CIVIL ENGINEERING TECHNOLOGY, BACHELOR OF SCIENCE IN CIVIL ENGINEERING TECHNOLOGY

The major in civil engineering technology leads to a Bachelor of Science in Civil Engineering Technology (BSCET) Degree. This program is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org, under the General Criteria and the Civil Engineering Technology and Similarly Named Programs Program Criteria.

Admission

Students are typically admitted into the Civil Engineering Technology (CET) program as high school graduates, transfer students from other colleges, or transfer students from other units at this university. Therefore, students who join the CET program must meet the Colorado State University Pueblo admission requirements as described under admission requirements in this catalog.

Program Education Objectives

The objective of the Civil Engineering Technology (CET) program at Colorado State University Pueblo is to provide an integrated educational experience so that its graduates are:

- Prepared to apply established engineering principles and standards of practice in developing solutions to civil engineering problems, and
- Prepared for successful careers in civil engineering by providing them with the ability to contribute to engineering teams in various practice areas including
  - Civil engineering analysis and design,
  - Construction planning, operations and management,
  - Surveying and standard testing,
  - Technical documentation, and
  - Systems operations, maintenance, and improvement.

Program Emphasis

In order to enable graduates to attain the CET program educational objectives, the CET program provides instruction in the following curricular areas:

- Production of drawings, reports, quantity estimates, and other documents related to civil engineering;
- Conducting standardized field and laboratory tests related to civil engineering;
- Conducting land surveying to obtain civil engineering data and/or to develop construction layouts
- Using fundamental computational methods and elementary analytical techniques applicable to the civil engineering sub-disciplines;
- Preparation of civil engineering design documents for construction;
- Economic analyses and cost estimates for planning, design, construction, operation of civil engineering projects;
- Selection of appropriate engineering materials and practices; and
- Performance of standard analysis and design in the areas of structural, transportation and water systems.

Student Learning Outcomes

- Apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly defined engineering problems appropriate to the discipline;
- Design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline;
- Apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature;
- Conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes; and
- Function effectively as a member as well as a leader on technical teams.

Outcomes Assessment Activities

The program has a documented processes for assessing and evaluating the extent to which student outcomes are being attained. Assessment of student outcomes takes place in individual courses through a variety of methodologies including assigned homework, tests, semester exams, lab reports, oral presentations, and capstone activities. The results of the evaluations are used as input for program improvement actions.

Specific Program Requirements

The CET curriculum consists of courses listed under the following major categories:

Math, Science, & Computer Courses

Course	Title	Credits
CIS 100	Introduction to Word	1
CIS 103	Introduction to PowerPoint	1
CIS 104	Introduction to Excel Spreadsheets	1
CHEM 111 & 111L	Principles of Chemistry (GT-SC2) and Principles of Chemistry Lab (GT-SC1)	4
MATH 120	College Algebra (GT-MA1)	3.0
MATH 124	Pre-Calculus (GT-MA1)	5
MATH 126	Calculus & Analytic Geometry I (GT-MA1)	5
PHYS 201 & 201L	Principles of Physics I (GT-SC2) and Principles of Physics Lab I (GT-SC1)	4
Total Credits		**24**

Technical Sciences for Civil Engineering Technology

Course	Title	Credits
CET 202	Statics	3
CET 206	Strength of Materials	4
CET 222	Dynamics	3
CET 226	Engineering Problem Solving	2
Total Credits		**12**

Civil Engineering Technology Courses

Course	Title	Credits
CET 101	Intro to Civil Engineering Technology	2
CET 102	Surveying I	3
CET 103	Surveying II	3

CET 115	Civil Drafting I	3
CET 116	Civil Drafting II	3
CET 207	Construction Materials and Methods	3
CET 208	Concrete and Asphalt Materials	3
CET 305	Heavy/Highway Cost Estimating	3
CET 315	Soil Mechanics Technology	3
CET 316	Structural Analysis	3
CET 317	Hydraulics	3
CET 372	Traffic Analysis and Control	3
CET 404	Structural Steel Design	3
CET 405	Reinforced Concrete Design	3
CET 412	Hydrology	3
CET 415	Water & Sewer System Design	3
CET 455	Senior Project Seminar	1
CET 456	Senior Project	3
CET 473	Highway Design	3
Total Credits		**54**

Civil Engineering Technology Elective Courses

Course	Title	Credits
Select two of the following:		6
CET 303	Construction Management	3
CET 304	Building Cost Estimating	3
CET 312	Route Surveying	3
CET 401	Land Surveying	3
CET 414	Bridge Design	3
CET 475	Engineer-In-Training Preparation	3
CET 491	Special Topics (credits vary)	1-3
CET 495	Independent Study (credits vary)	1-3
Total Credits		**6**

Technical Electives

Course	Title	Credits
Technical Elective		4
Total Credits		**124**

Co-Curricular Activities

The CET faculty supports and encourages the involvement of civil engineering technology majors in at least one technical organization relevant to the civil engineering discipline.

- Students are required to complete an approved program of study with a cumulative GPA of 2.000 or better in the CET major courses.
- Civil Engineering Technology majors are required to demonstrate the ability to solve problems appropriate to their discipline and to complete a final senior-year technical project requiring a written report and an oral presentation.

Specific Graduation Requirements

- Students are required to complete an approved program of study with a cumulative GPA of 2.000 or better in the CET major courses.
- Civil Engineering Technology majors are required to demonstrate the ability to solve problems appropriate to their discipline and to complete a final senior-year technical project requiring a written report and an oral presentation.

Planning Sheet

Disclaimer: The Planning Sheet is designed as a guide for student's planning their course selections. The information on this page provides only a suggested schedule. Actual course selections should be made with the advice and consent of an academic advisor. While accurately portraying the information contained in the college catalog, this form is not considered a legal substitute for that document. Students should become familiar with the catalog in effect at the time in which they entered the institution.

Course	Title	Credits
Freshman		
Fall		
CET 101	Intro to Civil Engineering Technology	2
CET 102	Surveying I	3
CET 115	Civil Drafting I	3
CIS 100	Introduction to Word	1
CIS 103	Introduction to PowerPoint	1
CIS 104	Introduction to Excel Spreadsheets	1
MATH 120	College Algebra (GT-MA1)	3
	Credits	**14**
Spring		
CET 103	Surveying II	3
CET 116	Civil Drafting II	3
ENG 101	Rhetoric & Writing I (GT-CO1)	3
MATH 124	Pre-Calculus (GT-MA1)	5
General Education: Humanities		3
	Credits	**17**
Sophomore		
Fall		
CET 202	Statics	3
CET 207	Construction Materials and Methods	3
CET 226	Engineering Problem Solving	2
MATH 126	Calculus & Analytic Geometry I (GT-MA1)	5
PHYS 201 & 201L	Principles of Physics I (GT-SC2) and Principles of Physics Lab I (GT-SC1)	4
	Credits	**17**
Spring		
CET 206	Strength of Materials	4
CET 208	Concrete and Asphalt Materials	3
CET 222	Dynamics	3
ENG 102	Rhetoric & Writing II (GT-CO2)	3
General Education: Social Science		3
	Credits	**16**
Junior		
Fall		
CET 305	Heavy/Highway Cost Estimating	3
CET 316	Structural Analysis	3
CET 317	Hydraulics	3
CHEM 111 & 111L	Principles of Chemistry (GT-SC2) and Principles of Chemistry Lab (GT-SC1)	4
CID 103	Speaking & Listening	3
	Credits	**16**
Spring		
CET 315	Soil Mechanics Technology	3
CET 372	Traffic Analysis and Control	3
CET 412	Hydrology	3
General Education: Humanities		3
General Education: Social Science		3
	Credits	**15**

Senior		
Fall		
CET 405	Reinforced Concrete Design	3
CET 415	Water & Sewer System Design	3
CET 455	Senior Project Seminar	1
CET 473	Highway Design	3
CET Elective		3
General Education: History		3
	Credits	**16**
Spring		
CET 404	Structural Steel Design	3
CET 456	Senior Project	3
Technical Elective		3
CET Elective		3
	Credits	**12**
	Total Credits	**123**