

CIVIL ENGINEERING TECHNOLOGY

The Mission of our program is to prepare students for a career in Civil Engineering Technology. CET students are qualified to take the FE (Fundamentals of Engineering) exam in their senior year followed by Professional Engineers exam (PE) after the required years of experience. Graduates of CET program are employed in all levels of government, design and construction firms, manufacturing, sales and testing companies. The job description for CET graduates include planning, designing and constructing structures such as highways, buildings, bridges, railroads, reservoirs, dams, water and sewerage systems, and airports.

The specialized fields within the Civil Engineering Technology Program include the two concentrations: Structures and Construction. The curriculum combines theory and applications in the Civil Engineering areas. The CET graduates apply engineering principles in performing many of the tasks necessary for the planning, designing and construction of highways, buildings, railroads, bridges, reservoirs, dams, irrigation works, water systems, airports and other structures. They participate in estimating costs, preparing material specifications. During the construction phase they work closely with the contractor and the superintendent in scheduling field layout, construction activities, and the inspection of the work for conformity to specifications. In recent years, a major work area has involved environmental problems.

Faculty – The top priority for faculty in the CET program is teaching and advising. With many years of industrial experience, they bring their expertise, relevancy and currency to the classrooms. All current Full-Time Faculty members hold a Ph.D. degree.

Students – Faculty provide each student with individualized counseling, and advising in meeting graduation requirements. Many Civil Engineering Technology students are working part-time or full-time. The program offers several evening courses to accommodate the working student. The CET program's collaboration with the Internship Center of the college offers possibilities for students to gain industrial experience and earn technical elective credits at the same time. Civil Engineering Technology students are active in the American Society of Civil Engineers (ASCE). The ASCE student chapter participates in competitions organized by ASCE and American Institute of Steel Construction (AISC), invites guest speakers to their meetings, organizes field trips, hosts social functions, and provides community service. The Colorado Section of the ASCE and the Younger Member Group (YMG) is a strong supporter of the student chapter. Students involved in the ASCE chapter have a strong link to the industry in the Civil Engineering field. All students who are considering a major in civil engineering technology are expected to consult with CET faculty advisor.

Accreditation – The Civil Engineering Technology Bachelor of Science degree program is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, 415 North Charles Street, Baltimore, MD 21201, Telephone: (410) 347-7700, www.abet.org.



Engineering
Technology
Accreditation
Commission

CIVIL ENGINEERING TECHNOLOGY
Department of Engineering & Engineering Technology
For Students Starting Fall 2019

The specialized fields within the Civil Engineering Technology (CET) Program include two concentrations: Structures and Construction. The curriculum combines theory and applications in the Civil Engineering areas. The CET graduates apply engineering principles in performing many of the tasks necessary for the planning, designing and construction of highways, buildings, railroads, bridges, reservoirs, dams, irrigation works, water systems, airports and other structures. They participate in estimating costs and preparing material specifications. During the construction phase, they work closely with the contractor and the superintendent in scheduling field layout, construction activities, and the inspection of the work for conformity to specifications.

General Studies Requirements– 38 hours

Written Communication (6 credits)

- ENG 1010 - Composing Arguments **Credits: 3**
- ENG 1020 - Freshman Composition: Analysis, Research, and Documentation **Credits: 3**

Oral Communication (3 credits)

- CAS 1010 - Public Speaking **Credits: 3**

Quantitative Literacy (4 credits)

- MTH 1410 - Calculus I **Credits: 4**

Arts and Humanities (6 credits)

- PHI 1030 - Introduction to Ethics **Credits: 3**
 - or PHI 3360 - Business Ethics
- See the General Studies section of the catalog for approved courses.

Historical (3 credits)

- See the General Studies section of the catalog for approved courses.

Natural and Physical Sciences (10 credits)

- CHE 1100 - Principles of Chemistry **Credits: 4**
- CHE 1150 - Principles of Chemistry Laboratory **Credits: 1**
- PHY 2311 - General Physics I **Credits: 4**
- PHY 2321 - General Physics I Laboratory **Credits: 1**

Social and Behavioral Sciences I (3 credits)

- See the General Studies section of the catalog for approved courses.

Social and Behavioral Sciences II (3 credits)

- ECO 2020 - Principles of Microeconomics **Credits: 3**

Global Diversity (0 or 3 credits)

The department recommends that this requirement be met along with the Arts & Humanities, Historical, or Social & Behavioral Sciences general studies choices.

General Studies Total: 38 credits

Multicultural Requirement (0 or 3 credits)

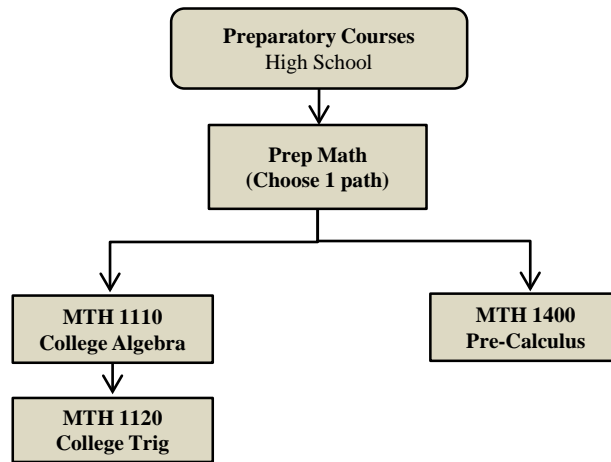
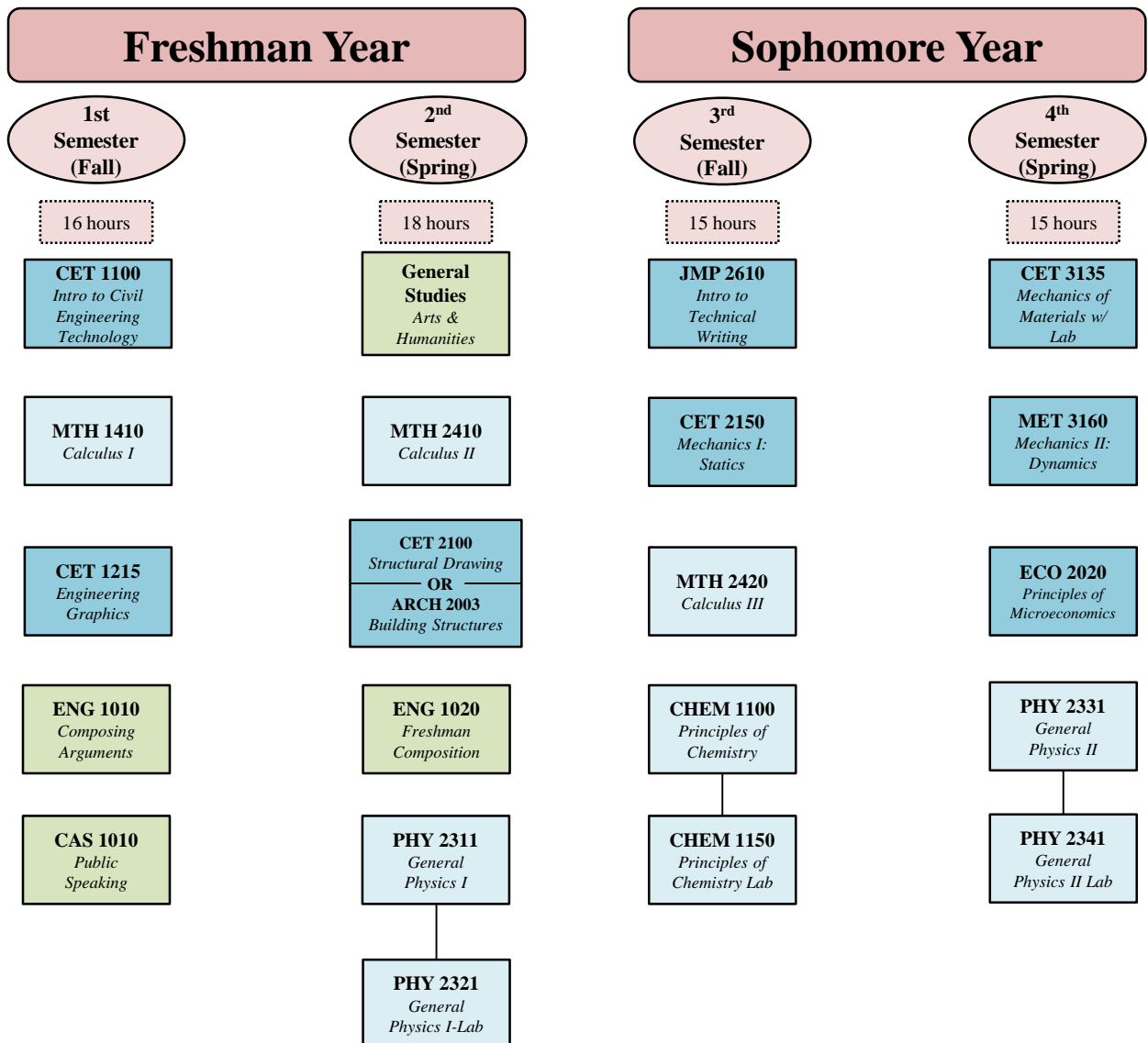
The department recommends that this requirement be met along with the Arts & Humanities, Historical, or Social & Behavioral Sciences general studies choices.

See the Multicultural section of the catalog for approved courses.

Required CET Core Courses

	Required Technical Studies	Prerequisites	Semester Spring - S Summer - Su Fall - F	Credit Hours
_____	CET 1100 Introduction to Civil Engineering Technology	(none)	F, S	3
_____	OR			
_____	CET 1040 Introduction to Engineering	(none)	F, S	3
_____	CET 1215 Engineering Graphics	(none)	F, S	3
_____	ARCH 2003 Building Structures	CET 1215 or IND 1450 or MET 1200 with a grade of "C" or better, or permission of instructor	F, S	3
_____	CET 2150 Mechanics I: Statics	MTH 1410, PHY 2311, Pre/CoReq: PHY 2321	F, S	3
_____	CET 3120 Engineering Economy		F, S, Su	3

See Prerequisites for all classes

*Recommended course rotation:*

Construction Concentration

Junior Year

Fall
Spring
Summer

CET 3185
Fluid Mechanics I for CET

CET 3190
Fluid Mechanics II for CET

CET 4150
Highway Engineering and Surveying

General Studies
S.B.S.

CET 3330
Environmental Tech Processes

EET 2350
Adv. Technical Programming

MET 3110
Thermodynamics

General Studies
History

CET 3120
Engineering Economy

PHI 1030
Intro to Ethics or
PHI 3360
Business Ethics

CET 3100 See rotation table
Construction Methods

CET 3110 See rotation table
Construction Estimating

CET 3170 See rotation table
Intro to Structural Analysis

CET 4450 See rotation table
Timber Design

Senior Year

Fall
Spring
Summer

CET 4130
Soil Mechanics

CET 4135
Foundation & Geotechnical Engineering

CET 4100
Senior Project I

CET 4100
Senior Project I

CET 4110
Senior Project II

CET 4400
Steel Design I

Approved technical elective

CET 4120
Concrete Design I

CET 4570
Engineering Law

CET 3100 See rotation table
Construction Methods

CET 3110 See rotation table
Construction Estimating

CET 3170 See rotation table
Intro to Structural Analysis

CET 4450 See rotation table
Timber Design

Structures Concentration

Junior Year

Fall
Spring
Summer

CET 3185
Fluid Mechanics I for CET

CET 3190
Fluid Mechanics II for CET

CET 4150
Highway Engineering and Surveying

CET 3170 See rotation table
Intro to Structural Analysis

CET 3330
Environmental Tech Processes

EET 2350
Adv. Technical Programming

MET 3110
Thermodynamics

General Studies
History

CET 3120
Engineering Economy

Approved technical elective

CET 4450 See rotation table
Timber Design

Senior Year

Fall
Spring
Summer

CET 4130
Soil Mechanics

CET 4135
Foundation & Geotechnical Engineering

CET 4100
Senior Project I

CET 4100
Senior Project I

CET 4110
Senior Project II

CET 3170 See rotation table
Intro to Structural Analysis

CET 4400
Steel Design I

CET 4410
Steel Design II

CET 4120
Concrete Design I

CET 4140
Concrete Design II

CET 4570
Engineering Law

PHI 1030
Intro to Ethics or
PHI 3360
Business Ethics

General Studies
S.B.S.

CET 4450 See rotation table
Timber Design

***Rotation schedule**

The courses CET 3100, CET 3110, CET 3170, and CET 4450 are offered every other semester as shown in the table below.

Yr	Spring	Summer	Fall
2019	CET3170, CET4450	CET3100, CET3110, CET4100, CET4110	CET3170, CET4450
2020	CET3100, CET3110	CET3170, CET4450 CET4100, CET4110	CET3100, CET3110
2021	CET3170, CET4450	CET3100, CET3110 CET4100, CET4110	CET3170, CET4450

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CET 3135	Mechanics of Materials with Lab	CET 2150, JMP 2610 Pre/CoReq: MTH 2410	F, S	4
CET 3170	Intro to Structural Analysis	CET 3135	See Table 1*	3
CET 3185	Fluid Mechanics I for CET	MET 3160	F	3
CET 3190	Fluid Mechanics II for CET	CET 3185	S	3
CET 3330	Environmental Technology Processes	CHE 1100 or CHE 1800, Junior standing	F, S	3
CET 4100	Senior Project I	CET 3120, JMP 2610, MTH 2420, CAS 1010,	F, Su	1
CET 4110	Senior Project II	CET 4100	S, Su	2
CET 4130	Soil Mechanics	CET 3135, CET 3185, senior standing	F	4
CET 4135	Foundation and Geotechnical Engineering	CET 4130	S	3
CET 4150	Highway Engineering and Surveying	Junior standing	F, S	3
CET 4570	Engineering Law	CET 3120	F, S, Su	3
JMP 2610	Intro to Technical Writing	ENG 1010		3
EET 2350	Advanced Technical Programming	MTH 1400 (or MTH 1110 and MTH 1120)		3
MET 3110	Thermodynamics	MTH 1410, PHY 2311		3
MET 3160	Mechanics II: Dynamics	CET 2150, MTH 2410		3
MTH 2410	Calculus II	MTH 1410		4
MTH 2420	Calculus III	MTH 2410		4
PHY 2331	General Physics II	MTH 2410, PHY 2311, (ENG 1010 or CAS 1010)		4
PHY 2341	General Physics II Lab	concurrent with PHY 2331, MTH 1120 (ENG 1010 or CAS 1010)		1

Construction Concentration – 18 hours

CET 3100	Construction Methods	Junior standing	See Table 1*	3
CET 3110	Construction Estimating	CET 3100	See Table 1*	3
CET 4120	Concrete Design I	CET 3135, Pre/CoReq: CET 3170	F	3
CET 4400	Steel Design I	CET 3135, Pre/CoReq: CET 3170	F	3
CET 4450	Timber Design	CET 3135, Pre/CoReq: CET 3170	See Table 1*	3
Approved technical elective (consult a CET advisor)				

Structures Concentration – 18 hours

CET 4120	Concrete Design I	CET 3135, Pre/CoReq: CET 3170	F	3
CET 4140	Concrete Design II	CET 4120	S	3
CET 4400	Steel Design I	CET 3135, Pre/CoReq: CET 3170	F	3
CET 4410	Steel Design II	CET 4400	S	3
CET 4450	Timber Design	CET 3135, Pre/CoReq: CET 3170	See Table 1*	3
Approved technical elective (consult a CET advisor)				

CET Program Total: 128 credits

<i>General Studies</i>	<i>38 credits</i>
<i>Required CET Core</i>	<i>72 credits</i>
<i>CET Concentration Area</i>	<i>18 credits</i>

*** Table 1**

The courses CET 3100, CET 3110, CET 3170, and CET 4450 are offered every other semester as shown in the table below.

<i>Year</i>	<i>Spring</i>	<i>Summer</i>	<i>Fall</i>
<i>2019</i>	<i>CET3170, CET4450</i>	<i>CET3100, CET3110, CET4100, CET4110</i>	<i>CET3170, CET4450</i>
<i>2020</i>	<i>CET3100, CET3110</i>	<i>CET3170, CET4450 CET4100, CET4110</i>	<i>CET3100, CET3110</i>
<i>2021</i>	<i>CET3170, CET4450</i>	<i>CET3100, CET3110 CET4100, CET4110</i>	<i>CET3170, CET4450</i>

Recommended Optional Minors for CET Majors

The minor cannot be used to replace the concentration.

Architecture Minor – 18 hours

_____	ARCH 2001	Introduction to Architecture	CET 1215	Check dept.	3
_____	ARCH 2002	Architectural Design – Studio 1	CET 1215	Check dept.	3
_____	ARCH 2003	Building Structures	CET 1215 or IND 1450 or MET 1200	F, S	3
_____	ARCH 3001	Architectural Interior Design	ARCH 2002	Check dept.	3
_____	ARCH 3002	Architectural Design – Studio 2	ARCH 2002	Check dept.	3
_____	ARCH 3003	Digital Presentations in Architecture	CET 1215	Check dept.	

Mathematics Minor – 23 hours

_____	MTH 1410	Calculus I	MTH 1110 and MTH 1120 or MTH 1400		4
_____	MTH 2410	Calculus II	MTH 1410		4
_____	MTH 2420	Calculus III	MTH 2410		4
_____	MTH 3130	Adv Matrix Methods for the Physical Sciences	MTH 2410		4
_____	MTH 3420	Differential Equations	MTH 2420		4
		<i>One of the following</i>			
_____	MTH 3210	Probability and Statistics	MTH 2410		4
_____	CS 1050	Computer Science I	permission of Math Dept		4
_____	CSS 1247	Intro to Programming: Visual Basics**	CSS 1010		4

ARCH 2001 – Introduction to Architecture**Credits:** 3 (2 + 2)**Prerequisite(s):** CET 1215 with a grade of “C” or better**Description:** In this course, students will recognize the complexity and beauty of architecture, and develop a specialized area of interest within the field of architecture. The course provides a foundation in the culture of architecture, which students will pursue through affiliated courses on the subject.**ARCH 2002 – Architectural Design – Studio 1****Credits:** 3 (2+ 2)**Prerequisite(s):** CET 1215 with a grade of “C” or better**Description:** In this course, students will focus on a practical, residential building design. The small-scale dwelling design will include the overall process from creating a basic building concept to its finished plan and documentation.**ARCH 2003 – Building Structures****Credits:** 3 (2 + 2)**Prerequisite(s):** CET 1215 or IND 1450 or MET 1200 with a grade of “C” or better, or permission of instructor**Description:** The focus of this course will be on the importance of collaboration between related fields in the building industry, development of the architectural and building structural knowledge of students and encouraging creative design integration through class projects.**ARCH 3001 – Architectural Interior Design****Credits:** 3 (2 + 2)**Prerequisite(s):** ARCH 2002 with a grade of “C” or better**Description:** In this course, students will focus on the dual nature of interior design and architecture. One part will reveal how interior design is an integral part of complex architecture; the other part will show how interior design is independent. The main goal is for students to gain experience in interior design and the exciting world of object design.**ARCH 3002 – Architectural Design – Studio 2****Credits:** 3 (2 + 2)**Prerequisite(s):** ARCH 2002 with a grade of “C” or better**Description:** This course provides a knowledge base in the theory and practice of architecture and urban design, focusing on complex architectural issues. Students will explore the relationship of public building design and urbanism. Students will gain insight into the connections between architectural projects and urban design, and overview urban planning history from its beginnings to the present. Students learn to create large-scale, urban-development projects through case studies that demonstrate design precedents, to procedure, to implementation.**ARCH 3003 – Digital Presentations in Architecture****Credits:** 3 (2 + 2)**Prerequisite(s):** CET 1215 with a grade of “C” or better or permission of instructor**Description:** The course introduces students to traditional and contemporary presentation techniques that could be applied to the professional field to the architecture profession. The goal of the course is to enable students to self-manage their professional life, and creatively use different media platforms.**CET 1040 – Introduction to Engineering****Credits:** 3 (2 + 2)**Prerequisite(s):** Minimum performance standard score on math placement test**Description:** This course is an introductory engineering course exposing students to a cross section of topics in contemporary civil, electrical and mechanical engineering disciplines to assist them with their education career choices. Students are taught to work in teams, introduced to the design process, utilize math and computer programs to analyze raw data and properly display their results in a presentation to their peers. The history of the engineering profession and its relation to current national, social, industrial, ethical, and international issues and problems will be discussed.**CET 1100 – Introduction to Civil Engineering Technology****Credits:** 3 (3 + 0)**Description:** This course is a cross section of topics in contemporary civil engineering disciplines, with emphasis on the tools of engineering problem solving. Students are taught to work in teams and introduced to the design process and to several tools necessary in a civil engineering career. In this course they develop an appreciation of professional topics to include: ethics, respecting others, and professional societies.**CET 1215 – Engineering Graphics****Credits:** 3 (2 + 2)**Description:** Students will be introduced to CAD software to perform geometric constructions, multi-view projections, section views, dimensioning, and solid modeling.**CET 2100 – Structural Drawing****Credits:** 3 (1 + 4)**Prerequisite(s):** CET 1215 with a grade of “C” or better, or Permission of instructor**Description:** This course introduces drawings of structural members and connections, including engineering layouts and detail drawings.**CET 2150 – Mechanics I – Statics****Credits:** 3 (3 + 0)**Prerequisite(s):** MTH 1410 and PHY 2311 with a grade of “C” or better**Prerequisite(s) or Corequisite(s):** PHY 2321**Description:** In this course, students examine principles of statics, studies of vectors, their resolution and composition, forces and moments, force systems and their resultants. It also covers force systems in equilibrium, static friction, introduces section properties, shear and moment diagrams.**CET 3000 - Environmental Engineering Fundamentals****Credits:** 3 (3 + 0)**Prerequisite(s):** CHE 1810. CHE 1811. MTH 2410. ENV 1200**Description:** In this course students are exposed to the interplay between humans, our activities, and the environment around us. Over the course of the semester, they will explore anthropogenic and natural effects on air and water quality, how these systems operate and the application of applied sciences (e.g., physics, chemistry, and biology) to the natural world.**CET 3100 – Construction Methods****Credits:** 3 (3 + 0)**Prerequisite(s):** At least junior standing; or permission of instructor**Description:** This course provide a basic understanding of the method used by a general contractor to determine earthwork costs. The student is introduced to the application of engineering fundamentals for the analysis of heavy earthmoving equipment as well as to the basic concepts of CPM.**CET 3110 – Construction Estimating****Credits:** 3 (3 + 0)**Prerequisite(s):** CET 3100; or permission of instructor**Description:** This course is a continuation of CET 3100, Construction Methods. It provides a basic understanding of the methods used to prepare a building and/or bridge construction cost estimate. The students learn to do quantity takeoff utilizing plans and specifications.**CET 3120 – Engineering Economy****Credits:** 3 (3 + 0)**Prerequisite(s):** At least junior standing, permission of instructor**Description:** This course examines the “time value of money” as a basis for evaluating economic alternatives required in engineering decision-making.**CET 3135 – Mechanics of Materials with Laboratory****Credits:** 4 (3 + 2)**Prerequisite(s):** CET 2150 and JMP 2610 with grades of “C” or better; or permission of instructor**Corequisite(s):** MTH 2410**Description:** This course introduces the theory of strength of materials, stresses, and strains in members subjected to tension, compression, torsion, and shear. Flexural and shearing stresses in beams, principal stresses, and deflection of beams, column analysis, and indeterminate structures are also introduced. The laboratory component of the course is structured to give students experience in the use of laboratory equipment for conducting axial loading, shear and bending tests on various materials.**CET 3170 – Introduction to Structural Analysis****Credits:** 3 (3 + 0)**Prerequisite(s):** CET 3135 with a grade of “C” or better, or permission of instructor.**Description:** This course presents and applies the principles of structural analysis to statically determinate and indeterminate structures.**CET 3185 – Fluid Mechanics I for Civil Engineering Technology****Credits:** 3 (3 + 0)**Prerequisite(s):** MET 3160 with a grade of “C” or better, or Permission of instructor**Description:** This course covers and studies the engineering applications of physical properties of ideal fluids, real fluids, hydrostatics, kinematics, energy considerations, momentum principle, dimensional analysis, and incompressible flow in pipes and ducts.**CET 3190 – Fluid Mechanics II for Civil Engineering Technology****Credits:** 3 (3 + 0)**Prerequisite(s):** CET 3185 with a grade of “C” or better**Description:** This course is a continuation of the fundamentals introduced in Fluid Mechanics I for Civil Engineering Technology, with emphasis on the analysis of forces on immersed bodies, steady flow in open channels, fluid measurements, and the problems associated with unsteady fluid flow.**CET 3320 – Environmental Impact Statements****Credits:** 3 (3 + 0)**Prerequisite(s):** At least junior standing, or Permission of instructor

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Description: This course is a study of the physical and legal requirements of the environmental impact assessment process. Students will learn to do information research and prepare a draft environmental impact statement.

CET 3330 – Environmental Technology Processes

Credits: 3 (3 + 0)

Prerequisite(s): CHE 1100 or CHE 1800 with a grade of “C” or better, at least junior standing; or permission of instructor

Description: This course covers chemistry basics, acid-base reactions, biochemical processes and reactions. Also included is an overview of water and wastewater processes following fieldtrip(s) in this area.

CET 3980 – Internship in Civil Engineering Technology

Credits: 1-15 (0 + 3-45)

Prerequisite(s): Major in civil engineering technology; junior or senior status; permission of instructor

Description: Supervised by a faculty member within the major department, internships provide practical, hands-on experience in a professional field related to the major. Internship placements must be established prior to enrollment in this course in consultation with the Applied Learning Center.

To register with the Applied Learning Center, students must meet the following qualifications:

- Completed at least one semester at MSU Denver
- Sophomore, junior or senior status
- Declared major in an undergraduate program
- 2.5 minimum cumulative GPA at MSU Denver
- Currently enrolled and taking classes at MSU Denver

CET 4100 – Senior Project I

Credits: 1 (0 + 2)

Prerequisite(s): CET 3120, JMP 2610, MTH 2420, and SPE 1010 with grades of “C” or better; completion of General Studies requirements; and Senior standing with a minimum cumulative GPA of 2.0.

Prerequisite(s) or Corequisite(s): CET 4120 and CET 4400

Description: This course requires the planning and designing of a team project in consultation with faculty advisors and industry contacts.

University Requirement(s): Senior Experience

CET 4110 – Senior Project II

Credits: 2 (0 + 4)

Prerequisite(s): CET 4100 with a grade of “C” or better

Description: In this course, the students will build, test, and demonstrate the project they started in CET 4100. Written technical reports and oral presentations on the project are required. Part of this course involves the student working with a faculty member who acts as a consultant.

University Requirement(s): Senior Experience

CET 4120 – Concrete Design I

Credits: 3 (3 + 0)

Prerequisite(s): CET 3135 with a grade of “C” or better, or permission of instructor

Prerequisite(s) or Corequisite(s): CET 3170

Description: This course is a basic introduction to the fundamental principles of reinforced concrete design according to current ACI Code. The course covers flexural analysis and design of beams and one-way slabs, serviceability, bond and development lengths, and shear and diagonal tension.

CET 4130 – Soil Mechanics

Credits: 4 (2 + 2)

Prerequisite(s): CET 3135 and CET 3185 with grades of “C” or better, and Senior standing

Description: This course covers the principles of soil mechanics and fundamentals of application in geotechnical engineering. This course covers soil behaviors and mechanical properties of soil, engineering classification of soil, permeability and seepage, consolidation and settlement, shear strength, lateral earth pressures, fundamentals of retaining structures, soil bearing capacity, and slope stability. This course also provides students the opportunity to obtain “hands-on” experience with some of the laboratory tests, techniques used in geotechnical engineering data collection and analysis methods.

University Requirement(s): Senior Experience

CET 4135 – Foundation and Geotechnical Engineering

Credits: 3 (3 + 0)

Prerequisite(s): CET 4130 with grade of “C” or better

Description: The course applies engineering mechanics and soil mechanics principles to the provision of safe designs for foundations of bridges, buildings, towers and other structures. This course covers the analysis and design of shallow foundations, spread footings, mats, deep foundations, earth retaining structures and site exploration and characterization. It is a practical design course in foundation and geotechnical engineering.

CET 4140 – Concrete Design II

Credits: 3 (3 + 0)

Prerequisite(s): CET 4120 with a grade of “C” or better, or Permission of instructor
Description: This course is a continuation of the fundamentals introduced in Concrete Design I, with emphasis on the analysis and design of columns, footings, retaining walls, two-way slabs, and introduction of principles of prestressed concrete.

CET 4150 – Highway Engineering and Surveying

Credits: 3 (3 + 0)

Prerequisite(s): At least junior standing; or permission of instructor

Description: This course is a specialized course in requirements, functional characteristics, and system characteristics of highway design, incorporating surveying essentials for the civil engineering field. The course develops design methods, procedures, and analysis for pavement design, roadway alignment, and user information for freeways, city arterials, and rural roadways.

CET 4200 – Experimental Methods in Structural Engineering

Credits: 3-6 (0 + 6-12)

Prerequisite(s): CET 3135

Description: In this course, students will be dealing with the aspects of static and dynamic testing methods of structures made of steel, concrete, or timber. Students will be introduced to test planning, specimen design and building, loading systems and instrumentation, data acquisition and processing. They will be involved in laboratory applications and hybrid techniques, illustrative physical and numerical simulations.

CET 4400 – Steel Design I

Credits: 3 (3 + 0)

Prerequisite(s): CET 3135 with a grade of “C” or better, or permission of instructor

Prerequisite(s) or Corequisite(s): CET 3170

Description: This course focuses on the analysis and design of structural steel members, based on the latest edition of AISC design requirements and specifications for structural steel.

CET 4410 – Steel Design II

Credits: 3 (3 + 0)

Prerequisite(s): CET 4400 with a grade of “C” or better, or permission of instructor.

Description: This course is a continuation of the fundamentals introduced in Steel Design I, with emphasis on the analysis and design of structural steel connections, based on the latest AISC design requirements and specifications for structural steel.

CET 4450 – Timber Design

Credits: 3 (3 + 0)

Prerequisite(s): CET 3135 with a grade of “C” or better, or permission of instructor

Prerequisite(s) or Corequisite(s): CET 3170

Description: This course focuses on the analysis and design of wood structures based on the latest edition of the *National Design Specifications for Wood Construction and Supplement*.

CET 4570 – Engineering Law

Credits: 3 (3 + 0)

Prerequisite(s): CET 3120 or Permission of instructor

Description: This course provides the student with a basic understanding of contract laws and regulations, laws that govern the execution of the work being performed under the contract, laws that relate to the settling of differences and disputes, and licensing laws.