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.
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 210 Structural Systems (5 CR.)
Introduces the application of the principles of mechanics and strength of materials to the analysis and design of civil engineering structures, specifically in the areas of building and highway construction. Lecture 5 hours per week.
Prerequisite(s) EGR 130 or equivalent

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.
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.

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.

CIV 229 Concrete Laboratory (1 CR.)
Focuses on mixing, curing, testing, and quality control of concrete. Laboratory 2 hours per week.

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.
Prerequisite(s) Statics or divisional approval

CIV 256 Global Positioning Systems For Land Surveying (3 CR.)
Introduces principles of satellite-based surveying and presents the Global Positioning System (GPS) as it is utilized in land surveying. Various components of GPS technology are described and techniques, through which GPS technology can be used in land surveys, are presented. Field exercises will be assigned utilizing GPS equipment as part of the laboratory activities. [This course covers the same content as GIS 256. Credit will not be granted for both courses]. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
Prerequisite(s) CIV 171

CIV 265 Curves And Earthwork (3 CR.)
Studies computations of simple, compound and transition curves; grades and vertical curves; earthwork and haul quantities. Lecture 3 hours per week.
Prerequisite(s) CIV 171

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.