorting, searching and analyzing data, curve fitting, interpolation, solving algebraic equations, logical decisions, evaluating integrals, comparing economic alternatives, and finding optimum solutions. The acquisition and processing of data as well as macro programming in Basic are also covered. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

Medical Laboratory (MDL)

MDL 100 Intro. to Medical Laboratory Tech. (2 CR.)
Introduces the basic principles, techniques, and vocabulary applicable to all phases of medical laboratory technology. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

MDL 101 Intro to Med Lab Techniques (3 CR.)
Introduces the basic techniques including design of the health care system, ethics, terminology, calculations, venipuncture, and routine urinalysis. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 105 Phlebotomy (3 CR.)
Introduces basic medical terminology, anatomy, physiology, components of health care delivery, and clinical laboratory structure. Teaches techniques of specimen collection, specimen handling, and patient interactions. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 106 Clinical Phlebotomy (4 CR.)
Corequisites for the Phlebotomy CSC: MDL 105, ENG 111, CST 229, HLT 141 and HLT 145 with a grade of ¿C¿ or better is required. Prerequisites for the Medical Laboratory Assistant CSC program: MDL 105 with a grade of ¿C¿ or better is required. Focuses on obtaining blood specimens, processing specimens, managing assignments, assisting with and/or performing specified tests, performing clerical duties and maintaining professional communication. Provides supervised learning in college laboratory and/or cooperating agencies. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Corequisite(s) ENG 111, MDL 100, HLT 141, and MDL 140
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 125 Clinical Hematology I (3 CR.)
Teaches the cellular elements of blood including blood cell formation, and routine hematological procedures. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 130 Basic Clinical Microbiology (3 CR.)
Studies classification, theories, techniques, and methods used in basic bacteriology, parasitology, and mycology. Emphasizes routine identification. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 140 Clinical Urinalysis (2 CR.)
Focuses on urinalysis studies including physical and chemical properties, microscopic techniques. Emphasizes the significance of abnormal results. Lecture 1 hour. Laboratory 3 hour. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 196 On-Site Training (1-5 CR.)
Career orientation and training program without pay in selected businesses and industry, supervised and coordinated by the College. Credit/work ratio not to exceed 1:5 hrs. May be repeated for credit. Variable hrs.

MDL 215 Immunology (2 CR.)
Students should be enrolled in the first year of the Medical Laboratory Technology AAS degree program. Presents the physiological basis of humeral and cell mediated immunity, including the medical and clinical laboratory application of immunological principles. Lecture 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) MDL 101, MDL 125 and MDL 140 with a grade of "C" or better
Corequisite(s) MDL 265, MDL 225, MDL 130
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 216 Blood Banking (4 CR.)
Teaches fundamentals of blood grouping and typing, compatibility testing, antibody screening, component preparation, donor selection, and transfusion reactions and investigation. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 225 Clinical Hematology II (3 CR.)
Teaches advanced study of blood to include coagulation, abnormal bloody formation, and changes seen in various diseases. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) MDL 101, MDL 125, MDL 261 and MDL 140 with a grade of "C" or better, and Corequisite: MDL 265, MDL 215, MDL 130 and Students must be enrolled in their first year of the Medical Laboratory Technology AAS degree program or receive program director approval
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 236 Parasitology and Virology (2 CR.)
Teaches identification of the common parasites affecting man. Stresses methods of isolation and identification. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

MDL 243 Introduction to Clinical Molecular Diagnostics (2 CR.)
Prerequisite is division approval. Provides the fundamentals of genetics and inheritance along with an overview of the basic principles of clinical molecular diagnostics. Discusses the use of common molecular techniques in the diagnosis of disease. Lecture 2 hours per week. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 251 Clinical Microbiology I (3 CR.)
Teaches handling, isolation, and identification of pathogenic microorganisms. Emphasizes clinical techniques of bacteriology, mycology, parasitology and virology. For MDL 251: Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. For MDL 252: Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 260 Laboratory Instrumentation (2 CR.)
Teaches the theory, principles of operation, methodologies, maintenance, and troubleshooting of the more common instrumentation used in the clinical laboratory. Lecture 2 hours Laboratory 1 hour. Total 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) for Medical Laboratory Assistant MDL 100, MDL 105, MDL 106, MDL 140 grade of "C" or better
Corequisite(s) MDL 130
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 261 Clinical Chem and Instrumentation I (4 CR.)
Introduces methods of performing biochemical analysis of clinical specimens. Teaches instrumentation involved in a clinical chemistry laboratory, quality control, and the ability to recognize technical problems. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) for Medical Laboratory Assistant MDL 100, MDL 105, MDL 106, MDL 140 grade of "C" or better
Corequisite(s) MDL 130

MDL 263 Clinical Chemistry and Instrumentation III (3 CR.)
Emphasizes application of chemical theories and principles to perform routines and special chemistries on various types of instrumentations, to evaluate quality control programs, and to associate test results with clinical significance. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 265 Advanced Clinical Chemistry (2 CR.)
Presents principles of current special chemistry techniques. Lecture 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

MDL 266 Clinical Chemistry Techniques (3 CR.)
A.S. Includes performing of clinical chemistry methodologies and operation of typical instrumentation in a clinical laboratory. Clinical 9 hours per week.
Prerequisite(s) Completion of MDL 261 with a grade of C or better and be enrolled in the first year, third semester summer term, of the Medical Laboratory Technology A
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 276 Clinical Hematology Techniques (3 CR.)
A.S. Stresses performing hematological and coagulation methods and operation of typical instrumentation in a clinical laboratory. Clinical 9 hours per week.
Prerequisite(s) Completion of MDL 127 with a grade of C or better and be enrolled in the first year, third semester summer term, of the Medical Laboratory Technology A
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 277 Clinical Blood Banking Techniques (4 CR.)
Provides training in techniques, procedures, and interpretations in Blood Banking in a clinical laboratory or simulated laboratory setting. Clinical 12 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 278 Clinical Microbiology Techniques II (4 CR.)
Includes performing of techniques, procedures, and identification of microorganisms in a clinical laboratory. Clinical 12 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MDL 281 Clinical Correlations (1 CR.)
Teaches students to apply knowledge gained in courses offered in the MDL curriculum using primarily a case history form of presentation. Emphasizes critical thinking skills in the practice of laboratory medicine. Lecture 1 hour per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Music (MUS)

MUS 101 Fundamentals of Music (3 CR.)
Provides the ability to read and identify basic fundamentals of music notation. Teaches major and minor scales, chords and basic harmonic progressions. Covers basic ear training and keyboard exercises. Lecture 3 hours. 3 credits.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 111 Music Theory I (4 CR.)
Discusses elements of musical construction of scales, intervals, triads, and chord progressions. Develops ability to sing at sight and write from dictation. Introduces the analysis of the Bach chorale style. Expands facility with harmonic dictation and enables the student to use these techniques at the keyboard. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 112 Music Theory II (4 CR.)
Discusses elements of musical construction of scales, intervals, triads, and chord progressions. Develops ability to sing at sight and write from dictation. Introduces the analysis of the Bach chorale style. Expands facility with harmonic dictation and enables the student to use these techniques at the keyboard. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 121 Music in Society (3 CR.)
Explores the language of music through an introduction to basic elements, forms and styles across time. Acquaints students with composers' lives and influential creative individualities, discovering representative works and milestones in western society. Develops techniques for listening analytically and critically. Reviews historical development and significance of art music within the context of evolving societal structures. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 130 Overview of The Recording Industry (1 CR.)
Prerequisite is division approval. Introduces and surveys employment opportunities in the commercial music industry. Assists students in defining their professional goals. Lecture 1 hour per week.

MUS 131 Class Voice I (2 CR.)
Introduces the many aspects of singing from the physical act through the aesthetic experience. The course is designed for the beginning singer who desires vocal improvement, and for the voice major as an addition to and extension of skills and knowledge necessary for artistic development. Introduces appropriate repertoire. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

MUS 132 Class Voice II (2 CR.)
Introduces the many aspects of singing from the physical act through the aesthetic experience. The course is designed for the beginning singer who desires vocal improvement, and for the voice major as an addition to and extension of skills and knowledge necessary for artistic development. Introduces appropriate repertoire. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

MUS 135 Jazz Ensemble (1 CR.)
Department permission required. Consists of performance from Standard Jazz and American Songbook Repertoires, including study of ensemble techniques, interpretation, and improvisation. Divisional approval required. May be repeated for credit. Laboratory 3 hours per week.
Prerequisite(s) Secondary level musical knowledge and performing experience on an instrument or voice
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 136 Applied Music-Voice (1 CR.)
Teaches singing, proper breath control, diction, and development of tone. Studies the standard vocal repertoire. All courses in applied music may be repeated one time. Music majors may repeat these courses up to 8 hours with special permission. 1 half-hour lessons per week, 4 hours practice (laboratory) required.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 137 Chorus (1 CR.)
Ensemble consists of performance from the standard repertoires, including study of ensemble techniques and interpretation. Division approval required. Laboratory 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 138 Small Vocal Ensemble (1 CR.)
Ensemble consist of performance from the standard repertoires, including study of ensemble techniques and interpretation. Laboratory 3 hours per week.

MUS 140 Introduction to Recording Techniques (3 CR.)
Introduces students to the theory of and practices in digital audio. Describes basic background of the history of audio, culminating with hands-on operation of a digital audio workstation (DAW). Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 141 Class Piano I (2 CR.)
Offers the beginning piano student activities in learning musical notation, in accomplishing sight reading skills, and in mastering techniques of keyboard playing. Presents appropriate literature. Open to all students and may be used to fulfill applied minor instrument requirement for music major. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

MUS 142 Class Piano II (2 CR.)
Offers the beginning piano student activities in learning musical notation, in accomplishing sight reading skills, and in mastering techniques of keyboard playing. Presents appropriate literature. Open to all students and may be used to fulfill applied minor instrument requirement for music major. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.

MUS 143 Chamber Ensemble (1 CR.)
Consists of performance in a select ensemble, designed for high-level, artistic, public performances of major literature strings, winds, brass, percussion, keyboard and voice. Membership in the Chamber Ensemble is open to any student who qualifies through audition. May be repeated for credit., Laboratory/Rehearsal 3 hours per week.
Prerequisite(s) Division approval based on audition required

MUS 144 Jazz Chamber Ensemble (1 CR.)
.Consists of performance from the standard jazz small group repertoires. Applies ensemble techniques, improvisation, and arranging. Divisional approval and performing experience required. May be repeated for credit. Laboratory/Rehearsal 3 hours per week.
Prerequisite(s) Department permission required

MUS 145 Applied Music - Keyboard (1 CR.)
Teaches piano, organ, harpsichord, or synthesizer. Studies the standard repertoire. Students may take a one half hour lesson for one credit per week per semester. All courses in applied music may be repeated one time. Music majors may repeat these courses up to 8 hours. 1 half-hour lessons per week, 4 hours practice (laboratory) required.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 147 Applied Music Composition (1 CR.)
Teaches the fundamentals of music composition, including score notation software. Introduces basic manipulation of melodic and motivic composition devices, conscious use of texture, and basic knowledge of orchestration. . Laboratory 3 hours. Total 3 hours per week.

MUS 148 Orchestra (1 CR.)
Ensemble consists of performance from the standard repertoires, including study of ensemble techniques and interpretation. Division approval required. Laboratory 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 149 Band Ensemble (1 CR.)
Ensemble consists of performance from the standard repertoires, including study of ensemble techniques and interpretation. Division approval required. Laboratory 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 155 Applied Music - Woodwinds (1 CR.)
Teaches fundamentals of the woodwind instruments. Studies the standard repertoire. 1 half-hour lessons per week, 4 hours practice (laboratory) required.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 157 Sound Studio Design (3 CR.)
Prerequisite is division approval. Introduces the theory and practice of sound studio design. Provides a basic understanding of acoustics and the acoustical properties of construction materials. Allows the student practical opportunities in designing sound studios. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 158 Recording Studio Electronics (3 CR.)
Introduces the practices used in maintaining professional recording equipment and basic electronic theory used within the recording industry. Provides the skills and knowledge necessary to perform routine maintenance and to repair recording and related equipment. Designed to prepare the student for position as entry-level technician or apprentice recording engineer. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 159 Improvisational Techniques (3 CR.)
Prerequisite is selected Applied Music or freshman level proficiency. Introduces the principles of improvisation using harmonic structures and progressions from the period of common practice. Includes listening to and performing music of the standard jazz and popular repertoire. Develops performance skills utilizing specific improvisational devices employed in different historical periods. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 165 Applied Music - Strings (1 CR.)
Teaches fundamentals of string instruments, harp, or guitar. Studies the standard repertoire. 1 half-hour lessons per week, 4 hours practice (laboratory) required.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 175 Applied Music - Brass (1 CR.)
Teaches fundamentals of brass instruments. Studies the standard repertoire. 1 half-hour lessons per week, 4 hours practice (laboratory) required.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 179 Music Copyright Law (1 CR.)
Prerequisite is division approval. Introduces the legal problems and normal conventions practiced within the commercial music industry. Provides a basic understanding of national and international music copyright laws. Lecture 1 hour per week.

MUS 185 Applied Music - Percussion (1 CR.)
Teaches fundamentals of percussion instruments. Studies the standard repertoire. 1 half-hour lessons per week, 4 hours practice (laboratory) required.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 199 Supervised Study (1-5 CR.)
Assignment of problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit. Variable hrs.

MUS 211 Advanced Music Theory I (4 CR.)
Prerequisites are MUS 111-112 or equivalent. Increases facility in the analysis and usage of diatonic and chromatic harmonies. Continues harmonic analysis of Bach style. Includes exercises in sight-singing, ear-training, and keyboard harmony. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

MUS 212 Advanced Music Theory II (4 CR.)
Prerequisites are MUS 111-112 or equivalent. Increases facility in the analysis and usage of diatonic and chromatic harmonies. Continues harmonic analysis of Bach style. Includes exercises in sight-singing, ear-training, and keyboard harmony. Lecture 3 hours. Laboratory 2 hours. Total 5 hours per week.

MUS 213 Composition I (3 CR.)
Prerequisite is division approval. Requires the writing of short compositions in several styles, ranging from the 18th to the 20th century, for various instrumental or vocal combinations. Individualized instruction meets the special need of each student. Score analysis forms an important part of this course. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 214 Composition II (3 CR.)
Prerequisite is division approval. Requires the writing of short compositions in several styles, ranging from the 18th to the 20th century, for various instrumental or vocal combinations. Individualized instruction meets the special need of each student. Score analysis forms an important part of this course. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

MUS 221 History of Western Music pre-1750 (3 CR.)
Presents the chronology of musical styles and significant composers from Antiquity through the Pre-Classical era. Relates the development of music from a socio-historical perspective including parallel movements within the arts. Develops techniques for listening analytically and critically to music. MUS 221 and 222 may transfer as the same course. Lecture 3 hours per week.

MUS 222 History of Western Music 1750 to Present (3 CR.)
Presents the chronology of musical styles and significant composers from the Classical Period through the Modern era. Relates the development of music from a socio-historical perspective including parallel movements within the arts. Develops techniques for listening analytically and critically to music. MUS 221 and 222 may transfer as the same course. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

MUS 225 The History of Jazz (3 CR.)
Studies the underlying elements of jazz, concentrating on its cultural and historical development from earliest stages to the present. No previous knowledge of music is required. Lecture 3 hours per week.

MUS 227 Editing And Mixdown Techniques (3 CR.)
Introduces the theories and practice of digital editing and mixdown techniques. Provides the skills necessary to edit, mixdown, externally reprocess, and otherwise manipulate multi-track original recordings into finished master recordings. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Prerequisite(s) MUS 140, MUS 157, MUS 158

MUS 235 Advanced Recording Techniques (3 CR.)
Introduces advanced digital recording techniques that lead to mixdowns and digital masters for commercial CD duplication, other digital media and on-line distribution. Provides knowledge and skills in refined areas of digital multi-track recording and mixdown techniques. Includes a study of the process that converts finished digital masters to compact discs and digital files suitable for retail release. Studies trouble shooting skills pertaining to digital audio workstations. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Prerequisite(s) MUS 140 or division approval

MUS 236 Advanced Applied Music - Voice (2 CR.)
The length of the lessons will be 1 hour credit 2 hours credit per semest. May be repeated for credit. Laboratory 8 hours per week.

MUS 241 Advanced Class Piano I (2 CR.)
Advanced Class Piano I

MUS 242 Advanced Class Piano II (2 CR.)
Advanced Class Piano II

MUS 243 Advanced Applied Music Composition (2 CR.)
Teaches the advanced study of music composition and includes instruction using 20th and 21st century compositional techniques. Studies complex compositional devices including advanced harmony, rhythm, texture, and orchestration. Lecture 2 hours per week.

MUS 245 Advanced Applied Music - Keyboard (2 CR.)
The length of the lessons will be 1 hour for 2 credits per week per semester. Laboratory 8 hours per week.

MUS 248 Orchestra (1 CR.)
Ensemble consist of performance from the standard repertoires, including study of ensemble techniques and interpretation. Divisional approval required. May be repeated for credit. Continues MUS 148. Laboratory/Rehearsal 3 hours per week.

MUS 255 Advanced Applied Music - Woodwinds (2 CR.)
The length of the lessons will be 1 hour for 2 credits per week per semester. Laboratory 8 hours per week.

MUS 259 Advanced Improvisational Techniques (3 CR.)
Advanced Improvisational Techniques

MUS 265 Advanced Applied Music - Strings (2 CR.)
The length of the lessons will be 1 hour for 2 credits per week per semester. Laboratory 8 hours per week.

MUS 275 Advanced Applied Music - Brass (2 CR.)
The length of the lessons will be 1 hour for 2 credits per week per semester. Laboratory 8 hours per week.
Prerequisite(s) Divisional approval required

MUS 276 Portfolio and Career Preparation for Performing Arts (1 CR.)
Guides students preparing to enter theatrical fields through audition, resume, interview and portfolio preparation and exposure to possible careers. Recommended for final semester program students. This is a cross-listed course with CST 276 and DAN 276. Laboratory 2 hours. Total 2 hours per week.

MUS 285 Advanced Applied Music - Percussion (2 CR.)
The length of the lessons will be 1 hour for 2 credits per week per semester. Laboratory 8 hours per week.

MUS 288 Recording Problems Seminar (2 CR.)
Provides a seminar setting in which students may discuss recording problems with commercial music industry professionals. Introduces the student to professional organizations, libraries, and journals common to the recording industry. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.
Prerequisite(s) MUS 140 or divisional approval

MUS 290 Coordinated Internship (1-5 CR.)
Coordinated Internship

MUS 298 Seminar And Project (1-5 CR.)
Completion of a project or research report related to the student¿s occupational objective and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

Natural Science (NAS)

NAS 2 Foundations of Life Sciences (2 CR.)
Students wishing to enroll in BIO 141 may use this course with a passing grade to meet the Bio 141 prerequisite.Presents elementary biological and chemical principles for allied health students whose high school preparation is deficient in the biological sciences. Lecture 2 hours. Total 2 hours per week.

NAS 125 Meteorology (4 CR.)
Presents a non-technical survey of fundamental meteorology. Focuses on the effects of weather and climate on humans and their activities. Serves for endorsement or recertification of earth science teachers. Lecture 3 hours. Recitation and laboratory 2 hours. Total 5 hours per week.
Prerequisite(s) Eligible for ENG 111, or completion of EDE 10
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

NAS 150 Human Biology (4 CR.)
Surveys the structure and function of the human body. Applies principally to students who are not majoring in science fields. Lecture 4 hours per week.
Prerequisite(s) Eligible for ENG 111, or completion of EDE 10

Nursing (NSG)

NSG 100 Introduction to Nursing Concepts (4 CR.)
ENG 111, PSY 230, SDV 101 or 100. Focuses on basic nursing concepts with an emphasis on safe nursing practice and the development of the nursing process. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) BIO 141 and BIO 142 or BIO 231 and 232
Corequisite(s) BIO 150 or BIO205, NSG 106 and NSG 130, NSG 200
Introduces concepts of nursing practice and conceptual learning

NSG 106 Competencies for Nursing Practice (2 CR.)
ENG 111, PSY 230, SDV 101 or 100 Focuses on the application of concepts through clinical skill development. Emphasizes the use of clinical judgment in skill acquisition. Includes principles of safety, evidence-based practice, informatics and math computational skills. Prepares students to demonstrate competency in specific skills and drug dosage calculation including the integration of skills in the care of clients in simulated settings. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) MTE 1-5 and BIO 141 and BIO 142 or BIO 231 and 232
Corequisite(s) BIO 150 or BIO205, NSG 100 and NSG 130, NSG 200

NSG 115 Healthcare Concepts for Transition (4 CR.)
Focuses on role transition from Licensed Practical Nurse to Registered professional nurse. Incorporates concepts of nursing practice and conceptual learning to promote health and wellness across the lifespan. Uses the nursing process to explore care delivery for selected diverse populations with common and predictable illness. Emphasizes the use of clinical judgement in skill acquisition. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

NSG 130 Professional Nursing Concepts (1 CR.)
ENG 111, PSY 230, SDV 101 or 100. Focuses on professional identity, legal/ethical issues and contemporary trends in professional nursing. Lecture 1 hour. Total 1 hour per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) BIO 141 and BIO 142 or BIO 231 and 232
Corequisite(s) BIO 150 or BIO205, NSG 100 and NSG 106, NSG 200
Introduces the role of the professional nurse and fundamental concepts in professional development

NSG 152 Health Care Participant (3 CR.)
Focuses on the health and wellness of diverse individuals, families, and the community throughout the lifespan. Covers concepts that focus on client attributes and preferences regarding healthcare. Emphasizes population-focused care. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or cooperating agencies, and/or simulated environments. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) BIO 142 or BIO 232, NSG 100, NSG 106, NSG 130 and NSG 200
Corequisite(s) BIO 150 or BIO 205; NSG 170

NSG 170 Health/Illness Concepts (6 CR.)
Focuses on the nursing care of individuals and/or families throughout the lifespan with an emphasis on health and illness concepts. Includes concepts of nursing care for the antepartum client and clients with common and predictable illnesses. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Lecture 4 hours, Laboratory 6 hours. Total 10 hours per week. NOVA - Lecture 4 hours, Laboratory 1 hour, Clinical Lab 5 hours. Total 10 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

NSG 200 Health Promotion And Assessment (3 CR.)
Introduces assessment and health promotion for the individual and family. Includes assessment of infants, children, adults, geriatric clients and pregnant females. Emphasizes health history and the acquisition of physical assessment skills with underlying concepts of development, communication, and health promotion. Prepares students to demonstrate competency in the assessment of clients across the lifespan. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) BIO 141 (or BIO 253)

NSG 210 Health Care Concepts I (5 CR.)
ENG 111, PSY 230, SDV 101 or 100. BIO 150 or BIO205, CST 110 or 115 or 126 or 229, NSG 100, NSG 106, NSG 130, NSG 152, NSG 170 and NSG 200. Focuses on care of clients across the lifespan in multiple settings including concepts related to physiological health alterations and reproduction. Emphasizes the nursing process in the development of clinical judgment for clients with multiple needs. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Part I of II. Lecture 3 hours, Laboratory 6 hours. Total 9 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) BIO 141 and BIO 142 or BIO 231 and 232, or NAS 161 and 162
Corequisite(s) required Elective ENG 112 or HIS 101 or MTH 154 or MTH 245, NSG 211

NSG 211 Health Care Concepts II (5 CR.)
ENG 111, PSY 230, SDV 101 or 100, BIO 150 or BIO205, CST 110 or 115 or 126 or 229, NSG 100, NSG 106, NSG 130, NSG 152, NSG 170 and NSG 200. Focuses on care of clients across the lifespan in multiple settings including concepts related to psychological and physiological health alterations. Emphasizes the nursing process in the development of clinical judgment for clients with multiple needs. Provides supervised learning experiences in college nursing laboratories, clinical/community settings, and/or simulated environments. Part II of II. Lecture 3 hours. Laboratory 6 hours. Total 9 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) BIO 141 and BIO 142 or BIO 231 and 232
Corequisite(s) required Elective ENG 112 or HIS 101 or MTH 154 or MTH 245, NSG 210

NSG 230 Advanced Professional Nursing Concepts (2 CR.)
ENG 111, PSY 230, SDV 101 or 100, BIO 150 or BIO205, CST 110 or 115 or 126 or 229, required Elective ENG 112 or HIS 101 or MTH 154 or MTH 245, NSG 100, NSG 106, NSG 130, NSG 152, NSG 170 and NSG 200, NSG 210, NSG 211. Develops the role of the professional nurse in the healthcare environment in preparation for practice as a registered nurse. Introduces leadership and management concepts and focuses on the integration of professional behaviors in a variety of healthcare settings. Lecture 2 hours. Total 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) BIO 141 and BIO 142 or BIO 231 and 232
Corequisite(s) HUM Elective (see college catalog), NSG 252, NSG 270

NSG 252 Complex Health Care Concepts (4 CR.)
ENG 111, PSY 230, SDV 101 or 100, BIO 150 or BIO205, CST 110 or 115 or 126 or 229, required Elective ENG 112 or HIS 101 or MTH 154 or MTH 245, NSG 100, NSG 106, NSG 130, NSG 152, NSG 170 and NSG 200, NSG 210, NSG 211. Focuses on nursing care of diverse individuals and families integrating complex health concepts. Emphasizes clinical judgment, patient-centered care and collaboration. Lecture 4 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) BIO 141 and BIO 142 or BIO 231 and 232
Corequisite(s) HUM Elective (see college catalog), NSG 230, NSG 270

NSG 270 Nursing Capstone (4 CR.)
ENG 111, PSY 230, SDV 101 or 100, BIO 150 or BIO 205, CST 110 or 115 or 126 or 229, required Elective ENG 112 or HIS 101 or MTH 154 or MTH 245, NSG 100, NSG 106, NSG 130, NSG 152, NSG 170 and NSG 200, NSG 210, NSG 211. Provides students with the opportunity to comprehensively apply and integrate learned concepts from previous nursing courses into a capstone experience. Emphasizes the mastery of patient- centered care, safety, nursing judgment, professional behaviors, informatics, quality improvement, and collaboration in the achievement of optimal outcomes of care. Provides supervised learning experiences in faculty and/or preceptor-guided college nursing laboratories, clinical/community settings, and/or simulated environments. Laboratory 12 hours. Total 12 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) BIO 141 and BIO 142 or BIO 231 and 232

Occupational Therapy (OCT)

OCT 100 Introduction to Occupational Therapy (3 CR.)
Introduces the concepts of occupational therapy as a means of directing a person's participation in tasks selected to develop, maintain or restore skills in daily living. Examines the role of the assistant for each function of occupational therapy, and for various practice settings in relationship to various members of the health care team. Lecture 3 hours per week.
Prerequisite(s) Admission to the Occupational Therapy Assistant Program

OCT 190 Coordinated Internship (1-5 CR.)
Supervised on-the-job training in selected business, industrial, or service firms coordinated by the college. Credit/work ratio maximum 1:5 hours. May be repeated for credit. Variable hours. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

OCT 195 Topics in: (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

OCT 199 Supervised Study (1-5 CR.)
Assignment of problems for independent study incorporating previous instruction and supervised by the instructor. May be repeated for credit.

OCT 201 Occupational Therapy with Psychosocial Dysfunction (3 CR.)
Focuses on the theory and application of occupational therapy in the evaluation and treatment of psychosocial dysfunction. Includes a survey of conditions which cause emotional, mental and social disability, as well as the role of the occupational therapy assistant in the assessment, planning and implementation of treatment programs. Lecture 3 hours per week.
Prerequisite(s) Instructor permission

OCT 202 Occupational Therapy with Physical Disabilities (4 CR.)
Focuses on the theory and application of occupational therapy in the evaluation and treatment of physical dysfunction. Includes a survey of conditions which cause physical disability as well as the role of the occupational therapy assistant in assessment, planning and implementation of treatment programs. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Admission to the Occupational Therapy Assistant Program

OCT 203 Occupational Therapy with Developmental Disabilities (4 CR.)
Focuses on the theory and application of occupational therapy in the evaluation and treatment of developmental dysfunction. Includes a survey of conditions which cause developmental disability across the life span, with particular emphasis on children and the elderly. Investigates the role of the occupational therapist in assessment, planning and implementation of treatment programs. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

OCT 205 Therapeutic Media (2 CR.)
Develops proficiency in various crafts used as treatment modalities in occupational therapy. Emphasizes how to analyze, adapt and teach selected activities as well as how to equip and maintain a safe working environment. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

OCT 206 Dyadic and Group Dynamics (3 CR.)
Provides theory and activity to develop positive interpersonal relationships and effective communication ability. Includes non-verbal communication, listening, observation, interviewing and documentation. Covers group process and its application to occupational therapy, including types of therapeutic groups, group membership roles, leadership skills and forces which affect group function and decision making. Lecture 3 hours per week.
Prerequisite(s) Instructor permission

OCT 207 Therapeutic Skills (3 CR.)
Presents techniques used in the treatment of a variety of conditions frequently seen across the life span. Emphasizes the activities of self-care, work, and leisure as they relate to the development/resumption of normal social role functioning. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Instructor permission

OCT 208 Occupational Therapy Service Management (3 CR.)
Presents principles and techniques of management appropriate to the occupational therapy assistant. Includes roles and functions of the supervisor and the supervisee, scheduling, billing, quality improvement. Issues relevant to professional practice and patient care will be discussed with similarities and differences between various facilities highlighted. Lecture 3 hours per week.
Prerequisite(s) Instructor permission

OCT 210 Assistive Technology in Occupational Therapy (2 CR.)
Explores the assistive technologies available for persons with physical, sensory and cognitive disabilities. Provides instruction in the process of assessment, selection adaptation and training of assistive technology to persons with a disability. Presents information on funding and maintenance of devices. Exposes students to technology in clinical practice and equipment companies. Lecture 2 hours per week.
Prerequisite(s) OCT 202 and OCT 203 or instructor permission

OCT 225 Neurological Concepts for Occupational Therapy Assistants (4 CR.)
Focuses on the workings of the human nervous system from the cellular level to the systems level with an emphasis on normal neurological function, the impact of neurological dysfunction, and how to use neurological rehabilitation techniques to facilitate the rehabilitation process across the lifespan. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

OCT 290 Coordinated Internship (1-5 CR.)
Supervised on-the-job training in selected business, industrial, or service firms coordinated by the college. Credit/work ratio maximum 1:5 hours. May be repeated for credit. Variable hours. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

OCT 295 Topics in: (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hrs.

Philosophy (PHI)

PHI 100 Introduction to Philosophy (3 CR.)
Presents an introduction to philosophical problems and perspectives with emphasis on the systematic questioning of basic assumptions about meaning, knowledge, reality, and values. The assignments in the course require college-level reading fluency and coherent communication through written reports. Lecture 3 hours per week.
This is a Passport and UCGS transfer course.

PHI 111 Logic (3 CR.)
Introduces inductive and deductive reasoning, with an emphasis on common errors and fallacies. The assignments in the course require college-level reading fluency and coherent communication through written reports. Lecture 3 hours per week.
This is a Passport and UCGS transfer course.

PHI 200 The History of Western Philosophy (3 CR.)
Offers a historical survey of major philosophers from the ancient Greeks to the modern era. The assignments in this course require the ability to write at the college level, read college-level philosophical texts, and understand and apply philosophical concepts with complex meanings. Lecture 3 hours. Total 3 hours per week.

PHI 220 Ethics and Society (3 CR.)
Provides a systematic study of representative ethical concepts and theories and discusses their application to concrete moral dilemmas and social issues and problems. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PHI 227 Biomedical Ethics (3 CR.)
Introduces medical ethics with an emphasis on practical moral issues faced by professionals in medicine, public health and related fields. Explores major theories, concepts and terminology in the field of bioethics. Lecture 3 hours.

PHI 295 Topics In: (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

Photography (PHT)

PHT 101 Photography I (3 CR.)
Teaches principles of photography and fundamental camera techniques. Requires outside shooting and lab work. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week.

PHT 102 Photography II (3 CR.)
Teaches principles of photography and fundamental camera techniques. Requires outside shooting and lab work. Lecture 2 hour. Laboratory 3 hours. Total 5 hours per week.

PHT 103 Black and White Darkroom Photography I (3 CR.)
Highlights principles of photography including camera operation and darkroom proc
2 hours. Laboratory 2 hours. Total 4 hours per week.

PHT 104 Black and White Darkroom Photography II (3 CR.)
Highlights advanced principles of photography including camera operation and darkroom techniques. Requires outside shooting and lab work. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Prerequisite(s) PHT 103 or Permission of instructor

PHT 106 Visual Literacy: The Photographic Image (3 CR.)
Emphasizes photographic syntax, how it has evolved and how it relates to reading images. Examines psychological, perceptual and contextual issues relating to photographic images. Open to students of all disciplines. Lecture 3 hours per week.

PHT 110 History of Photography (3 CR.)
Surveys important photographers, processes, and historical influences of the nineteenth and twentieth centuries. Lecture 3 hours per week. Total 3 hours per week. Lecture 3 hours per week.

PHT 130 Video I (3 CR.)
Introduces the basics of recording and editing video and sound for a variety of intents. Explores time-based media as an art form and means of communication. Part I of II. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

PHT 131 Video II (3 CR.)
Introduces the basics of recording and editing video and sound for a variety of intents. Explores time-based media as an art form and means of communication. Part II of II. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.
Prerequisite(s) PHT 130 or permission of the instructor

PHT 201 Advanced Photography I (3 CR.)
Provides weekly critiques of students' work. Centers on specific problems found in critiques. Includes working procedures and critical skills in looking at photographs. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) PHT 102, or permission of the instructor

PHT 202 Advanced Photography II (3 CR.)
Provides weekly critiques of students' work. Centers on specific problems found in critiques. Includes working procedures and critical skills in looking at photographs. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) PHT102 and PHT 201 or permission

PHT 206 Large Format Photography (3 CR.)
Discusses 4x5 view camera techniques and controls, and sheet film processing. Demonstrates the image-making advantages of large format photography. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) PHT 103 or permission of instructor

PHT 211 Color Photography I (3 CR.)
Introduces theory, materials, and processes of modern color images. Includes additive and subtractive theory, color filtration, and negative and positive printing techniques. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) PHT 102
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PHT 221 Studio Lighting I (3 CR.)
Examines advanced lighting and camera techniques under controlled studio conditions. Includes view camera use, electronic flash, advanced lighting techniques, color temperature and filtration, and lighting ratios. Requires outside shooting. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) PHT 102 or equivalent

PHT 222 Studio Lighting II (3 CR.)
Examines advanced lighting and camera techniques under controlled studio conditions. Includes view camera use, electronic flash, advanced lighting techniques, color temperature and filtration, and lighting ratios. Requires outside shooting. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) PHT 102 and PHT 221 or permission of the instructor

PHT 227 Careers in Photography and Media (3 CR.)
Introduces students of photography and video to a variety professional opportunities in the field. This is an advanced course for students who would like to know more about their options in staff and freelance work. Lecture 3 hours per week.
Prerequisite(s) PHT 102 or approval of instructor

PHT 228 Professional Practices for Photographers (3 CR.)
Prepares students of photography and video to start and operate a professional practice. This is an advanced course for students who wish to be self-employed as photographers and/or videographers.

PHT 231 Photojournalism I (3 CR.)
Introduces equipment, techniques, skills, and concepts of photojournalism. Teaches photography for features, spot news, and photo essays. Emphasizes editing, captioning, and layout. May require individual projects. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) PHT 102
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PHT 235 Documentary Photography (3 CR.)
Students learn how to create an in-depth documentary photography photo-essay. The final project will be edited for presentation. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) PHT 102 and basic computer skills or permission of instructor

PHT 247 Alternative Photographic Processes (3 CR.)
Explores manipulated imagery including traditional and non-traditional processes such as non-silver and electronic imaging. Uses enlarged film negatives in order to investigate a variety of methods. Prerequisite PHT 102 or equivalent. Lecture 1 hour. Laboratory 4 hours. Total 5 hours per week.
Prerequisite(s) PHT 102 or approval of instructor

PHT 249 Night and Low Light Photography (3 CR.)
Explores physical limits of photographic capture including exposure in low light and use of extended time values. Considers the role of these factors in the history, theory, and practice of the medium, as an art form and means of communication. Lecture 2 hours per week. Lab 2 hours per week. Total 4 hours per week. 3 credits.
Prerequisite(s) PHT 102 or permission of the instructor

PHT 270 Digital Imaging I (3 CR.)
Introduces students to the tools and techniques used by professionals in the electronic imaging field. Focuses on current trends within the photographic, prepress and internet industries. Includes image capture, manipulation, and out-put. Exposes students to the hardware and software used by today's creative professionals in a combination of lectures, demonstrations and class projects. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

PHT 271 Digital Imaging II (3 CR.)
Introduces students to the tools and techniques used by professionals in the electronic imaging field. Focuses on current trends within the photographic, prepress and internet industries. Includes image capture, manipulation, and out-put. Exposes students to the hardware and software used by today's creative professionals in a combination of lectures, demonstrations and class projects. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

PHT 274 Digital Film Editing and Post Production (3 CR.)
Introduces students to techniques and procedures involved in digital film editing and post production. Covers aspects of editing to include industry standard software packages. Emphasizes the mechanics and obstacles of working with the moving image in the 21st century including available tools and methods, importance of file types, and how to keep things organized. Lecture 2 hours. Lab 2 hours.
Prerequisite(s) PHT 130 or ART 160

Physical Education & Recreation (PED)

PED 103 Aerobic Fitness I (1 CR.)
Develops cardiovascular fitness through activities designed to elevate and sustain heart rates appropriate to age and physical condition. Lecture 0.5 hour. Laboratory 1 hour. Total 1.5 hours per week.

PED 107 Exercise/Nutrition (1 CR.)
Provides the student with a full body workout through flexibility, strength, and cardiovascular endurance exercises. Includes fitness evaluation, nutrition analysis, and weight control. Lecture 0.5 hour. Laboratory 1 hour. Total 1.5 hours per week.

PED 109 Yoga (1 CR.)
Focuses on the forms of yoga training emphasizing flexibility. Lecture 0.5 hour. Laboratory 1 hour. Total 1.5 hours per week.

PED 110 Zumba (1 CR.)
Focuses on Latin rhythms, dance moves and techniques in Zumba. Utilizes physical activity, cardiovascular endurance, balance, coordination and flexibility as related to dance. Lecture 0.5 hour. Laboratory 1 hour. Total 1.5 hours.

PED 111 Weight Training I (1 CR.)
Focuses on muscular strength and endurance training through individualized workout programs. Teaches appropriate use of weight training equipment. Lecture 0.5 hour. Laboratory 1 hour. Total 1.5 hours per week.

PED 116 Lifetime Fitness And Wellness (1-2 CR.)
Provides a study of fitness and wellness and their relationship to a healthy lifestyle. Defines fitness and wellness, evaluates the student's level of fitness and wellness, and motivates the student to incorporate physical fitness and wellness into daily living. A personal fitness/wellness plan is required for the 2-credit course. For PED 116 - 1 credit: Lecture 0.5 hour. Laboratory 1 hour. Total 1.5 hours per week. For PED 116 - 2 credits: Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PED 168 Basic Personal Trainer Preparation (3 CR.)
Introduces the skills and knowledge required to become a personal trainer. Includes the principles of individual weight management, personal wellness, and the skills necessary for the creation of a fitness program for potential clients. 3 credit hours. 2 lecture hours. 2 lab hours. 4 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PED 171 Ballroom Dance I (1 CR.)
Presents the basic step patterns, rhythmic patterns, and positions in ballroom dance. Includes techniques based upon traditional steps with basic choreographic patterns. Lecture 0.5 hour. Laboratory 1 hour. Total 1.5 hours per week.

PED 190 Coordinated Internship (1-5 CR.)
Coordinated Internship

PED 199 Supervised Study (1-5 CR.)
Supervised Study

PED 220 Adult Health And Development (2-3 CR.)
Provides direct application of the theories of aging and physical activity. Teaches techniques for developing appropriate individualized fitness and activity programs for older adults. Focuses on physical, social, and mental well being. Includes assessment and evaluation of physical fitness principles, role of exercise in disease prevention, leadership skills, and communication strategies. For PED 220 - 2 credits. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. For PED 220 - 3 credits. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

Physical Therapy (PTH)

PTH 105 Intro. to Physical Therapy (3 CR.)
*Introduces the physical therapist assistant student to various aspects of physical therapy, and exposes the student to the physical therapy clinical setting. Lecture 1 hour. Lab/clinical 4 hours. Total 5 hours per week. (Restricted Enrollment) An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

PTH 115 Kinesiology For The Physical Therapi (5 CR.)
*Focuses on the relationship of specific joint structure and function, the role of individual muscles and groups of muscles and neurologic principles in both normal and pathological movement. The course includes a review of basic physics and biomechanical principles applied to human movement. Includes specific posture and gait analysis. Lecture 2 hours. Laboratory 4 hours. Total 6 hours per week. (Restricted Enrollment) An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

PTH 121 Therapeutic Procedures I (5 CR.)
Prepares the students to properly and safely administer basic physical therapy procedures utilized by physical therapist assistants. The procedures include therapeutic modalities. Procedures may include therapeutic exercise, electrotherapy and cardiopulmonary rehabilitation. Part II of II. Lecture 3 hours. Laboratory 4 hours. Total 7 hours per week. (Restricted Enrollment) An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

PTH 122 Therapeutic Procedures II (5 CR.)
Prepares the students to properly and safely administer basic physical therapy procedures utilized by physical therapist assistants. The procedures include therapeutic modalities. Procedures may include therapeutic exercise, electrotherapy and cardiopulmonary rehabilitation. Part II of II. Lecture 3 hours. Laboratory 4 hours. Total 7 hours per week. (Restricted Enrollment) An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

PTH 131 Clinical Education I (3 CR.)
*Provides supervised instruction in administering therapeutic skills in a variety of clinical settings. Emphasizes the development of oral and written communication skills and the understanding of commonly seen disabilities. Lecture 1 hour. Clinical 8 hours. Total 9 hours per week. (Restricted Enrollment)

PTH 151 Musculoskeletal Struct./Function (5 CR.)
Studies the human musculoskeletal system. Covers terms of position and movement, location and identification of specific bony landmarks, joint structure and design, ligaments, muscle origin, action and innervation, and emphasizes types of contraction. Lecture 3 hours. Laboratory 4 hours. Total 7 hours per week. (Restricted Enrollment) An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

PTH 210 Psychological Aspects of Therapy (2 CR.)
*Focuses on the psychological reactions and behavioral changes in patients and their families. Emphasizes techniques of effective interaction between the allied health worker and the patient. Lecture 2 hours per week. (Restricted Enrollment)

PTH 225 Rehabilitation Procedures (5 CR.)
*Focuses on rehabilitation techniques utilized in the treatment of disabling conditions. Emphasizes advanced exercise procedures, prosthetic and orthotic training, and other specialized techniques. Lecture 3 hours. Laboratory 4 hours. Total 7 hours per week. (Restricted Enrollment) An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

PTH 227 Pathological Conditions (3 CR.)
Presents specific pathologic conditions commonly seen in physical therapy. Emphasizes musculoskeletal and neurological system conditions, and all major body systems are represented. Lecture 3 hours per week. (Restricted Enrollment)

PTH 231 Clinical Education II (5 CR.)
*Provides instruction during the administration of therapeutic skills in a clinical setting. Emphasizes the total therapy program including rehabilitation techniques and specialized exercise programs. Provides experience in a variety of clinical settings. For PTH 231 - lecture 2 hours. Clinical 15 hours. Total 17 hours per week. For PTH 232 - lecture 1 hour. Clinical 20 hours. Total 21 hours per week. (Restricted Enrollment)

PTH 232 Clinical Education III (5 CR.)
*Provides instruction during the administration of therapeutic skills in a clinical setting. Emphasizes the total therapy program including rehabilitation techniques and specialized exercise programs. Provides experience in a variety of clinical settings. For PTH 231 - lecture 2 hours. Clinical 15 hours. Total 17 hours per week. For PTH 232 - lecture 1 hour. Clinical 20 hours. Total 21 hours per week. (Restricted Enrollment)

PTH 245 Professional Issues (3 CR.)
*Studies administrative procedures, changing practices in physical therapy, and trends in health care delivery. Lecture 3 hours per week. (Restricted Enrollment)

PTH 299 Supervised Study (1-5 CR.)
*Supervised Study

Physics (PHY)

PHY 100 Elements of Physics (4 CR.)
Covers basic concepts of physics, including Newtonian mechanics, properties of matter, heat transfer, waves, fundamental behavior of gases, optics, ionizing radiation, and fundamentals of electricity and magnetism. The assignments in the course require college-level reading fluency, coherent written communication, application of arithmetic, exponents, and algebraic skills such as solving for an unknown variable in an equation, and finding the slope and intercept from the equation of a line. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PHY 150 Elements of Astronomy (4 CR.)
Covers history of astronomy and its recent developments. Stresses the use of astronomical instruments and measuring techniques and includes the study and observation of the solar system, stars, and galaxies. Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PHY 201 General College Physics I (4 CR.)
Covers classical mechanics and thermodynamics. Includes kinematics, Newton's laws of motion, work, energy, momentum, rotational kinematics, dynamic and static equilibrium, elasticity, gravitation, fluids, simple harmonic motion, calorimetry, ideal gas law, and the laws of thermodynamics. Part I of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) MTH 161 or MTH 167 with a grade of C or better
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PHY 202 General College Physics II (4 CR.)
Covers waves, electromagnetism, optics, and modern physics. Includes mechanical waves, sound, electrostatics, Ohm's law and DC circuits, magnetic forces and magnetic fields, electromagnetic induction, ray optics, wave optics, and selected topics of modern physics. Part II of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) PHY 201 with a grade of C or better and MTH 162 or MTH 167 with a grade of C or better
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PHY 241 University Physics I (4 CR.)
Covers classical mechanics and thermodynamics. Includes kinematics, Newton's laws of motion, work, energy, momentum, rotational kinematics, dynamics and static equilibrium, elasticity, gravitation, fluids, simple harmonic motion, calorimetry, ideal gas law, and the laws of thermodynamics. Part I of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) MTH 263 with a grade of C or better
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PHY 242 University Physics II (4 CR.)
Covers waves, electromagnetism and optics. Includes mechanical waves and sound, electrostatics, Ohm's law and DC circuits, magnetic forces and magnetic fields, electromagnetic induction, AC circuits, ray optics, and wave optics. Part II of II.. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.
Prerequisite(s) PHY 241 with a grade of C or better and MTH 264 with a grade of C or better
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PHY 243 Modern Physics (3 CR.)
Covers principles of modern physics including in-depth coverage of relativity, quantum physics, solid state, and nuclear physics. Lecture 3 hours.
Prerequisite(s) PHY 242 with a grade of C or better or departmental approval

PHY 244 Modern Physics Lab (1 CR.)
Introduces various methods and procedures used in modern physics experiments. Covers the general experimentation and modeling techniques for topics such as an introduction to the theory of relativity, elementary quantum theory, and its applications to atomic and nuclear physics. Laboratory: 3 hours. Total 3 hours per week.
Corequisite(s) PHY 243

Political Science (PLS)

PLS 135 U.S. Government and Politics (3 CR.)
Teaches the political structure, processes, institutions, and policymaking of the US national government. Focuses on the three branches of government, their interrelationships, and how they shape policy. Addresses federalism; civil liberties and civil rights; political socialization and participation; public opinion, the media; interest groups; political parties; elections; and policymaking. The assignments in the course require college-level reading fluency and coherent communication through written reports. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PLS 136 State and Local Government and Politics (3 CR.)
Teaches structure, powers, and functions of state and local government in the United States as related to federalism; constitutionalism; elections; powers of legislative, executive, and judicial powers of state and local government; state-local-federal relations; fiscal matters; metropolitan issues; and policy issues, like health, education, criminal justice and welfare. The assignments in the course require college-level reading fluency and coherent communication through written reports. Lecture 3 hours per week.

PLS 140 Introduction to Comparative Politics (3 CR.)
Teach concepts and methods of comparative politics. Includes empirical analyses of domestic governmental, political, and societal institutions and norms of countries around the world. The assignments in the course require college-level reading fluency and coherent communication through written reports. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PLS 199 Supervised Study (1-5 CR.)
Supervised Study

PLS 200 Introduction to Political and Democratic Theory (3 CR.)
Presents concepts of politics using political theory. Emphasizes the core thinkers and themes of political theory, with focus on concepts of justice, power, rights, liberty, and citizenship, within the context of differing conceptions of the state. Apply political theory as a method of analysis for analyzing current political events and problems. The assignments in the course require college-level reading fluency and coherent communication through written reports. Lecture 3 hours. Total 3 hours per week.

PLS 241 Introduction to International Relations (3 CR.)
Provides an introduction to the causes of international conflict and cooperation. Focuses on the modern state, diplomacy, war initiation, crisis bargaining, international terrorism, nuclear strategy, interstate economic relations, economic growth, international law, human rights, and environmental politics. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) ENG 111
This is a Passport and UCGS transfer course.

Psychology (PSY)

PSY 100 Principles of Applied Psychology (3 CR.)
Introduces the general principles of psychology as they are applied to work, relationships, and growth. Includes perception, learning, development, motivation, emotion, therapy, communication, and attitudes. Lecture 3 hours per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PSY 200 Principles of Psychology (3 CR.)
Surveys the basic concepts of psychology. Covers the scientific study of behavior and mental processes, research methods, biological bases of behavior, sensation and perception, developmental psychology, learning, memory, thinking, intelligence, personality, social psychology, and psychological disorders and treatment. The assignments in the course require college-level reading fluency and coherent communication through written reports. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PSY 205 Personal Conflict And Crisis Managem (3 CR.)
Studies the effective recognition and handling of personal and interpersonal conflicts. Discusses cooperative roles of public and private agencies, management of family disturbances, child abuse, rape, suicide, and related cases. Lecture 3 hours per week.

PSY 210 Statistics for Behavioral Sciences (4 CR.)
Introduces the principles and processes of statistics for behavioral science research. Focuses on selection and application of appropriate statistical tests and accurate interpretation of behavioral science data. Utilizes statistical software for conducting statistical analysis. Lecture 4 hours week. Please note: Credit will be awarded for either PSY 210: Statistics for Behavioral Sciences or PSY 213: Statistics for Behavioral Sciences.
Prerequisite(s) PSY 200 and Corequisite: MTH 245 or equivalent

PSY 211 Research Methodology/Behavioral Sci. (4 CR.)
Introduces the principles and processes of various research methods for applying the scientific method to understanding behavior. Includes preparation for and fundamental experience with designing, conducting, interpreting, and evaluating behavioral science research studies. Prepares students for creating APA-style research manuscripts to summarize research. Lecture 4 hours per week.
Prerequisite(s) PSY 200 and PSY 210, or department approval

PSY 215 Psychopathology (3 CR.)
Explores historical views and current perspectives of psychopathology. Emphasizes major diagnostic categories and criteria, individual and social factors of maladaptive behavior, and types of treatments. Includes methods of clinical assessment and research strategies.
Prerequisite(s) PSY 200 or permission of instructor
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PSY 216 Social Psychology (3 CR.)
ENG 111 is suggested. Examines individuals in social contexts, their social roles, group processes and intergroup relations. Acquaints students with a scientific understanding of how the presence of other people, interactions with other people, and other situational factors influence human thoughts and behaviors. The assignments in the course require college-level reading, analysis of scholarly studies, and coherent communication through written reports (including the production of at least one APA-formatted individual writing assignment). Lecture 3 hours per week.
Prerequisite(s) PSY 200 or department consent
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PSY 219 Cross-Cultural Psychology (3 CR.)
Investigates psychological principles from a cross-cultural perspective. Examines cultural basics for views of reality. Describes topics such as time, space, values, sex roles, and human development in relation to culture. Lecture 3 hours per week.

PSY 225 Theories of Personality (3 CR.)
PSY 225 and HMS 265 cannot both be taken for credit toward graduation. Studies the major personality theories and their applications. Includes psychodynamic, behavioral, cognitive, and humanistic perspectives. Lecture 3 hours per week.
Prerequisite(s) PSY 200 or permission of instructor

PSY 230 Developmental Psychology (3 CR.)
Traces development in context from pre-conception to death, including the physical, cognitive, and psychosocial domains. Examines methods of scientific inquiry as they apply to lifespan development. Addresses the interrelatedness of developmental domains, as well as the interdependent influences of environment and biology. Students majoring in or considering a major in Psychology should complete PSY 200 prior to PSY 230. Lecture 3 hours per week. Students who take PSY 230 cannot receive credit for either PSY 231 or PSY 232.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

PSY 235 Child Psychology (3 CR.)
Studies development of the child from conception to adolescence. Investigates physical, intellectual, social, and emotional factors involved in the child's development. Lecture 3 hours per week. (Students who take PSY 235 cannot receive credit for PSY 231.)

PSY 236 Adolescent Psychology (3 CR.)
Studies development of the adolescent. Investigates physical, intellectual, social, and emotional factors of the individual from late childhood to early adulthood. Lecture 3 hours per week.

PSY 240 Health Psychology (3 CR.)
Studies the psychology of healthy behavior. Applies psychological principles to preventative health care. Covers topics such as exercise, nutrition, stress, life-styles, and habits. Lecture 3 hours per week.
Prerequisite(s) PSY 200, or divisional approval

PSY 260 Psychopharmacology and Substance Abuse (3 CR.)
Examines how psychoactive drugs interact with the body and the brain. Explores the use of prescription psychoactive drugs to treat mental disorders. Explores the use of psychoactive drugs in American culture. Differentiates use and abuse of psychoactive substances so that symptoms of abuse can be identified in a person. Investigates various treatments of substance abuse. Lecture 3 hours per week.
Prerequisite(s) PSY 200 or division approval

PSY 270 Psychology of Human Sexuality (3 CR.)
Focuses on scientific investigation of human sexuality and psychological and social implications of such research. Considers socio-cultural influences, the physiology and psychology of sexual response patterns, sexual dysfunctions, and development of relationships. Lecture 3 hours per week.
Prerequisite(s) PSY 200 or divisional approval

PSY 290 Coordinated Internship (1-5 CR.)
Coordinated Internship

Public Service (PBS)

PBS 255 Management of The Modern City (3 CR.)
Teaches basic concepts of city administration. Covers relationships among city, state, and federal jurisdictions as well as cooperative efforts among city departments. Uses case study methods to emphasize the environment and organization of the city, the city administrator, and intergovernmental relationships affecting the city. Lecture 3 hours per week.

Radiation Oncology (ROC)

ROC 125 Pre-Clinical Techniques in Radiation Oncology (2 CR.)
Focuses on basic technical skills in preparation for patient set up and treatment in the clinical setting. Emphasizes simulation and treatment parameters. Focuses on students gaining basic understanding of basic techniques and patient care skills through phantom and lab work prior to direct patient contact. Lecture 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

ROC 131 Clinical Clerkship I (4 CR.)
Introduces student to clinical setting and the basics of radiation oncology. Covers basic technical and patient care skills through supervised direct patient contact and phantom work. Lecture 1 hour. Laboratory 15 hours. Total 16 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

ROC 132 Clinical Clerkship II (5 CR.)
Continues supervised direct patient contact and phantom work with focus on technical skills related to equipment manipulation. With minimal assistance the student should be able to perform basic treatment and simulation proedures as well as patient care skills. Clinical 25 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ROC 131

ROC 231 Clinical Clerkship III (5 CR.)
Introduces student to intermediate and complex treatment and simulation procedures as well as dosimetry, beam modification devices and brachytherapy competencies. Students whould demonstrate proficiency in equipment manipulation and intermediate care skills. Laboratory 25 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ROC 132

ROC 232 Clinical Clerkship IV (5 CR.)
Students perform intermediate procedures with minimal assistance and demonstrate comprehension of tasks related to complex procedures. During this clerkship the student should demonstrate the ability to work more independently. Laboratory 25 hours per week.
Prerequisite(s) ROC 231

Radiography (RAD)

RAD 105 Introduction to Radiology, Protection and Patient Care (2 CR.)
Presents brief history of radiologic profession, code of ethics, conduct for radiologic students, and basic fundamentals of radiation projection. Teaches the care and handling of the sick and injured patient in the Radiology Department. Introduces the use of contrast media necessary in the investigation of the internal organs. Lecture 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

RAD 115 Princ/of Magnetic Resonance Imaging (3 CR.)
Presents concepts of magnetic imaging, magnetic physics, fundamentals of magnetic resonance, and application of these principles. Lecture 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ARRT or ellgible

RAD 121 Radiographic Procedures I (4 CR.)
Introduces procedures for positioning the patient's anatomical structures relative to X-ray beam and image receptor. Emphasizes procedures for routine examination of the chest, abdomen, extremities, and axial skeleton. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

RAD 125 Patient Care Procedures (3 CR.)
Presents the care and handling of the sick and injured patient in the Radiology Department. Introduces the fundamentals of nursing procedures, equipment, and supplies specific to radiology. Lecture 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

RAD 131 Elementary Clinical Procedures I (3 CR.)
Develops advanced technical skills in fundamental radiographic procedures. Focuses on manipulation of equipment, patient care, osseous studies, skull procedures, and contrast studies. Provides clinical experience in cooperating health agencies. Clinical 15 hours per week.

RAD 135 Elementary Clinical Procedures II (5 CR.)
Introduces advanced technical skills in fundamental radiographic procedures. Focuses on basic contrast media studies, osseous studies, and skull procedures. Provides clinical experiences in health care agencies. Clinical 25 hours per week.

RAD 141 Principles of Radiographic Quality I (4 CR.)
Presents factors that control and influence radiographic quality, as well as, various technical conversion factors useful in radiography. Discusses automatic film processing, sensitometry, and quality assurance testing. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Admission to Program

RAD 142 Principles of Radiographic Quality II (4 CR.)
Presents factors that control and influence radiographic quality, as well as, various technical conversion factors useful in radiography. Discusses automatic film processing, sensitometry, and quality assurance testing. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) Admission to Program

RAD 196 On-Site Training (1-5 CR.)
On-Site Training An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

RAD 205 Radiation Protection And Radiobiolog (3 CR.)
Studies methods and devices used for protection from ionizing radiation. Teaches theories of biological effects, cell and organism sensitivity, and the somatic and genetic effects of ionizing radiation. Presents current radiation protection philosophy for protecting the patient and technologist. Lecture 3 hours per week.

RAD 221 Radiographic Procedures II (4 CR.)
Continues procedures for positioning the patient's anatomical structures relative to X-ray beam and image receptor. Emphasizes procedures for routine examination of the skull, contrast studies of internal organs, and special procedures employed in the more complicated investigation of the human body. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

RAD 231 Advanced Clinical Procedures I (5 CR.)
Reinforces technical skills in fundamental radiographic procedures. Introduces more intricate contrast media procedures. Focuses on technical proficiency, application of radiation, protection, nursing skills, and exposure principles. Teaches advanced technical procedures and principles of imaging modalities, correlating previous radiographic theory, focusing on full responsibility for patients in technical areas, perfecting technical skills, and developing awareness of related areas utilizing ionizing radiation. Provides clinical experience in cooperating health agencies. Clinical 25 hours per week.

RAD 232 Advanced Clinical Procedures II (5 CR.)
Reinforces technical skills in fundamental radiographic procedures. Introduces more intricate contrast media procedures. Focuses on technical proficiency, application of radiation, protection, nursing skills, and exposure principles. Teaches advanced technical procedures and principles of imaging modalities, correlating previous radiographic theory, focusing on full responsibility for patients in technical areas, perfecting technical skills, and developing awareness of related areas utilizing ionizing radiation. Provides clinical experience in cooperating health agencies. Clinical 25 hours per week.

RAD 240 Radiographic Pathology (3 CR.)
Presents a survey of common medical and surgical disorders that affect radiographic image. Discusses conditions related to different systems of the human body. Studies the correlation of these conditions with radiographs. Lecture 3 hours per week.

RAD 246 Special Procedures (1 CR.)
Studies special radiographic and surgical procedures and equipment employed in the more complicated investigation of internal conditions of the human body. Lecture 1hour per week.

RAD 247 Cross-Sectional Anatomy (3 CR.)
Presents a specialized study of cross-sectional anatomy relevant to sectional imaging modalities such as computed tomography and magnetic resonance imaging. Lecture 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ARRT or Eligible

RAD 251 Enhanced Patient Care for Magnetic Resonance (MR) Imaging (3 CR.)
Applies critical thinking skills including but not limited to patient assessment and care, contrast administration and magnet safety as related to those patients receiving MR services Lecture 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ARRT or eligible

RAD 255 Radiographic Equipment (3 CR.)
Studies principles and operation of general and specialized X-ray equipment. Lecture 3 hours per week.

Real Estate (REA)

REA 100 Principles of Real Estate (4 CR.)
Examines practical applications of real estate principles. Includes a study of titles, estates, land descriptions, contracts, legal instruments, financing, and management of real estate. Lecture 4 hours per week.

Religion (REL)

REL 100 Introduction to the Study of Religion (3 CR.)
Explores the idea of religion (as a general category), how to study religion in an academic context, and common elements across most religions such as beliefs, practices, values, community, spiritual experience, symbolism, and narrative. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

REL 230 Religions of the World (3 CR.)
Introduces the major religions of the world: Judaism, Christianity, Islam, Hinduism, and Buddhism. Focuses on origins, history, basic beliefs, values, ethics, and practices. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

REL 233 Introduction to Islam (3 CR.)
Studies Islam in its historical, religious, and political dimensions and assists in the understanding of its contemporary vitality and attraction as a faith, a culture and a way of life. Lecture 3 hours per week.

REL 237 Religions of the East (3 CR.)
Studies major religious traditions originating in India and East Asia, including Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Daoism and Shinto. Examines origins, values, ethics, teachings, and practices. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

REL 238 Religions of the West (3 CR.)
Studies major religious traditions originating in the Near East, including Judaism, Christianity, and Islam. Examines origins, values, ethics, teachings, and practices. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

Respiratory Therapy (RTH)

RTH 102 Integrated Sciences for Respiratory Care II (3 CR.)
Integrates the concepts of mathematics, chemistry, physics, microbiology, and computer technology as these sciences apply to the practices of respiratory care. Lecture 3 hours per week.
Prerequisite(s) ENG 111, HLT 141, RTH 120, MTH 154, one of the following: BIO 141, BIO 142, or BIO 145, and SDV 100 or SDV 101

RTH 111 Anatomy & Physiology of the Cardiopulmonary System (3 CR.)
Concentrates on anatomy and physiology of the cardiopulmonary system. Lecture 3 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ENG 111, HLT 141, RTH 120, MTH 154, one of the following: BIO 141, BIO 142, or BIO 145, and SDV 100 or SDV 101

RTH 120 Fundamental Theory for Respiratory Care (2 CR.)
Presents the theory of basic patient assessment and functional medical terminology. Lecture - 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

RTH 121 Cardiopulmonary Science I (3 CR.)
Focuses on assessment, treatment, and evaluation of patients with cardiopulmonary disease. Explores cardiopulmonary, renal, and neuromuscular physiology, and pathophysiology. Lecture 3 hours per week.
Prerequisite(s) RTH 102, RTH 111, RTH 145, and RTH 151

RTH 131 Respiratory Care Theory And Proc I (4 CR.)
Presents theory of equipment and procedures used for patients requiring general and critical cardiopulmonary care. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) RTH 102, RTH 111, RTH 145, and RTH 151

RTH 135 Diagnostic And Therapeutic Procedure (2 CR.)
Focuses on purpose, use and evaluation of equipment, and procedures used in the diagnosis and therapeutic management of patients with cardiopulmonary disease. Lecture 1 hour per week. Laboratory 3 hours per week. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) RTH 121, RTH 131, RTH 196, and RTH 245

RTH 145 Pharmacology For Respiratory Care I (1 CR.)
Presents selection criteria for the use of, and detailed information on pharmacologic agents used in pulmonary care. Lecture 1 hour per week.
Prerequisite(s) RTH 102, RTH 111, RTH 145, and RTH 151

RTH 151 Fundamental Clinical Procedures I (3 CR.)
Offers clinical instruction in basic patient care practices. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) ENG 111, HLT 141, RTH 120, MTH 154, one of the following: BIO 141, BIO 142, or BIO 145, and SDV 100 or SDV 101

RTH 196 On-Site Training In: (3 CR.)
(Restricted Enrollment) Career orientation and training program without pay in selected businesses and industry, supervised and coordinated by the College. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

RTH 199 Supervised Study (1-5 CR.)
Supervised Study

RTH 215 Pulmonary Rehabilitation (1 CR.)
Focuses on purpose and implementation of comprehensive pulmonary rehabilitation program. Lecture 1 hour per week.
Prerequisite(s) RTH 135 and RTH 296

RTH 222 Cardiopulmonary Science II (3 CR.)
Focuses on assessment, treatment, and evaluation of patients with cardiopulmonary disease. Explores cardiopulmonary, renal, and neuromuscular physiology, and pathophysiology. Lecture 3 hours per week.
Prerequisite(s) RTH 135 and RTH 296

RTH 223 Cardiopulmonary Science III (2 CR.)
Continues the exploration of topics discussed in RTH 121 and 222. Lecture 2 hours per week.
Prerequisite(s) RTH 135 and RTH 296

RTH 225 Neonatal and Pediatric Respiratory Procedures (3 CR.)
Focuses on the cardiopulmonary, physiology, pathology, and application of therapeutic procedures in the management of the newborn and pediatric patient. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) RTH 215, RTH 222, RTH 223, RTH 236, and RTH 290

RTH 227 Integrated Respiratory Therapy Skills II (2 CR.)
Presents intensive correlation of all major respiratory therapy subject areas reflecting the entry-level and advanced practitioner matrices. Emphasizes assessment, implementation, and modification of therapy to patient response. Lecture 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) RTH 215, RTH 222, RTH 223, RTH 236, and RTH 290

RTH 236 Critical Care Monitoring (3 CR.)
Focuses on techniques and theory necessary for the evaluation and treatment of the critical care patient. Explores physiologic effects of advanced mechanical ventilation. Lecture 2 hours per week. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) RTH 135 and RTH 296

RTH 245 Pharmacology For Respiratory Care II (2 CR.)
Concentrates on pharmacologic agents used in the management of the critically ill patient. Lecture 2 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) RTH 102, RTH 111, RTH 145, and RTH 151

RTH 290 Coordinated Internship: (1-5 CR.)
Supervised on-the-job training in selected business, industrial, or service firms coordinated by the college. Credit/work ratio maximum 1:5 hours. May be repeated for credit. Variable hours. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

RTH 296 On-Site Training In: (1-5 CR.)
On-Site Training In: (Restricted Enrollment)

Russian (RUS)

RUS 101 Beginning Russian I (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic sentence structure. Part I of II. Lecture 4 hours. Total 4 hours per week.
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

RUS 102 Beginning Russian II (4 CR.)
Develops the understanding, speaking, reading, and writing of Russian, and emphasizes the structure of the language. May include oral drill and practice. Part II of II. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) RUS 101, or two years of successful completion of high school Russian, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

RUS 201 Intermediate Russian I (4 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and introduces complex sentence structures. Classes may be conducted in target language. Part I of II. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) RUS 102, or three years of successful completion of high school Russian, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.

RUS 202 Intermediate Russian II (4 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and emphasizes complex sentence structures. Classes may be conducted in the target language. Part II of II.
Prerequisite(s) RUS 201, or four years of successful completion of high school Russian, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Safety (SAF)

SAF 130 Industrial Safety OSHA 10 (1 CR.)
Presents an introduction to occupational health and safety and its application in the workplace. Emphasizes safety standards and the Occupational Safety and Health Act (OSHA), its rules and regulations (OSHA 10). Lecture 1 hour per week.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

Sociology (SOC)

SOC 200 Introduction to Sociology (3 CR.)
Introduces the fundamental concepts and principles of sociology with attention to sociological theory, research methods, and the impact of social inequality. Examines a variety of topics such as culture, race, social class, gender, major social institutions and their role in contemporary society, and the processes of social change. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

SOC 211 Cultural Anthropology (3 CR.)
Examines the origins, development, research, diversification and evolution of human cultures. Includes exposure to the variability of both Western and Non-Western aspects of culture. Provides an introduction to the nature of culture and its relationship to various social institutions and societies. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

SOC 215 Sociology of The Family (3 CR.)
Introduces tools to study family life through the sociological lens. Explores a variety of topics including various familial forms, divorce, and domestic violence. Lecture 3 hour per week.

SOC 225 Sociology of Gender (3 CR.)
Analyzes influence of major social institutions and socialization in shaping and changing sex roles in contemporary society. Examines differential access to positions of public power and authority for men and women. Lecture 3 hours per week.

SOC 236 Criminology (3 CR.)
Studies research and causal theories of criminal behavior. Examines crime statistics, crime victims, and types of criminal offenses. Introduces role of police, judicial, and correctional system in treatment and punishment of offenders. Lecture 3 hours per week.

SOC 247 Death And Dying (3 CR.)
SOC 247 and PSY 266 cannot both be taken for credit toward graduation. Studies theoretical, practical, and historical aspects of death. Focuses upon student's own ideas, feelings, and attitudes toward death and dying and the significance and consequences of those attitudes. Lecture 3 hours per week.

SOC 266 Race and Ethnicity (3 CR.)
Considers race and ethnicity as social constructs that deeply affect personal experience and social institutions. Examines the relationships of racial and ethnic groups with each other and with larger society including ideas of racial inequality both individually and systemically. Introduces significant theoretical approaches to the study of race and ethnicity. Lecture 3 hours per week.

SOC 268 Social Problems (3 CR.)
Introduces the fundamental concepts underlying social problems construction with attention to how these problems are defined, understood and arbitrated. Examines a variety of topics such as researching social problems and policymaking. Lecture 3 hours. Total 3 hours per week.
This is a Passport and UCGS transfer course.

Spanish (SPA)

SPA 101 Beginning Spanish I (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills, and emphasizes basic sentence structure. Part I of II. Lecture 4 hours. Total 4 hours per week.
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

SPA 102 Beginning Spanish II (4 CR.)
Introduces cultural awareness, listening, speaking, reading, and writing skills and emphasizes basic sentence structure. Part II of II. Lecture 4 hours. Total 4 hours per week.
Prerequisite(s) SPA 101, or two years of successful completion of high school Spanish, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

SPA 201 Intermediate Spanish I (3 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and introduces complex sentence structures. Classes may be conducted in target language. Part I of II. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) SPA 102, or three years of successful completion of high school Spanish, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

SPA 202 Intermediate Spanish II (3 CR.)
Continues to develop cultural awareness, listening, speaking, reading, and writing skills, and emphasizes complex sentence structures. Classes may be conducted in the target language. Part II of II. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) SPA 201, or four years of successful completion of high school Spanish, or demonstrated experiential learning, or by placement test, or equivalent
This is a UCGS transfer course.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

SPA 211 Inter Spanish Conversation I (3 CR.)
Continues to develop fluency through emphasis on idioms and other complex sentence structures. Lecture 3 hours per week.
Prerequisite(s) SPA 202 or equivalent

Student Development (SDV)

SDV 100 College Success Skills (1 CR.)
Assists students to make a successful transition to college. Provides students with the academic tools for success and teaches the skills of self-management and self-responsibility that relate to being a successful student. Helps students learn how to make responsible choices about their academic, personal, and career goals. Provides information about the College and community resources, the College's policies and procedures, and the processes of moving effectively through the educational system. Strongly recommended for beginning students; first-time College students are required to take SDV 100 or another SDV course before enrolling for their 16th semester hour at the College. Lecture 1 hour per week. Credit for Prior Learning (CPL) available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

SDV 101 Orientation to: (1 CR.)
Introduces students to the skills which are necessary to achieve their academic goals, to services offered at the college and to the discipline in which they are enrolled. Covers topics such as services at the college including the learning resources center; counseling, and advising; listening, test taking, and study skills; and topical areas which are applicable to their particular discipline. Lecture 1 hour per week.

SDV 106 Preparation For Employment (1 CR.)
Provides experience in resume writing, preparation of applications, letters of application, and successfully preparing for and completing the job interview. Assists students in identifying their marketable skills and aptitudes. Develops strategies for successful employment search. Assists students in understanding effective human relations techniques and communication skills in job search. Lecture 1 hour per week.

SDV 195 Topics In: (1-5 CR.)
Exploration of topical areas of interest to or needed by students. May be used also for special honors courses. May be repeated for credit. Variable hours.

SDV 298 Seminar & Project (1-5 CR.)
Seminar & Project

Surgical Technology (SUR)

SUR 100 Introduction to Surgical Technology (2 CR.)
Introduces professional practice concepts within the profession of surgical technology with emphasis on the profession and career opportunities. Introduces concepts such as group dynamics, effective communication, organization, prioritization, and delegation. Emphasizes standards of practice and codes of conduct for surgical technologists. Lecture 2 hours. Total 2 hours per week.

SUR 135 Infection Control (2 CR.)
Introduces the fundamentals of surgical microbiology. Includes an introduction to cell structure and theory, microbial function, human pathogen relationships, infectious process, blood borne and airborne pathogens, defense microorganisms, infection control, and microbial control and destruction. Lecture 2 hours. Total 2 hours per week.

SUR 140 Surgical Care I (3 CR.)
Introduces concepts of the surgical process including preparing the patient for surgery, transporting, positioning, and special preparation procedures of the surgical patient. Presents diagnostic and assessment procedures of the surgical patient including the importance of safety. Discusses the basic principles of aseptic technique. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) Admission to the Surgical Technology Program or permission of instructor
Corequisite(s) SUR 145

SUR 145 Surgical Care Skills I (3 CR.)
Introduces students to the surgical process, including aspects of the operating room environment. Provides students with the opportunity to practice preparation, transportation, and positioning of the patient for surgery. Practice of hand hygiene, the surgical hand scrub, opening of sterile supplies, donning and doffing operating room attire and personal protective equipment. Laboratory 9 hours. Total 9 hours per week.
Prerequisite(s) Admission to the Surgical Technology Program or permission of instructor
Corequisite(s) SUR 140

SUR 150 Surgical Instrumentation (2 CR.)
Introduces surgical instrumentation, supplies, and equipment used in the operating room for surgical procedures. Includes identification of instruments based on use, type, function, and design. Emphasizes use of surgical instruments to perform safely and effectively in the operating room environment. Lecture 2 hours. Total 2 hours per week.
Prerequisite(s) Admission to the Surgical Technology Program or permission of instructor

SUR 210 Surgical Procedures (3 CR.)
Introduces procedures for surgical specialties such as General, Gynecological, Obstetrics, Genitourinary, EENT (Eye, Ear, Nose, and Throat), Orthopedic, Neurosurgery, Cardiac, Vascular, Pediatric, Plastic, Transplant, and Trauma surgery. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) SUR 240 and SUR 245Introduces surgical procedures and the role of the surgical technologist

SUR 240 Surgical Care II (3 CR.)
Builds on Surgical Care I by introducing anesthetics, wound healing, incisions, and suturing techniques. Presents principles of wound healing including types, stages, and complications. Provides foundational knowledge in the preparation and care of surgical supplies and equipment. Reviews responsibilities related to the surgical technologies in the scrub and circulating roles. Lecture 3 hours. Total 3 hours per week.
Prerequisite(s) SUR 140, SUR 145, BIO 142
Corequisite(s) SUR 245

SUR 245 Surgical Care Skills II (3 CR.)
Builds upon essential skills to perform safely and competently in the operating room environment. Emphasizes active learning and critical thinking in the lab setting. Uses simulations to introduce skills in setting up a back table, mayo stand and passing instruments. Focuses on anticipating the needs of the surgeon and team members. Covers demonstration of counting procedures to prevent retained items and maintaining the sterile field to prevent contamination. Laboratory 9 hours. Total 9 hours per week.
Prerequisite(s) SUR 140, SUR 145, BIO 142
Corequisite(s) SUR 240

SUR 250 Surgical Pharmacology (2 CR.)
Introduces pharmacology as it relates to surgical intervention in the operating room. Includes medication calculations, measurements, administration, terminology and handling and a review of certain drug classifications as they relate to surgical patients. (Note: Previously listed as HLT 250, General Pharmacology).
Prerequisite(s) SUR 140

SUR 254 Professional Issues in Surgical Technology (2 CR.)
Provides job seeking skills and an overview of theoretical knowledge in preparation for national certification. Includes test taking strategies, career options, resume preparation, interviewing techniques, professional credentialing, and organizations and professionalism as it relates to surgical technology. Lecture 2 hours. Total 2 hours per week.
Prerequisite(s) Admission to the Surgical Technology Program of instructor approval

SUR 260 Surgical Technology Clinical Practicum (8 CR.)
Provides continued study and extensive clinical experience in all surgical specialties. Emphasis is on clinical practice thereby further enhancing theoretical and practical knowledge of select procedures, surgical instrumentation, supplies and equipment. The scrub and circulating roles of the surgical technologist including aseptic technique and case preparation for select surgical procedures continue to be emphasized. Laboratory 24 hours. Total 24 hours per week. 8 credits
Prerequisite(s) SUR 135, SUR 150, SUR 240, SUR 245
Corequisite(s) SUR 210 as corequisite or prerequisite

SUR 296 On-Site Training (1-5 CR.)
Specializes in career orientation and training program without pay in selected businesses and industry, supervised and coordinated by the college. Credit/work ratio not to exceed 1:5 hours. May be repeated for credit. Variable hours.

SUR 298 Seminar and Project (1-5 CR.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours.

Travel/Tourism (TRV)

TRV 100 Introduction to The Travel Industry (3 CR.)
Presents an overview of the structure and scope of the travel industry with emphasis on job categories and functions, basic vocabulary, and the interrelationships of the various components. Includes the study of information displays of airline computer reservation system. Lecture 3 hours per week.

Veterinary Technology (VET)

VET 105 Introduction to Veterinary Technology (3 CR.)
Introduces the role of veterinary technicians in veterinary practice. Includes medical terminology, ethics, professionalism, and basic concepts of patient care. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

VET 111 Anatomy & Physiology of Domestic Anim (4 CR.)
Introduces the structure and function of the animal and of all the organ systems of common domestic animals, including histology, embryology, and genetics. Includes laboratory dissection and demonstrations. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

VET 116 Animal Breeds And Behavior (3 CR.)
Surveys common species of domestic animals, including basic husbandry, care, and handling. Introduces identification of various breeds and their characteristics, including behavior patterns, problems, and solutions. Lecture 3 hours per week.

VET 121 Clinical Practices I (3 CR.)
Presents clinical techniques commonly performed in veterinary practice. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

VET 122 Clinical Practices II (3 CR.)
Presents clinical techniques commonly performed in veterinary practice. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) VET 121

VET 131 Clinical Pathology I (3 CR.)
Surveys techniques used in the veterinary hospital laboratory, including hematology, urinalysis, microbiology, cytology, immunology, clinical chemistry, serology, and necropsy. Emphasizes the use of microscope, automated laboratory equipment, and modern diagnostic procedures. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

VET 132 Clinical Pathology II (3 CR.)
Surveys techniques used in the veterinary hospital laboratory, including hematology, urinalysis, microbiology, cytology, immunology, clinical chemistry, serology, and necropsy. Emphasizes the use of microscope, automated laboratory equipment, and modern diagnostic procedures. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) VET 131

VET 133 Clinical Pathology III (3 CR.)
Introduces various techniques in microbiology, cytology and necropsy. Studies the common internal and external parasites of various species of domestic animals. Emphasizes their life cycles, pathology, treatment, and prevention. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) VET 131 and VET 132

VET 135 Anesthesia of Domestic Animals (2 CR.)
Introduces the basic principles of anesthesia of common domestic species. Includes techniques of induction, monitoring, and recovery of patients using injectable and inhalation anesthetics. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) MTH 133 or equivalent

VET 211 Animal Diseases I (2 CR.)
Describes animal health and disease, surgical techniques, and animal behavior. Includes demonstrations and selected observation and practice in animal hospitals, clinics, or research laboratories. Part I of II. Lecture 2 hours per week

VET 212 Animal Diseases II (2 CR.)
Describes animal health and disease, surgical techniques used, and animal behavior. Includes demonstrations and selected observation and practice in animal hospitals, clinics, or research laboratories. Lecture 2 hours per week.

VET 214 Animal Dentistry (2 CR.)
Introduces the basic principles of dental care for common domestic species. Includes dental anatomy, nomenclature, common oral pathology, record systems, instrumentation, dental prophylaxis, common dental treatments, intraoral dental radiography, and local anesthesia techniques. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.

VET 216 Animal Pharmacology (2 CR.)
Studies drugs and other medical substances of veterinary importance, including their characteristics, usage, measurement, dosage, administration, and also pharmacy management. Lecture 2 hours per week.
Prerequisite(s) CHM 101 or equivalent

VET 217 Intro to Lab, Zoo & Wildlife Medicine (2 CR.)
Focuses on the identification, captive management, restraint and diseases of fish, reptiles, birds, rodents, rabbits, ferrets, primates, wild carnivores, and wild herbivores. Presents the fields of laboratory research zoological medicine. Lecture 2 hours per week.

VET 221 Advanced Clinical Practices III (4 CR.)
Presents advanced clinical techniques commonly performed in veterinary practice. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week. An additional career and technical education course specific fee of $50.00 per credit hour applies to this course. The price is discounted 50% to $25.00 per credit hour for the 2026-27 academic year only.
Prerequisite(s) VET 121, VET 122, VET 135, and VET 214

VET 235 Animal Hosp Mgmt And Client Relation (3 CR.)
Introduces the basic concepts of business procedures of veterinary practice, including communication skills, office management, record keeping, and use of computers in veterinary practice. Lecture 3 hours per week.

VET 290 Coordinated Internship (1-5 CR.)
Coordinated Internship

Welding (WEL)

WEL 120 Introduction to Welding (2 CR.)
Introduces history of welding processes. Covers types of equipment, and assembly of units. Stresses welding procedures such as fusion, non-fusion, and cutting oxyacetylene. Introduces arc welding. Introduces MIG welding. Emphasizes procedures in the use of tools and equipment. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

WEL 121 Arc Welding (2 CR.)
Studies the operation of AC and DC power sources, weld heat, polarities, and electrodes for use in joining various alloys by the SMAW process. Covers welds in different types of joints and different welding positions. Emphasizes safety procedures. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) WEL 120

WEL 122 Welding II: Electric Arc (3 CR.)
Teaches electric arc welding, including types of equipment, selection of electrodes, safety equipment and procedures, and principles and practices of welding. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) WEL 121 or instructor¿s approval

WEL 124 Shielded Metal Arc Welding (Advanced) (3 CR.)
Continues instruction on operation of AC and DC power sources, welding polarities, heats and electrodes for use in joining various metal alloys by the arc welding process. Deals with running beads, butt, and fillet welds in all positions. Emphasizes safety procedures. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

WEL 126 Pipe Welding I (3 CR.)
Teaches metal arc welding processes including the welding of pressure piping in the horizontal, vertical, and horizontal-fixed positions in accordance with section IX of the ASME Code. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.
Prerequisite(s) WEL 122 or instructor's approval
Credit for Prior Learning available for this course. More information at https://www.nvcc.edu/admissions/cpl.html.

WEL 130 Inert Gas Welding (3 CR.)
Introduces practical operations in the uses of inert-gas-shield arc welding. Discusses equipment, safety operations, welding practices in the various positions; shielded gases, filler rods, process variations and applications; and manual and semi-automatic welding. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

WEL 136 Welding III (Inert Gas) (2 CR.)
Studies Tungsten and metallic inert gas procedures and practices including principles of operation, shielding gasses, filler rods, process variations and applications, manual and automatic welding, equipment and safety. Lecture 1 hour. Laboratory 3 hours. Total 4 hours per week.

WEL 150 Welding Drawing And Interpretation (2 CR.)
Teaches fundamentals required for successful drafting as applied to the welding industry, including blueprint reading, geometric principles of drafting and freehand sketching, basic principles of orthographic projection, preparation of drawings, and interpretation of symbols. Lecture 1 hour. Laboratory 2 hours. Total 3 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

WEL 160 Gas Metal Arc Welding (3 CR.)
Introduces semi-automatic welding processes with emphasis on practical application. Includes the study of filler wires, fluxes, and gases. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week. An additional career and technical education course specific fee of $25.00 per credit hour applies to this course. The price is discounted 50% to $12.50 per credit hour for the 2026-27 academic year only.

WEL 161 Flux Cored Arc Welding (FCAW) (3 CR.)
Introduces flux cored semi-automatic welding processes with emphasis on practical application. Includes the study of filler wires, fluxes, and gases. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.

WEL 235 Advanced Gas Metal Arc Welding (GMAW) (3 CR.)
Continues the study of Gas Metal Arc Welding (GMAW), wire feed welding, Metal Inert Gas (MIG) using spray transfer, pulsed GMAW, short circuit transfer, and flux cored wire on various metals and joint designs. Focuses on developing GMAW skills with practice and instruction in these advanced processes. Lecture 1 hour, Laboratory 6 hours, Total 7 hours per week.

WEL 247 Welding Layout and Fabrication I (2 CR.)
Introduces student to project layout from shop sketches/blueprints, developing templates/patterns and the use of fabrication tools. Covers the safe operation of different types of manual metal fabrication equipment used in the industry. Examines safe and efficient use of the manual metal shear, metal roller, metal break and other fabrication. (Part I of II) Lecture 1 hour, Laboratory 3 hours, Total 4 hours per week.
Prerequisite(s) WEL 150

WEL 248 Welding Layout and Fabrication II (2 CR.)
Applies previously learned skills from Welding and Fabrication I in a job-simulated situation. Focuses on pipe, structural steel and other weldments that will be fabricated using all available equipment and welding processes. Covers job site type blueprints and drawings used in fabrication. Incorporates American Welding Society (AWS) visual inspection, weld measurements and codes. (Part II of II) Lecture 1 hour, Laboratory 3 hours. Total 4 hours per week.
Prerequisite(s) WEL 247

WEL 298 Seminar and Project (1-5 CR.)
Requires completion of a project or research report related to the student's occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field. May be repeated for credit. Variable hours. 1-5 credits

EMERITUS

To be eligible for the rank of emeritus, a retired member of the College (usually holding rank of associate professor or professor) has given a minimum of ten years of service in the Virginia Community College System and has made meritorious and significant contributions to the College.

President Emeritus

Ernst, Richard J.
Templin, Robert G.

Emeritus Faculty

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

Adamson, Heidi
Ahmad, John
Aiello, Nancy
Alford, Terry
Allaire, Ruth Ann
Allen, Walter G.
Aller, Mary A.
Archer, Chalmers, Jr.
Atchison, Evelyn
Bachtell, Janice
Baer, James A.
Bailey, Raymond C.
Bailey, Sandra
Baker, Alison
Baldwin, Susan
Banas, Ed
Banks, Anne J.
Barr, Karen
Bassett, Max. L.
Bausch, Robert C.
Bedont, Sally A.
Beene, Joe
Beeson, Sandra
Beltran, Michol
Beringer, Ivy
Bigelow, John H.
Billups, Frederick H.
Bizier, Patricia
Blair, Katherine
Blois, Beverly, Jr.
Blunt, Rosalind
Bone, Gerald P.
Bour, William
Bradford, Arnold J.
Branges, Darlene
Brantley, Jill Niebrugge
Brazie, Michael
Brogan, Barbara
Brown, David
Brunner, Robert
Bryant, Mynora J.
Bull, Elizabeth
Bulmer, Walter
Burgess, J. Fred
Burton, Jon
Cahoon, Lynn
Campbell, David
Campbell, Gillie Wilson
Caporale, Jill
Capps, John R.
Carter, Eltse B.
Carter, Joseph M.
Carter, Thomas E.
Casabianca, Lynn
Catoe, Rodwell
Cavagnaro, Dorothy
Chambers, Barbara F.
Charleza, Mary
Chen, Chih-Mei L.
Chilka, Rashmi
Chu, Gen Sen
Cockburn, Tregel Amos
Coleman, Edward A.
Conerly, Brenda Faye
Conroy, David
Cook, Gordon
Craig, Sheila
Croft, Blanton O.
David, Sheri I.
Daily, Dianne
Deardon, Z. Thomas
Deavers, Patricia B.
Delaney, Brian J.
Depuydt, Donald
Daron, Patricia R.
Delano, Willard A.
Delmore, Marian
DelPopolo, Anthony J., Sr.
Dennin, Marjorie C.
Denton, Irving L.
Depczenski, Robert G.
Devers, Donald
Dickson, Elizabeth
Dixit, Dhruv
Dixon, Elizabeth
Domenichetti, Madonna
Doyle, Terrence A.
Drucker, Beverly
Drasner, Steven
Eckerlin, Ralph P.
Edwards, Stewart
Ehle, John V.
Ellis, B.J.
Ellis, Tom
Elsberg, Constance
Emory, Winola Frances
Evans, Charles
Eyer, Patricia H.
Falzon, Alicia
Fay, James
Felt, David
Figueroa, Carmen R.
Fiorillo, Rudolph
Fleck, Patrice
Flemming, Frederick F.
Flynn, Mary

Foley, Brian P.
Ford, Ann
Ford, Clara (Kaya)
Franklin, Laura
Franssell, Daniel
Frantz, Donald H., Jr.
Freedman, Edward P.
Frieband, Michael
Friedmann, Jane
Frye, Sherman
Fuchsman, Alvin A.
Furcolow, Robert E.
Gabriel, George
Garrigan, George
Gary, Patricia Knight
Gershman, Barbara
Gibbons, Jacqueline
Gibbs, Guy F.
Gillette, Pauline
Gleeson, Nancy Beatty
Glick, D. Marvin
Goldberg, Ellen
Gooden, Donald
Goodine, Jean F.
Gordon, Karen R.
Gorham, Robin
Grant, Judith
Graves, Virginia
Gregory, Donald
Groff, Rebecca W.
Gronlund, Mildred C.
Grubb, Donald J.
Guandolo, Anne
Guntner, Judy
Gunther, Talula
Hall, Janet Lee
Hamilton, Lander C.
Hammer, Elizabeth
Hanrahan, Mary
Hansen, Brian
Hanson, Henry
Hardy, Thomas W.
Harmon, Henry C.
Harper, Elizabeth
Harris, Richard
Harris-Lyne, Frankie L.
Harrison, Elizabeth
Harrison, Mary Inez
Harrison, William A.
Harwood, Velma E
Hayden, J. Dunstan
Hecklinger, Fred J.
Hedley, Alice
Heiges, Janice
Heneghan, Beverly
Heneghan, Michael
Hill, Lisa
Hill, Sam
Hill, William C.
Hinton, Hortense
Hitchcock, Katherine
Hoagland, Nancy
Hoagland, Rosalind
Hogan, Jean
Holladay, Van Dale
Holley, Horace Clinton
Holmes, Brenda
Holt, Barbara
Holzberlein, Riley
Horn, Jean
Horobetz, Joseph S.
Horowitz, Josef R.
Howsmon, Wilfred B., Jr.
Hinton-Jackson, Hortense B.
Huber, William E
Huddleston, Thomas M
Huston, F. Kenneth
Hutcheon, Wallace S.
Jacyna, Laura
Jay, Mary B
Johnson, Ellen K
Johnson, Mariette
Kallen, Vivian M.
Kamen, Rebecca
Kauffman, T. Dana
Kellermann, Charles W.
Kevorkian, George
Kheradmand, Bahman H.
Kilmer, Robert
Kinnaman, Marjorie
Kinsella, William E., Jr
Kirkbride, Eunice B.
Klinko, Ann Marie
Koberg, Robert W.
Kohls, Steve
Kossoff, Martha
Krieghoff, Claudio
Laedtke, Elmer C.
Laws, Thomas F.
Lee, Shirley X.
Leeker, Lori
Leggat, John Bruce
Lembo, Frank J.
Lesansky, Helene T.
Lesman, Ann St. Clair
Lesman, Robert G.
Lewis-Holmes, Brenda
Lieberman, Elizabeth S.
Liebman, Harvey H.
Lilley, Charles R.
Linville, Larry J.
Liu, Margaret K.
Lizondo, Mary Ann
Lloyd, Kathleen S.
Lobstein, Marion
Loser, Robert C.
Lunt, Patricia T.
Luquire, Karen
Majewski, Walerian
Marette, Michel
Marx, Barbara S.
Massie, Byron
May, Dennis
McCampbell, William

McCartney, Herbert E.
McClellan, Jimmie
McCullough, Laura
McDaniel, William
McElroy, Patricia
McFadden, Theresa K.
McGinnis, Wyatt
McIntosh, Jayne
McKee, Jill
McNamara, Nancy
McVeigh, Paul
Meisel, Brenda
Michener, Randolph
Mickey, Diane D.
Melton, Charles
Michel, Moses
Michaels, David
Miller, Ervinia (Venus)
Miller, Eula
Miller, Judy
Miller, Sara
Millington, Linda
Montero, Joseph G.
Moore, George C.
Moseley, Mary
Mowbray, Carol
Mustachio, James A.
Narney, Pamela A.
Naclerio, June A.
Naquin, Deborah
Neal, Douglas A.
NeSmith, C. Mary B.
Netherton, Jean C.
Newsome, Eloise C.
Nicastri, Ralph
Niner, Elaine
Noell, Laura K.
Nutting, Noreen
Oandasan, Carol
O'Brien, Walter
O'Connor, James A.
O'Sullivan, Katherine
Olsen, Fred H.
Olson, Katherine A.
Ooandasan, Carol
Orkwis, Raymond
Painter, Harry F.
Palumbo, Len
Palumbo, Leonard L.
Pape, Lynn
Partlow, Jack W.
Pearson, Nellie
Peck, Nan J.
Pellerin, Richard
Perrier, Greg K.
Peterson, Betty L.
Petrella, Robert L.
Phillips, Charlene
Poland, Charles, Jr.
Popeck, John H.
Porta, Giulio R.
Poulakis, Victoria
Primus, Virginia
Rahman, Syedur
Raphaeli, Ellen
Rassai, Rassas
Reagan, Alice
Rebhan, Gail
Reed, Patrick
Reichbart, Howard E.
Reister, Rebecca
Reynolds, Daniel J.
Reynolds, Jimmie
Reynolds, R. Neil
Riggin, Judith M.
Riley, Daniel W.
Robinson, Percy E.
Rortvedt, Sylvia
Rosen, Deborah M.
Roth, Carolyn
Ruffino, John
Rynn, Maria
Sabol, Cathy E.
Sachs, Steve
Sage, Henry (Jud)
St. Clair, Miriam
Samuels, Joyce
Saperstone, Barbara
Sass, Janet M.
Sasscer, Larry
Sasscer, Monica F.
Savkar, Reva A.
Selinger, Barry
Scarborough, Charles W. (Jr)
Schmitt, Mary Ann
Schran, William
Schurman, Lydia C.
Schwalje, John M.
Seaman, Barbara
Seaman, Timothy
Sellers, Martha W.
Selinger, Barry
Semmler, Richard D.
Serbousek, Jane
Seward, Dale
Seyler, Dorothy U.
Shaban, Hanney
Shahan, Michael E.
Shannon, William T.
Shapira, Lawrence
Sharpe, Susan
Shaw, Mary L.
Sheble, Karen K.
Sheridan, Genevieve
Sherry, Susan
Shuler, Cecil
Sichenze, Celeste M.
Sillah, Memuna
Simmons, Howard
Simmons, Linda J.
Simpson, Cathy A.
Sinn, Leslie
Sinwell, Carol
Sipple, M. Noel

Smith, Herbert
Smith, Lois H.
Smith, Robert L.
Smith, Vme Edom
Sosseh, Hayib
Sparling, Beatrice
Stanclift, William
Stewart, Pamela E.
Stites, Mary L.
Stukenbroeker, Fern
Sullivan, Carol
Sullivan, Jenny
Sumner, Patsy
Swanson, A. Kenneth
Taormina, Agatha
Tardd, Anthony C. (Tony)
Taylor, Alice
Taylor, David L.
Taylor, Jane B.
Taylor, Linda M.
Tebow, Duncan
Tebow, Elizabeth
Terwilliger, Gloria P.
Thomas, Ruth G.
Tiffany, James R.
Thompson, Bruce Leggat
Thompson, Diane P.
Thompson, Merle O'Rourke
Thompson, Richard
Thompson, Sue
Trachtman, Sherry
Tredway, M'Kean
Trott, Edith
Tumminia, Patricia
Turpyn, Ann C.
Tychsen, Charles E.
Tyler, Barbara
Underwood, Larry S.
VanderMaten, Mary
Vespucci, Paul
Vessey, Cyrilla M.
Vezina, Louise
Voss, Mary
Wade, Evelyn
Wagner, Susan
Walker, Edwin
Wall, James
Ward, Virginia
Warden, Marietta E.
Ware, Elizabeth
Watkins, Gladys
Wax, Kathleen
Webb, Robert S. (Jr.)
Weinfield, Ann Marie
Wertman, Ellen R.
Westburg, Rosemarie
Wharff, Sherill A.
Wheeler, Lawrence
White, Dee Wayne
Wilan, Barbara S.
Wilan, Richard
Wilkin, Cathy
Wilkin, Jonathan L.
Wiltshire, Cecilia
Williams, Barbara Laime
Williams, David L.
Williams, Edith W.
Williams, Lisa
Williams, Millicent J.
Wilson, Diane
Withers, Wistar M.
Wolfe, Clarence
Woodke, Robert S.
Wooldridge, John B., Jr.
Wurzer, Dale
Wyles, Barbara
Young, Laura
Zamani, Maryam
Zanders, Joan
Zimmerman, Mary

Classified Staff Emeritus

The Classified Staff Emeriti Award is given to retired classified staff members who have provided outstanding service to the College or the Virginia Community College System and who have worked a minimum of ten years.

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

Aboulhosn, Sonia
Ackerman, Claire
Bailey, Lin A.
Barnes, Geraldine C.
Bender, Rita
Bixler, Joyce
Blair, Kathleen
Bosch, Leslie V.
Bowden, Julia I.
Bradley, Carol N.
Bridge, Geraldine
Brockman, Timothy
Bromley, Haworth P.
Brown, Julia R.
Brunner, Adella E.
Buchanan, Ron
Bush, Janet
Cain, Joyce
Campbell, Francina
Carlton, Donna J.
Carro, Ann
Chambers, Henry
Childress, Connie A.
Chin, Rose S.
Chung, Yong
Cirillo, John
Clark, Maria Teresa
Clouser, Richard
Cottingham, Janice
Courter, David E.
Creed, Cheryl
Davis, Ronald D.
Delgado, Shirley
Dennett, Johan E.

Diguiseppi, Virginia
Divers, Barbara
Doan, Tri Q.
Dudley, William
Duron, Jo Ann
Dusseau, Daniel
Ekstrom, LuAnn
Emery, Joyce
Farmer, Susan
Filanowski, Connie V.
Fisher, Marsha N.
Fochtman, Diane D.
Fritz, Eve
Fuller, Suzanne
Gargus, George L.
Gargus, Mary Ellen
Gentry, Bill
Gibson, Roger K.
Golding, John P.
Gordon, Fredericka H.
Gordon, Fredericka
Gorey, Carol
Green, Ann M.
Gulbrandsen, Anita
Hall, Ruth Pat
Hamilton, Alethea
Hamrick, Liz
Harris, Larry G.
Heffren, R. Jean
Henderson, Robert
Henry, Nell C.
Herzfeld, Louise
Heslin, Gert
Hill, Patti A.
Hineline, Doris A.
Horgan, Claire D.
Idle, Bonnie
Karstens, David K.
Kerns, Diana
Kilgore, Jerre
Koehnke, Lois
Kohls, Steven L.
Krause, Mary W.
Krogh, Leslie A.
Lavis, David A.
Laws, Violet
Mackereth, Carlene R.
Marr, Barbara
Martin, Danelle A.
Massey, Marjorie
McCabe, Marlene
McCleary, William
Meehan, Geraldine
Mirehouse, Marion
Mirko, Jane B.
Montemerlo, Mary Beth
Mooney, Ann M.
Moran, Lisa R.
Mullins, Bobbie J.
Nieto-Shahsavarian, Maria C.
O'Connor, Doreen A.
Olofson, Doris B.
Payne, Patricia
Perlstein, Larry
Pohanka, Doris S.
Pruitt, E. Jean
Radford, Delores
Romano, Gwendolyn
Rosado-Rodriguez, Samuel
Sadler, Diana B.
Saray, Sovanny
Scida, Merrilee
Seitz, Penny
Seward, Dale A.
Shaffer, Margaret M.
Shellington, Janis L.
Shue, Sharon
Smith, Barbara K.
Smith, Maren
Smith, Pearl
Smith, Steve
Smith, Thomas W.
Sorbello, Louise
Sorenson, Eileen M.
Stafford, Nancy N.
Stanton, Ruth
Stevenson, Susanne M.
Sutherland, Ella May
Tancreti, Roger J., Jr.
Tedros, Michael J.
Tharp, Peter
Thomas, Rebecca
Tolley, Barbara
Townend, Jayne
Tyler, Barbara
Vandevender, Donna M.
Vess, Rolland
Vessey, Kathleen P.
Weaver, Claire A.
Wellman, Carolyn J.
Wichelt, Sonya
Woods, Joseph
Wrenn, Sally
Wyatt, Nancy V.
Yellman, Edward
Ziolkowski, Margaret

FACULTY CREDENTIALS

Name	Campus	Division	Discipline/Position	Rank	Highest Academic Degree
Abbe, Holly	LO	Languages, Arts & Social Sciences	English	Assistant Professor	M.F.A., Lindenwood University
Abdel Kader, Idrissa	AL	Mathematics, Sciences, Technologies & Business	Mathematics	Associate Instructor I	M.A., Lehman College
Abdel Maksoud, Nasser	LO	Information & Engineering Technologies and College Computing	Information Technology	Associate Professor	M.S., East Tennessee State University
Abdelbaki, Alaeldin H	LO	Mathematics, Sciences, Technologies & Business	Mathematics	Professor	Ph.D., University of Virginia
Abisogun, Esther	ME	Nursing	Nursing	Professor	D.N.P., Nursing, Grand Canyon University
Addison, Shawn W	CS	Human Resources	Employee Ombudsperson	Professor	Ed.D., Shenandoah University
Addy, Tetteh Nee	MA	Mathematics, Sciences, Technologies & Business	Physics	Associate Professor	Ph.D., Hampton University
Ahmad, Anwar	AN	Mathematics, Sciences, Technologies & Business	Computer Science	Assistant Professor	M.S., George Mason University
Ahmadi, Shahrokh	MA	Mathematics, Sciences, Technologies & Business	Mathematics	Professor	Ph.D., University of Maryland - College Park
Ahmadi, Sharis	LO	Mathematics, Sciences, Technologies & Business	Mathematics	Associate Professor	M.S., West Virginia University
Ahmed, Nauri D	WO	Mathematics, Sciences, Technologies & Business	Accounting	Professor	M.S., Liberty University
Ahn, Mary T	MA	Student Services	Counselor	Instructor	M.S., Johns Hopkins University
Akinduro, Charles	MA	Mathematics, Sciences, Technologies & Business	Business Administration & Management	Assistant Professor	M.B.A., Walden University
Al Jumaili, Teba A	AL	Mathematics, Sciences, Technologies & Business	Associate Dean	Professor	D.CompSci., Colorado Technical University
Allen, Stephanie T	AN	Student Services	Counselor	Instructor	M.Ed., George Mason University
Alonso, Ana M	MA	Languages, Arts & Social Sciences	Associate Dean	Associate Professor	M.A., George Mason University
Amey, Michael Darin	AL	Languages, Arts & Social Sciences	English	Professor	Ph.D., University of Glasgow
Ammons, Ryan	AN	Information & Engineering Technologies and College Computing	Information Technology	Assistant Professor	J.D., The University of Alabama
Anderson, Annemarie K	AL	Academic Affairs	Librarian	Assistant Professor	M.S.L.S., The Catholic Univeristy of America
Anderson, Elizabeth T	CS	Academic Affairs	Assistant Coordinator	Instructor	M.A., Marymount University

Andrews, Darrell	MA	Information & Engineering Technologies and College Computing	Information Technology	Professor	M.S., Marymount University
Anwari, Hashem	LO	Information & Engineering Technologies and College Computing	Information Technology	Professor	M.S., North Carolina A & T State University
Aquila, Meredith SH	AL	Languages, Arts & Social Sciences	Communication Studies & Theatre	Professor	D.A., George Mason University
Arbabshirani, Abbas	MA	Mathematics, Sciences, Technologies & Business	Mathematics	Instructor	M.S., Southern Methodist University
Arif, Mohammad A	WO	Mathematics, Sciences, Technologies & Business	Physics	Professor	Ph.D., University of Missouri - Columbia
Arra, Christopher T	MA	Languages, Arts & Social Sciences	Psychology	Professor	Ph.D., Indiana State University
Awad, Paul	AN	Languages, Arts & Social Sciences	Communication Studies & Theatre	Assistant Professor	M.A., Regent University
Aziz, Fatimah	AN	Languages, Arts & Social Sciences	American Sign Language	Instructor	M.A., Gallaudet University
Bachner, Araceli	AL	Languages, Arts & Social Sciences	Communication Studies & Theatre	Associate Professor	D.Ed., Liberty University
Backus, Gillian S	LO	Mathematics, Sciences, Technologies & Business	Biology	Professor	Ph.D., The University of North Carolina at Chapel Hill
Bai, Xue	AL	Mathematics, Sciences, Technologies & Business	Mathematics	Professor	Ph.D., Clemson University
Bai, Yu	LO	Languages, Arts & Social Sciences	English as a Second Language	Assistant Professor	Ph.D., University of Maryland - College Park
Baker, Lisa A.	WO	Mathematics, Sciences, Technologies & Business	Administration of Justice	Associate Professor	J.D., Temple University
Balbuena, Kristin L	CS	Academic Affairs	Coordinator, Curriculum Initiatives	Instructor	M.A., Marymount University
Bandpey, Zeinab	AN	Mathematics, Sciences, Technologies & Business	Mathematics	Associate Professor	Ph.D., Morgan State University
Barbee, Warren	AL	Mathematics, Sciences, Technologies & Business	Autobody/Collision	Instructor	Diploma, Wheaton High School
Barnsback, Lynn	AN	Mathematics, Sciences, Technologies & Business	Business Administration & Management	Assistant Professor	M.B.A., Clarkson University
Bartley, Christian D	WO	Mathematics, Sciences, Technologies & Business	Biology	Instructor	M.S., Old Dominion University
Bausch, Denise M	WO	Languages, Arts & Social Sciences	English	Assistant Professor	M.A., Eastern Michigan University
Beal, Yan	WO	Information & Engineering Technologies and College Computing	Information Technology	Professor	Ph.D., Florida State University

Beattie, Mark C	AN	Information & Engineering Technologies and College Computing	Information Technology	Professor	D.A., George Mason University
Belghith, Mohamed	LO	Mathematics, Sciences, Technologies & Business	Engineering	Associate Professor	Ph.D., University of Toulouse III
Benhusen, Ahmed O	MA	Mathematics, Sciences, Technologies & Business	Chemistry	Professor	Ph.D., Howard University
Bennett, Reginald D	AL	Mathematics, Sciences, Technologies & Business	Automotive Technology	Instructor	A.A.S., Northern Virginia Community College
Bhattacharya, Chhandashri	MA	Mathematics, Sciences, Technologies & Business	Chemistry	Professor	Ph.D., University of Calcutta
Bholat, Saleha	LO	Languages, Arts & Social Sciences	Associate Dean	Assistant Professor	M.A., California State University - Long Beach
Blackmon, Tiffany	LO	Languages, Arts & Social Sciences	Associate Dean	Professor	Ph.D., Purdue University
Blair, Trevor A	AL	Strategy, Research & Workforce Innovation	Counselor	Instructor	M.S., West Chester University of Pennsylvania
Boamah, Rita	ME	Nursing	Nursing	Professor	D.N.P., Grand Canyon University
Bohn, Carissa	ME	Health Sciences	Radiology	Instructor	A.A.S., Northern Virginia Community College
Bohn, Alexander C	AN	Mathematics, Sciences, Technologies & Business	Physics	Assistant Professor	M.S., California State University - Los Angeles
Bohnstedt, Kathy D	WO	Student Services	Dean, Student Success	Associate Professor	Ph.D., George Mason University
Bomba, Nicholas E	AN	Languages, Arts & Social Sciences	History	Professor	Ph.D., Princeton University
Borgi, Balcha Regassa	WO	Mathematics, Sciences, Technologies & Business	Mathematics	Instructor	M.S., Addis Ababa University
Bose, Sherleen	ME	Health Sciences	Respiratory Therapy	Instructor	B.A., Boise State University
Bozarth, Christine Ann	AL	Mathematics, Sciences, Technologies & Business	Biology	Associate Professor	Ph.D., George Mason University
Bozeman, John	LO	Mathematics, Sciences, Technologies & Business	Environmental Science	Professor	Ph.D., Virginia Tech
Bredeck, Martin Joseph	AN	Mathematics, Sciences, Technologies & Business	Mathematics	Instructor	M.S., Michigan State University
Bridgeforth, Cheri D	AN	Languages, Arts & Social Sciences	English as a Second Language	Professor	Ph.D., Georgetown University
Brooks, Gary D	MA	Mathematics, Sciences, Technologies & Business	Accounting	Professor	D.B.A., University of Phoenix
Brown, Bryan A	WO	Languages, Arts & Social Sciences	Communication Studies & Theatre	Professor	Ph.D., Southern Illinois University Carbondale
Brown, Keith W	AL	Mathematics, Sciences, Technologies & Business	Automotive Technology	Instructor	A.A.S., Northern Virginia Community College

Brown, Robert G	CS	Strategy, Research & Workforce Innovation	Professional Faculty	Instructor	M.A., Miami University
Bryan, Peter	AN	Mathematics, Sciences, Technologies & Business	Biology	Associate Professor	Ph.D., Howard University
Buckingham, Lindsay	LO	Mathematics, Sciences, Technologies & Business	Mathematics	Instructor	M.S., Louisiana State University
Bumgarner, Mark A	WO	Student Services	Associate Dean	Associate Professor	M.Ed., George Mason University
Burkle, Kimberly A	CS	Academic Affairs	Counselor	Assistant Professor	M.A., Monmouth University
Burton, Katherine A	AL	Mathematics, Sciences, Technologies & Business	Chemistry	Professor	Ph.D., Rice University
Bushaw-Newton, Karen Louise	AN	Mathematics, Sciences, Technologies & Business	Biology	Professor	Ph.D., The University of Georgia
Buswell, Scott A	AL	Languages, Arts & Social Sciences	English as a Second Language	Assistant Professor	M.A., West Virginia University
Butu, Emilia V	AL	Mathematics, Sciences, Technologies & Business	Computer Science	Associate Professor	M.B.A., Southeastern University
Callahan, Kathleen	MA	Languages, Arts & Social Sciences	English	Assistant Professor	M.A., George Mason University
Calobrisi, Charlotte M	CS-ABR	Human Resources	Associate Vice President, Human Resources	Associate Professor	M.A., George Mason University
Campbell, Douglas Patrick	LO	Languages, Arts & Social Sciences	History	Professor	Ph.D., University of Maryland - College Park
Campbell, Stephanie D	LO	Languages, Arts & Social Sciences	History	Instructor	M.A., The Catholic University of America
Carrier, Rebeccah C	AL	Student Services	Counselor	Instructor	M.A., Marymount University
Carroll, Alton C	LO	Languages, Arts & Social Sciences	History	Associate Professor	Ph.D., Arizona State University
Carter, Russell M	MA	Mathematics, Sciences, Technologies & Business	Administration of Justice	Professor	D.A., George Mason University
Casal, Laura C	MA	Languages, Arts & Social Sciences	English	Professor	D.A., George Mason University
Cash, Shirley	MA	Information & Engineering Technologies and College Computing	Information Technology	Assistant Professor	M. Ed., Virginia State University
Castaneda, Ivan E	AN	Languages, Arts & Social Sciences	Art	Professor	Ph.D., University of Virginia
Chamberlin, Mihaela	AN	Mathematics, Sciences, Technologies & Business	Chemistry	Professor	Ph.D., University of Maryland - College Park
Chamlou, Afsaneh	AL	Information & Engineering Technologies and College Computing	Information Technology	Professor	D.A., George Mason University
Chan, Elisabeth	AL	Languages, Arts & Social Sciences	English as a Second Language	Associate Professor	M.A., University of Hawai'I at Manoa

Chatterjee, Sumitava	AN	Mathematics, Sciences, Technologies & Business	Mathematics	Assistant Professor	M.Ed., Georgia State University
Chazen, Caitlin	MA	Mathematics, Sciences, Technologies & Business	Geology	Associate Professor	Ph.D., Brown University
Chesky, Elizabeth	WO	Mathematics, Sciences, Technologies & Business	Chemistry	Assistant Professor	M.S., Texas A & M University
Chhetri, Chola	LO	Information & Engineering Technologies and College Computing	Information Technology	Professor	M.S., George Mason University
Chi, Shaoyu	CS	Academic Affairs	Instructional Designer	Professor	Ed.D., Northern Illinois University
Chiles, Adam C	AL	Languages, Arts & Social Sciences	English	Professor	M.F.A., The University of Arizona
Chiles, Emily Bausch	AL	Languages, Arts & Social Sciences	English	Professor	M.F.A., University of Maryland - College Park
Chin, Cameisha	WO	Mathematics, Sciences, Technologies & Business	Business Administration & Management	Assistant Professor	M.B.A., Liberty University
Cho, Sue Jean	AL	Languages, Arts & Social Sciences	History	Professor	Ph.D., Harvard University
Ciarniello, Philip M.	MA	Languages, Arts & Social Sciences	English	Instructor	B.A., Temple University
Cincinnati, Noah	AN	Languages, Arts & Social Sciences	History	Associate Professor	Ph.D., Johns Hopkins University
Cintas, Nicole A	AL	Mathematics, Sciences, Technologies & Business	Biology	Professor	Ph.D., University of California - Davis
Clark, Brenda	ME	Nursing	Nursing	Associate Professor	M.S., University of Maryland - Baltimore
Clark, Donna A	WO	Languages, Arts & Social Sciences	Spanish	Assistant Professor	M.A., The Ohio State University
Clarke, Stephen Thomas	LO	Languages, Arts & Social Sciences	English	Associate Professor	M.A., George Mason University
Cogdill, Cathleen H	MA	Mathematics, Sciences, Technologies & Business	Associate Dean	Professor	Ph.D., George Mason University
Collins, JoAnna	CS	Strategy, Research & Workforce Innovation	Primary Certified Nurse Aide Instructor	Lecturer	B.S.N., James Madison University
Combs, Julie A.	LO	Academic Affairs	Librarian	Instructor	M.L.S., University of Maryland - College Park
Conway, Virginia A	AL	Student Affairs	Counselor	Assistant Professor	M.A., Mary Baldwin University
Cook, Jeremy Daniel	LO	Languages, Arts & Social Sciences	English	Professor	M.F.A., Lindenwood University
Cook, Megan K	ME	Health Sciences	Associate Dean	Professor	D.O.T., Virginia Commonwealth University
Cook, Raymond HD	AL	Mathematics, Sciences, Technologies & Business	Accounting	Professor	M.A., The University of Mississippi
Coppelman, Alexander B	CS	Enrollment Management & Student Services	Counselor	Instructor	M.Ed., The College of William & Mary

Corrigan, Miguel B	LO	Mathematics, Sciences, Technologies & Business	Business Administration & Management	Associate Professor	M.B.A., The University of New Mexico
Cotter, Kerry James	WO	Academic Affairs	Librarian	Associate Professor	M.S., Southern New Hampshire University
Crain, Barbara P	LO	Languages, Arts & Social Sciences	Geography	Associate Professor	M.S., Johns Hopkins University
Credle, Joann O	AN	Student Services	Coordinator	Professor	D.Ed., Indiana University of Pennsylvania
Creppy, Gbago E	LO	Languages, Arts & Social Sciences	Economics	Professor	Ph.D., The American University
Cui, Yingjin	MA	Mathematics, Sciences, Technologies & Business	Computer Science	Associate Professor	M.S., Virginia Commonwealth University
Curtin, Georganne	ME	Nursing	Nursing	Associate Professor	M.S.N., Old Dominion University
Daniels, Jennifer K	CS	Academic Affairs	Associate Vice President, Academic Affairs	Professor	M.F.A., George Mason University
Das, Alpana	AN	Mathematics, Sciences, Technologies & Business	Mathematics	Assistant Professor	M.S., George Mason University
Das, Santwana	MA	Information & Engineering Technologies and College Computing	Information Technology	Associate Professor	M.S., George Mason University
Dasgupta, Samouya	LO	Information & Engineering Technologies and College Computing	Information Technology	Assistant Professor	M.S., Johns Hopkins University
Davies, Margaret E	WO	Languages, Arts & Social Sciences	Psychology	Assistant Professor	M.S., Frostburg State University
Davis, Carolyn G	LO	Information & Engineering Technologies and College Computing	Information Technology	Associate Professor	M.S., The George Washington University
Davis, Martha E	AL	Languages, Arts & Social Sciences	Spanish	Professor	Ph.D., The Catholic University of America
Debes, Paula M	AN	Languages, Arts & Social Sciences	American Sign Language	Associate Professor	M.Ed., Northeastern University
DeGidio, Deanna M	AN	Languages, Arts & Social Sciences	Psychology	Associate Professor	M.A., Cleveland State University
Delacruz, Cynthia	CS	Enrollment Management & Student Services	Counselor	Instructor	M.A., Point Loma Nazarine University
Dellavedova, Elizabeth A	CS	Academic Affairs	Associate Director, Library	Assistant Professor	M.S., Florida State University
Deopujari, Varsha	MEC	Health Sciences	Respiratory Therapy	Assistant Professor	M.D., Nagpur University
DeSenti, Kelly	AN	Student Services	Associate Dean	Assistant Professor	Ph.D., George Mason University
Devine, Erin C	WO	Languages, Arts & Social Sciences	Art	Professor	Ph.D., Indiana University
Diaz, Vanessa Esther	AL	Student Services	Director, Enrollment Success & Central Records	Associate Professor	Ph.D., Texas A & M University
Dickinson, Timothy R	AL	Mathematics, Sciences, Technologies & Business	Administration of Justice	Associate Professor	M.S., Virginia Commonwealth University

Digirolamo, Laurie D	LO	Mathematics, Sciences, Technologies & Business	Mathematics	Instructor	M.A.E., Chadron State College
Dinh, Khanh N	LO	Information & Engineering Technologies and College Computing	Information Technology	Associate Professor	M.S., George Mason University
Dinkelman, Elizabeth A.	AN	Mathematics, Sciences, Technologies & Business	Mathematics	Associate Professor	J.D., Brigham Young University
Disilvio, Elizabeth J	ME	Health Sciences	Dental Hygiene	Associate Professor	M.A.Ed., Phoenix University
Dluger, Marc Alan	LO	Languages, Arts & Social Sciences	History	Professor	Ph.D., Loyola University Chicago
Doctor, Derrick	CS	Enrollment Management & Student Services	Adult Career Pathways Success Coach	Instructor	M.A., Hampton University
Doheney, Karen S	LO	Languages, Arts & Social Sciences	English	Professor	Ph.D., George Mason University
Donadio, Elizabeth	WO	Languages, Arts & Social Sciences	Art	Assistant Professor	M.F.A., Towson University
Donnelly, Michael P	CS	Academic Affairs	Coordinator, University Transfers & Initiatives	Instructor	M.Ed., St. Lawrence University
Dowlati, Ramezan D	LO	Languages, Arts & Social Sciences	Psychology	Professor	Ph.D., The George Washington University
Dowley, Michael	AN	Languages, Arts & Social Sciences	Art	Professor	M.F.A., Savannah College of Art and Design
Dupal, Stephanie E	WO	Languages, Arts & Social Sciences	English	Associate Professor	M.F.A., Fairleigh Dickenson University
Dusek, Robert G	LO	Information & Engineering Technologies and College Computing	Information Technology	Associate Professor	M.S., Pilsen University of Mechanical and Electrical Engineering
Easwarachandran, Jayanthi	CS	Enrollment Management & Student Services	Advising Specialist	Assistant Instructor	A.S., Northern Virginia Community College
Eckler, Gregory	AL	Languages, Arts & Social Sciences	Art	Assistant Professor	M.F.A., Savannah College of Art and Design
Eckstein, Lisa Clare	AL	Languages, Arts & Social Sciences	Music	Associate Professor	D.M.A., George Mason University
Edmead, Krystal	CS	Enrollment Management & Student Services	Director, Accommodations and Accessibility Services	Instructor	M.S., The State University of New York - Buffalo
Edwards, Larry	AL	Mathematics, Sciences, Technologies & Business	Business Administration & Management	Assistant Professor	M.B.A., The George Washington University
Eftekhari, Abbas	AN	Mathematics, Sciences, Technologies & Business	Academic Dean	Professor	Ph.D., The University of Texas at Arlington
Eichers, Richard T	LO	Information & Engineering Technologies and College Computing	Information Technology	Associate Professor	M.S., The Johns Hopkins University
Emblom-Callahan, Margaret C	AL	Mathematics, Sciences, Technologies & Business	Associate Dean	Professor	Ph.D., George Mason University

Embrey, Myles D	MA	Mathematics, Sciences, Technologies & Business	Automotive Technology	Assistant Professor	M.Ed., Marymount University
Epstein, David Aaron	WO	Languages, Arts & Social Sciences	Academic Dean	Professor	M.Ed., Northcentral University
Eriksen, Jamee	CS	Academic Affairs	Director, Faculty Professional Development	Professor	M.A., San Francisco State University
Esparza, Corey Elizabeth	CS	Enrollment Management & Student Services	Counselor	Instructor	M.S., Walden University
Falk, Barry	WO	Mathematics, Sciences, Technologies & Business	Mathematics	Instructor	M.S., Georgetown University
Fancher-Ruiz, Ellen J	AN	Student Services	Dean, Student Success	Professor	Ph.D., George Mason University
Feazell, Monica Neannet	AL	Mathematics, Sciences, Technologies & Business	Chemistry	Professor	Ph.D., Baylor University
Fernandez, David J	AL	Mathematics, Sciences, Technologies & Business	Biology	Professor	Ph.D., The Catholic University of America
Ferrara, Susanna	AN	Languages, Arts & Social Sciences	English	Professor	M.F.A., University of New Orleans
Fiesel, Richard	WO	Mathematics, Sciences, Technologies & Business	Associate Dean	Assistant Professor	M.S., Johns Hopkins University
Fitzgerald, Paul Charles	AN	Mathematics, Sciences, Technologies & Business	Biology	Professor	Ph.D., University of California Davis
Flessert, Amy	AN	Languages, Arts & Social Sciences	English	Associate Professor	M.A., Marymount University
Ford, Paula JoAnn	CS	Information & Engineering Technologies and College Computing	Academic Dean	Professor	M.S., Strayer University
Fournier, Randolph S	LO	Student Services	Dean, Student Success	Professor	Ph.D., Virginia Polytechnic Institute and State University
Fourquet, Natasha	LO	Languages, Arts & Social Sciences	Psychology	Associate Professor	Ph.D., University of California - Los Angeles
Frasinel, Constantin	AN	Mathematics, Sciences, Technologies & Business	Biology	Professor	Ph.D., University of Maryland - College Park
Frasnelli, Michael P	CS	Strategy, Research & Workforce Innovation	Counselor	Instructor	M.Ed., University of Virginia
Fritsche, Steven R	MA	Mathematics, Sciences, Technologies & Business	Accounting	Assistant Professor	Ph.D., The University of Alabama
Gage, Jacqueline L	LO	Languages, Arts & Social Sciences	Art	Associate Professor	M.A., Savannah College of Art and Design
Gaiser, Catherine M	AN	Languages, Arts & Social Sciences	English	Associate Professor	M.F.A., George Mason University
Gallick-Silverstein, Rosemary	MA	Languages, Arts & Social Sciences	Art	Professor	J.D., The State University of New York - Buffalo
Galvan, Kayleen	ME	Nursing	Nursing	Assistant Professor	M.S., The George Washington University

Gandreti, Vijaya	MA	Mathematics, Sciences, Technologies & Business	Biology	Associate Professor	M.S., George Mason University
Garcia-Moreyra, Laura R	AL	Mathematics, Sciences, Technologies & Business	Automotive Technology	Instructor	A.A.S., Northern Virginia Community College
Gardner, Wanda	MEC	Health Sciences	Emergency Medical Services	Instructor	B.S.N., Point Loma Nazarene University
Gardner, Jessica G	AL	Languages, Arts & Social Sciences	Art	Associate Professor	M.F.A., Georgia State University
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Givens, Susannah M	MA	Languages, Arts & Social Sciences	English	Professor	Ed.D., The George Washington University
Givens, Woodnard K	LO	Mathematics, Sciences, Technologies & Business	Biology	Associate Professor	M.P.H., University of Virginia
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Goolsby, Kirk M	AN	Mathematics, Sciences, Technologies & Business	Biology	Instructor	M.S., George Mason University
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Gossai, Hemchand	AN	Languages, Arts & Social Sciences	Associate Dean	Professor	Ph.D., University of St Andrews
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Quinn, Julieanne Peluso	WO	Languages, Arts & Social Sciences	English	Professor	Ph.D., Indiana University of Pennsylvania
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Rainey, Jennifer R	AN	Languages, Arts & Social Sciences	Associate Dean	Associate Professor	M.A., Wake Forest University
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Rashid, Sumera	ME	Health Sciences	Dental Assisting	Professor	D.D.S., University of Medicine & Dentistry of New Jersey
Rasmussen, Kenneth A	AN	Mathematics, Sciences, Technologies & Business	Geology	Professor	Ph.D., The University of North Carolina at Chapel Hill
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Reynolds, Meredith Marie	LO	Languages, Arts & Social Sciences	English	Professor	M.F.A., Hollins University
Rhoney, Douglas E	WO	Student Services	Counselor	Instructor	M.A., Appalachian State University
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Russo, Robyn Dyan	LO	Languages, Arts & Social Sciences	English	Professor	Ph.D., George Mason University
Ryan, Maryellen A.	MA	Languages, Arts & Social Sciences	Economics	Instructor	M.A., Fordham University
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Santelli, Maureen Elizabeth	WO	Languages, Arts & Social Sciences	History	Associate Professor	Ph.D., George Mason University
Sargent, Gary Ray	ME	Health Sciences	Emergency Medical Services	Assistant Professor	B.S., Liberty University
Sarna, Naveen	AL	Languages, Arts & Social Sciences	Economics	Professor	Ph.D., University of Maryland - College Park
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Schetchikova, Nataliya Vladimirovna	AN	Languages, Arts & Social Sciences	English as a Second Language	Professor	Ph.D., Ivanovo State University
Schmitz, John Eric	AN	Languages, Arts & Social Sciences	History	Professor	Ph.D., The American University
Schull, Christine P	AL	Languages, Arts & Social Sciences	Childhood Development	Professor	Ph.D., University of Maryland - College Park
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Smith, Erica R	AN	Languages, Arts & Social Sciences	Sociology	Professor	Ph.D., University of Miami
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Thompson, Susan G	WO	Languages, Arts & Social Sciences	History	Associate Professor	M.A., Kent State University
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Vagts, Brian	AL	Languages, Arts & Social Sciences	History	Assistant Professor	M. Ed., George Mason University
Van Horn, Karen M	AN	Languages, Arts & Social Sciences	English as a Second Language	Instructor	M.A., Regent University
Vanderson, John A	AL	Mathematics, Sciences, Technologies & Business	Chemistry	Instructor	M.S., Virginia Polytechnic Institute and State University
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Via, Brent L	CS	Enrollment Management & Student Services	Associate Director, Career Planning & Development	Assistant Professor	M.Ed., University of California - Los Angeles

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Vidstrand, Anders	LO	Mathematics, Sciences, Technologies & Business	Horticulture	Assistant Professor	M.A., University of California - Davis
Voll, Eric A	LO	Mathematics, Sciences, Technologies & Business	Biology	Associate Professor	Ph.D., Northwestern University
Waetjen, Jarrod R	AL	Languages, Arts & Social Sciences	English	Professor	Ph.D., George Mason University
Wahl, Bruce N	AL	Mathematics, Sciences, Technologies & Business	Mathematics	Professor	D.A., George Mason University
Wallace, Michael D.	LO	Mathematics, Sciences, Technologies & Business	Mathematics	Assistant Professor	M.S., University of Illinois at Urbana-Champaign
Walter, Rebecca	AN	Languages, Arts & Social Sciences	Communication Studies & Theatre	Professor	D.A., George Mason University
Walters, Karen M	AN	Mathematics, Sciences, Technologies & Business	Associate Dean	Professor	Ph.D., University of Kentucky
Wang, Ben B	AN	Mathematics, Sciences, Technologies & Business	Associate Dean	Professor	Ph.D., University of Maryland - Baltimore
Wang, Hong	CS	Academic Affairs	Associate Director, Instructional Technology Training	Professor	Ph.D., Kansas State University
Wangerin, Heidi	LO	Mathematics, Sciences, Technologies & Business	Biology	Assistant Professor	D.V.M., Western University of Health Sciences
Ward, Gloria M	AL	Languages, Arts & Social Sciences	English as a Second Language	Assistant Professor	M.A., San Diego State University
Ward, Jennifer D	AL	Languages, Arts & Social Sciences	English	Professor	Ph.D., University of Denver
Ward, Stephen Drew	AL	Mathematics, Sciences, Technologies & Business	Associate Dean	Professor	Ph.D., Capella University
Warnick, Ashlie C	MA	Languages, Arts & Social Sciences	Economics	Professor	Ph.D., George Mason University
Warren Chinyani, Tamara Jean	WO	Languages, Arts & Social Sciences	Communication Studies & Theatre	Associate Professor	Ph.D., Howard University
Weaver, Jacqueline M.	WO	Languages, Arts & Social Sciences	English as a Second Language	Assistant Professor	M.S.E., Nazareth College
Weber, Lucy	LO	Languages, Arts & Social Sciences	Art	Instructor	M.A., Virginia Commonwealth University
Westerhoff, Matthew S.	MA	Mathematics, Sciences, Technologies & Business	Mathematics	Associate Professor	M.S., George Mason University
White, Karlys V	AL	Languages, Arts & Social Sciences	Associate Dean	Associate Professor	M.A., The Pennsylvania State University
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White, Vicky D	AN	Strategy, Research & Workforce Innovation	Counselor	Instructor	M.S., University of Maryland - Eastern Shore

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Wilder, Amanda Marie	CS	Enrollment Management & Student Services	Counselor	Instructor	M.A., University of Mary Hardin-Baylor
Wilkins, Ashley Mason	MA	Languages, Arts & Social Sciences	Education	Assistant Professor	M.A., University of Phoenix
Wilson, Cedric	WO	Languages, Arts & Social Sciences	Psychology	Associate Professor	Ph.D., Howard University
Wilson, Chevella	CS	Enrollment Management & Student Services	Coordinator, Student Integrity & Conduct	Assistant Professor	Ph.D., North Carolina A & T State University
Winner, Kristine A	LO	Languages, Arts & Social Sciences	Interior Design	Associate Professor	M.A., New School University
Winters, Jennifer	AN	Languages, Arts & Social Sciences	History	Professor	Ph.D., University of St Andrews
Wissing, Stephen R	AN	Mathematics, Sciences, Technologies & Business	Physics	Associate Professor	M.S., The Catholic University of America
Wofsey, Stephen	AN	Mathematics, Sciences, Technologies & Business	Administration of Justice	Professor	Ph.D., Northcentral University
Woldegiorgis, Yared Endalamaw	AN	Mathematics, Sciences, Technologies & Business	Physics	Assistant Professor	M.S., Clemson University
Woodard, William J	MA	Languages, Arts & Social Sciences	English as a Second Language	Associate Professor	M.S., Georgetown University
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Wright, Rebecca B	AN	Mathematics, Sciences, Technologies & Business	Biology	Professor	Ph.D., George Mason University
Wyne, Deborah E	CS	Enrollment Management & Student Services	Dean, Recruitment & Admissions	Professor	Ed.D., Shenandoah University
Young, John Clint	CS	Enrollment Management & Student Services	Associate Director, Communication, Enrollment & Student Services	Instructor	M.B.A., George Mason University
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Zerihun, Melakeselam	WO	Mathematics, Sciences, Technologies & Business	Biology	Professor	Ph.D., Umea University

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Zuniga, Edward	WO	Mathematics, Sciences, Technologies & Business	Associate Dean	Assistant Professor	M.S., Georgetown University

WHAT'S NEW FOR 2026-2027

All revisions are effective Fall 2026
This page highlights significant curricular, program, and academic updates for the 2026–2027 academic year.

Transfer VA Curricular Changes

Stay informed about Transfer VA curricular changes (https://catalog.nvcc.edu/curricular-changes/) that may affect NOVA courses and programs. Visit the Academic Affairs site for the latest updates.

New Programs for 2026-2027

Surgical Technology A.A.S. (p. 135)

Advanced Welding, C.S.C. (p. 139)

Computer Science: Algorithms and Artificial Intelligence, C.S.C. (p. 68)

Magnetic Resonance Imaging (MRI), C.S.C. (p. 126)

Course and General Education Changes

- **New Course**
  ESL 67 English Composition Readiness for English Language Learners - Replaces ESL 95
- **Course added to UCGS and Passport lists**
  REL 238 Religions of the West
- **Revision to Transfer Elective List**
  The list of Transfer Electives for the General Studies degree has been revised. The following courses have been removed: ENG 217, ENG 262, ITP 170, MUS 147, MUS 237, MUS 243, MUS 248, SOC 212, SPA 205, SPA 206, and SSC 115.
  The following courses have been added: ADJ 211, ART 271, BUS 165, BUS 201, ENG 205, ENG 215, and ITE 221.

Discontinued Programs: Final Term to Graduate – Summer 2026

Students enrolled in discontinued programs have three years from the term of discontinuance to complete their program requirements and graduate. Summer 2026 is the final term to graduate for the programs listed below.

Curriculum Code	Degree Type	Name of Program	Discontinuatio Date	Last Date to Graduate
5550	A.A.	Music	Fall 2023	Summer 2026
5590	A.A.A.	Music	Fall 2023	Summer 2026
2650	Certificate	Professional Writing	Fall 2023	Summer 2026
6995	A.S.	General Studies: Health Sciences*	Fall 2023	Summer 2026
8822	A.S.	Teacher Education	Fall 2023	Summer 2026

* Students in the 6995 Program must be moved to program code 620.

Seven Year Rule for Catalog Years

To fulfill the requirements for graduation, the Catalog used for certifying the student's completion of their academic program must not be older than seven years from the date of their graduation. Please see below an example for guidance on how to measure when a student catalog year expire.

Determining the Catalog Year

Catalog Year 2020-2021

Students placed in the following catalog terms in SIS are considered to be placed in the 2020-2021 catalog year: Fall 2020, Spring 2021, Summer 2021.

Catalog Year	Placement
Fall 2020-Summer 2021	1st Academic Year
Fall 2021-Summer 2022	2nd Academic Year
Fall 2022-Summer 2023	3rd Academic Year
Fall 2023-Summer 2024	4th Academic Year
Fall 2024-Summer 2025	5th Academic Year
Fall 2025-Summer 2026	6th Academic Year
Fall 2026-Summer 2027	7th Academic Year

Determining the Graduation Deadline

Last Term to Graduate is Summer 2027

The table below outlines the Seven-Year Rule for catalog years, indicating the last date by which students must complete their degree requirements based on the academic year they entered.

Catalog Year	Last Date to Graduate
Fall 2020-Summer 2021	Summer 2027
Fall 2021-Summer 2022	Summer 2028
Fall 2022-Summer 2023	Summer 2029
Fall 2023-Summer 2024	Summer 2030
Fall 2024-Summer 2025	Summer 2031
Fall 2025-Summer 2026	Summer 2032
Fall 2026-Summer 2027	Summer 2033

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