

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. Graduates are hired by consulting engineers, architects, contractors, and government agencies.

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 to the Bachelor of Science in Applied Science (BSAS) degree. This program provides additional coursework, continuing the student's growth to that of an engineer or engineering technologist. 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 the School of Computer Science, Information, and 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

During their first few years after earning the AAS in civil and construction engineering technology degree at YSU, graduates will have demonstrated the ability to:

1. Secure employment and achieve recognition in a technical career related to their civil and construction engineering technology degree.
2. Continue to gain professional knowledge through lifelong learning and communicate effectively in a professional environment.
3. Advance in pursuit of the BSAS degree.

Accreditation

The Associate of Applied Science in Civil and Construction Engineering Technology is accredited by the Engineering Technology Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and the Program Criteria for Civil Engineering Technology and Construction Engineering Technology.

Date of last campus visit: October 2024
Accredited through: 2030
Next campus visit: October 2029

COURSE	TITLE	S.H.
FIRST YEAR REQUIREMENT - STUDENT SUCCESS		
YSU 1500	Success Seminar	1-2
or YSU 1500S	Youngstown State University Success Seminar	
or HONR 1500	Intro to Honors	

General Education Courses:

ENGL 1550	Writing 1	3-4
or ENGL 1549	Writing 1 with Support	
ENGL 1551	Writing 2	3
Gen Ed Math		
MATH 1513	Algebra and Transcendental Function	5-10
or MATH 1510 & MATH 1511	College Algebra and Trigonometry	
or MATH 1510C & MATH 1511C	College Algebra with Co-requisite Support and Trigonometry with Co-requisite Support	
CMST 1545	Communication Foundations	3
Gen Ed AH		
PHIL 2625	Introduction to Professional Ethics	3
Gen Ed NS		
PHYS 1501	Fundamentals of Physics 1	4
or PHYS 2610	General Physics 1	
Courses in Major:		
MATH 1570	Applied Calculus 1	4
or MATH 1571	Calculus 1	
ENTC 1505	Engineering Technology Concepts	4
or ENGR 1550 & ENGR 1560	Engineering Concepts and Engineering Computing	
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

Total Semester Hours 68-75

Year 1

Fall		S.H.
YSU 1500	Success Seminar	1-2
or YSU 1500S	or Youngstown State University Success Seminar	
or HONR 1500	or Intro to Honors	
ENTC 1505	Engineering Technology Concepts	4
or ENGR 1550 and ENGR 1560	or Engineering Concepts and Engineering Computing	
CCET 1503	CAD Technology	2
CCET 1504	Drafting and Plan Reading	2
MATH 1513	Algebra and Transcendental Function	5-10
or MATH 1510 and MATH 1511	or College Algebra and Trigonometry	
or MATH 1510C and MATH 1511C	or College Algebra with Co-requisite Support and Trigonometry with Co-requisite Support	
ENGL 1550	Writing 1	3-4
or ENGL 1549	or Writing 1 with Support	

Semester Hours

17-24

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 or PHYS 2610	Fundamentals of Physics 1 or General Physics 1	4
Semester Hours		15

Year 2**Fall**

CEEN 2610 & 2610L	Surveying and Surveying Laboratory	4
MET 2616	Mechanics 2	3
CCET 3709	Structural Analysis 1	3
CCET 2620	Transportation Technology	3
CCET 2607	Civil 3D	3
PHIL 2625	Introduction to Professional Ethics	3
Semester Hours		19

Spring

MATH 1570 or MATH 1571	Applied Calculus 1 or 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		68-75

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:** ability to 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