Courses

**CET 0110 Applied Mathematics I: 3 semester hours.**
Algebra, equations and word problems, functions and graphs, geometry, right triangle trigonometry and vectors, factoring and fractional equations. Emphasis on using scientific calculator. Math will be applied to practical lab and field work when possible. F

**CET 0111 Drawing with CAD: 3 semester hours.**
A basic study of mechanical drawing with computer-aided-drafting emphasis. Instructional units include icon uses with layers, linetypes and colors, editing drawings, coordinate usage, polylines, text; hatching, dimensioning, multiview, and layout. Equivalent to GEMT 1111. F

**CET 0112 Beginning Survey: 3 semester hours.**
Introduction to surveying, measurements and computations, basic mathematics for surveying, measuring horizontal distances, principles and procedures of leveling, measuring angles and direction. F

**CET 0113 Civil and Geomatics Engineering Technology I: 2 semester hours.**
Introductory course intended for the purpose of equipping and informing students with knowledge of basic standard concepts and practice of Civil and Geomatics Engineering Technology for both academic and workplace preparedness. Must be admitted to CET program.

**CET 0115A Materials Testing I: 4 semester hours.**
This course will introduce students to testing procedures for testing aggregate, soils, embankment and base, and nuclear densometer. Students will prepare for three Level I certifications through Western Alliance for Quality Transportation Construction (WAQTC). F

**CET 0120 Applied Mathematics II: 3 semester hours.**
A continuation of CET 0110 Applied Mathematics I studying oblique triangle trigonometry and vectors; radians, arc length, and rotations; exponents and radicals, quadratic equations; ratio and proportion, with emphasis on areas relating to Civil Engineering Technology. PREREQ: CET 0110. S

**CET 0121 Civil Engineering Technology Drafting: 3 semester hours.**
Civil Engineering Technology drafting, municipal and rural maps and drawing, drainage applications, plan and profile drawings, cross-sections, earthwork plats, legal descriptions, contour, quantity calculations, and other details relating to civil engineering technology drawings. Computer-aided-drafting (CAD) is used for drawings. Equivalent to GEMT 1121. PREREQ: CET 0111/GEMT 1111. S

**CET 0122 Intermediate Surveying and Spatial Analysis: 3 semester hours.**
Introduction to horizontal control surveys, topographic surveys and maps, horizontal and vertical curves, construction surveying, and basic photogrammetry. PREREQ: CET 0112. S

**CET 0123 Civil and Geomatics Engineering Technology II: 2 semester hours.**
Course intended to introduce students to both contemporary and emerging engineering innovations including equipment, tools, technology and software applications currently used in the fields of Civil and Geomatics Engineering Technologies. Must be admitted to CET program. F, S.

**CET 0125A Materials Testing II: 4 semester hours.**
This course will introduce students to testing procedures for Portland Cement Concrete and nuclear densometer. Students will prepare for two Level II certifications through Western Alliance for Quality Transportation Construction (WAQTC) and one Level I certification through American Concrete Institute (ACI). PREREQ: CET 0115A. S

**CET 0216 Route Survey and GPS Fundamentals: 3 semester hours.**
Study of route surveying and route locations; circular, spiral, and parabolic curves as applied to highway design. Field data will be collected using GPS equipment. Plans will be drawn using CAD and survey/engineering software. PREREQ: CET 0122. F

**CET 0226 Construction Surveying: 3 semester hours.**
Operations in construction surveying. Construction staking procedures and use of data collection software. PREREQ: CET 0216. S

**CET 0228 Principles of GIS: 3 semester hours.**
Study of GIS fundamentals, introduction to GPS, databases, and metadata. Practical application of ESRI ArcView. Build, edit, and query a GIS; basic spatial analysis. Requires competence in computer operating systems. PREREQ: CET 0120. S

**CET 0232 Plan Reading and Worksite Safety: 3 semester hours.**
Introduction to the systems, operation, and maintenance of public utilities including water, wastewater, stormwater, and solid waste. F

**CET 0250 Unmanned Aerial Systems/Imagery Analysis: 3 semester hours.**
This course will introduce the students to the basic operation and uses of unmanned aerial systems. This course will teach students imagery interpretation principles, give them an understanding of the different roles of imagery analysts in an operational environment. Students will receive hands-on operational experience through mission planning, simulation, collecting images and image manipulation using GIS principles. Equivalent to UAS 0250.

**CET 0251 Introduction to Legal Descriptions: 1 semester hour.**
Covers principles of interpretation of land descriptions as found on deeds and plats. S

**CET 0252 3D Laser Scanning: 3 semester hours.**
Introduction to the basic operation and uses of 3D laser scanners. Scanning techniques, setup processes, target acquisition, and point cloud configuration using industry software will be covered. Students will receive hands-on operational experience through project planning, collecting scanned images, and image manipulation. PREREQ: Instructor approval. D

**CET 0296 Independent Study: 1-8 semester hours.**
Addresses specific learning needs of individuals for the enhancement of knowledge and skills within the program under the guidance of an instructor. May be repeated. Graded S/U, or may be letter-graded. PREREQ: Permission of the instructor. D

**CET 0298 Special Topics: 1-8 semester hours.**
Addresses the specific needs of industry, enabling students to upgrade technical skills that are not included in the current program curriculum. May be repeated. Graded S/U, or may be letter-graded. PREREQ: Permission of the instructor. D

**CET 0299 Experimental Course: 1-6 semester hours.**
The content of this course is not described in the catalog. Title and number of credits are announced in the Class Schedule. Experimental courses may be offered no more than three times with the same title and content. May be repeated.