

# ASSOCIATE OF APPLIED SCIENCE IN CIVIL AND CONSTRUCTION ENGINEERING TECHNOLOGY

The associate degree program prepares technicians to support civil engineers in structural design, public works, construction, transportation, and environmental engineering. Most graduates are hired by government agencies, consulting engineers, architects, and contractors.

Students in the civil and construction engineering technology (CCET) program may choose to complete two years of study and earn an Associate of Applied Science (AAS) degree. The AAS degree provides early access to employment in engineering support positions. Upon completion of the AAS degree, the student may continue on for the Bachelor of Science in Applied Science (BSAS) degree. This program provides additional coursework, continuing the student's growth to that of an engineering technologist or designer. Exceptional students may be eligible for enrollment in a Master of Engineering or Master of Business Administration program.

## Program Educational Objectives

Educational objectives for the civil and construction engineering technology programs have been developed by faculty and the program industrial advisory committee to support the university, college, and School of Engineering Technology missions. Graduates of the CCET associate degree program are prepared to support civil engineers in:

- structural design
- public works
- construction
- inspection
- transportation
- environmental engineering

## Accreditation and Registration

The civil and construction engineering technology associate is accredited by the ETAC Accreditation Commission of ABET, <http://www.abet.org>.

Date of last campus visit: October, 2017

Accredited through: 2024

Next campus visit: 2023

Link to accreditation body: ABET (<http://www.abet.org>)

| COURSE   | TITLE   | S.H. |
|--|---|------|
| <b>General Education Courses:</b>                    |   |      |
| MATH 1513  | Algebra and Transcendental Function                       | 5    |
| MATH 1570  | Applied Calculus 1  | 4    |
| ENGL 1550  | Writing 1   | 3    |
| ENGL 1551  | Writing 2   | 3    |
| CMST 1545  | Communication Foundations                                 | 3    |
| Social Studies GER                                   |   | 3    |
| PHIL 2625<br>or PHIL 2626                            | Introduction to Professional Ethics<br>Engineering Ethics | 3    |
| PHYS 1501  | Fundamentals of Physics 1                                 | 4    |
| <b>Total General Education Credit Hours: 28 s.h.</b> |   |      |

### Courses in Major:

|  |  |   |
|--|--|---|
| ENTC 1501                                | Introduction to Engineering Technology | 2 |
| ENTC 1505                                | Engineering Technology Concepts        | 4 |
| CCET 1503                                | CAD Technology                         | 2 |
| CCET 1504                                | Drafting and Plan Reading              | 2 |
| MET 1515                                 | Mechanics 1                            | 3 |
| CCET 2604                                | Properties and Strength of Materials   | 3 |
| CCET 2614L                               | Materials Laboratory 1                 | 2 |
| CEEN 2610                                | Surveying                              | 3 |
| CEEN 2610L                               | Surveying Laboratory                   | 1 |
| MET 2616                                 | Mechanics 2                            | 3 |
| CCET 3709                                | Structural Analysis 1                  | 3 |
| CCET 2620                                | Transportation Technology              | 3 |
| CCET 2607                                | Civil 3D                               | 3 |
| CCET 3724                                | Hydraulics and Land Development        | 3 |
| CCET 3706                                | Structural Design                      | 4 |
| CCET 3711                                | Specifications and Estimating          | 3 |
| <b>Total Major Credit Hours: 43 s.h.</b> |  |   |

Total Semester Hours 72

### Year 1

| Fall           | S.H.                                   |    |
|----------------|--|----|
| ENTC 1501      | Introduction to Engineering Technology | 2  |
| ENTC 1505      | Engineering Technology Concepts        | 4  |
| CCET 1503      | CAD Technology                         | 2  |
| CCET 1504      | Drafting and Plan Reading              | 2  |
| MATH 1513      | Algebra and Transcendental Function    | 5  |
| ENGL 1550      | Writing 1                              | 3  |
| Semester Hours |  | 18 |

### Spring

|                    |                                      |    |
|--------------------|--------------------------------------|----|
| MET 1515           | Mechanics 1                          | 3  |
| CCET 2604          | Properties and Strength of Materials | 3  |
| CCET 2614L         | Materials Laboratory 1               | 2  |
| ENGL 1551          | Writing 2                            | 3  |
| PHYS 1501          | Fundamentals of Physics 1            | 4  |
| Social Science GER |                                      | 3  |
| Semester Hours     |                                      | 18 |

### Year 2

| Fall                 | S.H.                                       |    |
|----------------------|--|----|
| CEEN 2610<br>& 2610L | Surveying<br>and Surveying Laboratory      | 4  |
| MET 2616             | Mechanics 2                                | 3  |
| CCET 3709            | Structural Analysis 1                      | 3  |
| CCET 2620            | Transportation Technology                  | 3  |
| PHIL 2626            | Engineering Ethics (Arts & Humanities GER) | 3  |
| CCET 2607            | Civil 3D                                   | 3  |
| Semester Hours       |  | 19 |

### Spring

|                      |                                 |    |
|----------------------|---------------------------------|----|
| MATH 1570            | Applied Calculus 1              | 4  |
| CCET 3724            | Hydraulics and Land Development | 3  |
| CCET 3706            | Structural Design               | 4  |
| CCET 3711            | Specifications and Estimating   | 3  |
| CMST 1545            | Communication Foundations       | 3  |
| Semester Hours       |                                 | 17 |
| Total Semester Hours |                                 | 72 |

## Program outcomes

### ASSOCIATE OF APPLIED SCIENCE in civil and construction engineering technology

Graduates of the Associate Degree in Civil and Construction Engineering Technology will possess the following competencies upon graduation:

- **Learning Outcome 1:** use graphic techniques to produce engineering documents and use modern instruments, methods, and techniques to implement construction contracts, documents, and codes
- **Learning Outcome 2:** conduct standardized field/laboratory testing on civil engineering materials and evaluate materials/methods for construction projects
- **Learning Outcome 3:** utilize modern surveying methods for land measurement and/or construction layout
- **Learning Outcome 4:** determine forces and stresses in elementary structural systems
- **Learning Outcome 5:** estimate material quantities and costs for technical projects
- **Learning Outcome 6:** employ productivity software to solve technical problems