

# Construction Engineering Technology

## Bachelor of Science Degree (299103BS)

Accredited by the Engineering Technology Accreditation Commission of ABET, <http://www.abet.org>

A completed Associate of Applied Science Degree in Construction Engineering Technology is a requirement of the Construction Engineering Technology Bachelor of Science Degree. Please refer to the Construction Engineering Technology, Associate of Applied Science Curriculum Guide for further information.

The following information has official approval of The University of Akron's College of Applied Science and Technology but is intended only as a guide. Official degree requirements are established at the time of transfer and admission to the degree-granting college. Completion of this degree within the identified time frame below is contingent upon many factors, including but not limited to class availability, total number of required credits, work schedule, finances, family, course drops/withdrawals, successfully passing courses, and prerequisites, among others. The transfer process is completed through an appointment with your Academic Advisor.

*Italicized* courses fulfill General Education requirements. If a course is not specified, refer to the General Education webpage at <http://www.uakron.edu/cast/gened>. The College of Applied Science and Technology recommends that students take the General Education courses listed in this curriculum guide. Transfer students should consult their Advisor to identify courses that are equivalent.

Year 3 Fall	Prerequisite
3400:210 Humanities in the Western Tradition I (4) -OR- 3400:221 Humanities in the World Since 1300 (4) -OR- Humanities Requirement (4) (Note f)	32 credits and completion of 2020:222 or 3300:112 or 3300:114 or permission
2990:352 Field Management and Scheduling (2) (Sch. lab) (Note a)	2990:245 or permission
2990:354 Foundation Construction Methods (Note a)	2990:234
2040:244 Death and Dying (3) -OR- 2040:256 Diversity in American Society (3) Either Course Fulfills Domestic Diversity Tag	2020:121, or 3300:112 or equivalent
2030:356 Technical Calculus II (3)	2030:255 or equivalent with C- or better or placement by Advisor
<b>Total Credits = 15</b>	

Year 3 Spring	Prerequisite
2990:371 Green and Sustainable Building Practices (3) (Note b)	
2990:356 Safety in Construction (3) (Note b)	
2990:358 Advanced Estimating (3) (Note b)	2990:245 or permission
7100:210 Visual Arts Awareness (3) -OR- 7500:201 Exploring Music, Bach to Rock (3) -OR- 7900:200 Viewing Dance (3) -OR- Arts Requirement (3) (Note f)	3400:210 or 3400:221 3400:210 or 3400:221 3400:210 or 3400:221
6200:201 Accounting Principles I (3) -OR- 2420:211 Basic Accounting I (3)	24 credits completed
<b>Total Credits = 15</b>	

Year 3 Summer	Prerequisite
Cooperative Work Study (15 Weeks)	Minimum of 64 credits completed

Year 4 Fall	Prerequisite
3300:252 Shakespeare and His World (3) -OR- 3600:101 Introduction to Philosophy (3) -OR- Arts or Humanities Requirement (3) (Note d)	For 3300:252 only: 2020:121 and 2020:222 or their equivalents, and 3400:210 or 3400:221
Technical Elective (3) (Note c)	
2990:462 Mechanical Service Systems (3)	
2990:468 Construction Management (3) (Note a)	2990:352, 358, Senior level standing
2990:469 Construction Contracts and Specifications (2)	Prerequisite: Admission to BSCET program or permission
<b>Total Credits = 14</b>	

Year 4 Spring	Prerequisite
Complex Systems Tag Requirement (3)	
2990:453 Legal Aspects of Construction (2) (Note b)	Admission into BSCET program or permission of instructor.
2040:243 Contemporary Global Issues (3) Fulfills Global Diversity Tag	
2990:463 Electrical Service Systems (3)	
2990:466 Hydraulics (3) (Note b)	2030:356
5550:211 First Aid and Cardiopulmonary Resuscitation (2)	
<b>Total Credits = 16</b>	

**Total Credits for Degree = 121 (3<sup>rd</sup> and 4<sup>th</sup> Year = 60; Associate Degree = 61)**

**Policy Alert: By the end of your first 48 credit hours attempted, you must have completed your REQUIRED General Education English, Mathematics, and Communications (Speech) requirements.**

**You must have a minimum cumulative GPA of a 2.0 to graduate with this degree.**

Notes:

- Fall course offering only.
- Spring course offering only.
- Technical Electives subject to enrollment demands and classroom schedules.
- Must be a course in the Ohio Transfer Module.

2870:332 Management of Technology Based Operations (3)	
2990:310 Residential Building Construction (3)	
2990:312 Neighborhood Revitalization Project (3)	
2990:359 Construction Cost Control (3)	6200:201 or instructor permission
2990:361 Construction Formwork (3)	2990:234 or permission
2990:362 Advanced Elements of Structures (3)	2990:234
2990:465 Heavy Construction Estimating (3)	2990:245
2990:471 Understanding LEED Guidelines (3)	2990:371 or permission
2990:489 Special Topics in Construction (1-3)	Permission of Instructor
2990:490 Workshop in Construction (1-3)	Department Consent Required
2990:497 Honors Project (1-3)	Department Consent Required
2990:498 Independent Study in Construction (1-3)	Department Consent Required

### Program Contact

Program Director, Prof. Marcia Belcher, P.E., Schrank Hall South 221J, 330-972-2055 or [mcbelcher@uakron.edu](mailto:mcbelcher@uakron.edu)

### Program Description

The B.S. in Construction Engineering Technology degree program is an upper-level degree program designed to provide the student with additional education beyond the AAS degree in Construction Engineering Technology. This degree is also designed to meet the formal education requirements for registration as a Professional Engineer in the State of Ohio.

This degree program is defined as follows:

- The first two years are completed as an AAS degree in Construction Engineering Technology or similarly based program.
- Two years of additional prescribed coursework.
- A cooperative work experience in the construction field. The student normally enters the co-op segment between the junior and senior years.

The B.S. in Construction Engineering Technology degree program includes classroom, laboratory and industry experiences which prepares students for careers in the construction industry and other allied industries.

### Career Opportunities Available

Individuals working in the field of construction engineering technologies use knowledge of construction methods, business operations and management skills to support construction projects. They work on residential or commercial buildings, bridges, roads, dams, wastewater treatment systems, or other similar projects. Common jobs assumed by graduates of this program include:

- **Field Engineer** - Monitors activities at construction sites. Works to ensure construction progresses as scheduled and contract specifications are adhered to. Inspects construction site daily and works with contractors to complete scope items.
- **Project Engineer** - Under the supervision of the Project Manager, provides technical support to construction staff. Reviews plans and other technical documents, answers questions regarding the scope and/or timing of the project, and monitors costs and project progress.
- **Construction Manager** - plan, organize, direct and coordinate building projects. Often called project managers, constructors, construction superintendents, project engineers, construction supervisors, or general contractors.
- **Construction Inspector** - ensure that construction, alteration, or repair complies with building codes and ordinances, zoning regulations, and contract specifications
- **Construction Coordinator** - coordinates construction scheduling and communication and acts as a liaison to project management concerning bids, subcontracting, progress and delays.
- **Cost Estimator or Cost Engineer** - responsible for creating the budget for a project to bid on it or aid in the project's management. Monitors and analyzes project cost estimates, expenditures, and forecasts.
- **Scheduler** - planning and scheduling of construction work and work crew. Gathers and analyzes information to prepare reports on the progress of projects.
- **Engineering Technician** - use the principles and theories of science, engineering, and mathematics to solve technical problems in research and development, manufacturing, sales, construction, inspection, and maintenance.

#### Requirements for Admission

Applicants for the Construction Engineering Technology program must hold an associate degree in Construction Engineering Technology from an accredited program or provide evidence of an equivalent academic background. The applicant must have a minimum cumulative grade-point average of 2.0 out of a possible 4.0.

Applicants with an associate degree in a discipline other than Construction Engineering Technology will be required to complete a specific formal set of courses as specified at the time of admission. Final approval for admission is based upon recommendations from the Director of the Construction Engineering Technology Program.

#### Cooperative Work Study Requirement

The required cooperative work study experience of the Construction Engineering Technology program may begin after the student has completed 64 hours of course work in the Construction Engineering Technology program. This requirement may be satisfied by one of the following options:

- a) One semester\* co-op registered with the Center for Career Management.
- b) 120 service hours with a credible construction organization.\*\*
- c) One calendar year of full-time, continuous, and ongoing employment in a construction management related position.\*\*

\* Summer I and II combined count as one semester for the co-op.

\*\* For options B and C, a portfolio of work must be submitted to and approved by the Program Director. The portfolio will include but not be limited to a description of the various work, evidence of work such as supervisor letters or certificates, and a technical paper, addressing a relevant topic associated with the work.

#### Requirements for Graduation

- Compliance with the requirements of the general education program as outlined in this Bulletin.
- Completion of the requirements for the associate degree in Construction Engineering Technology at The University of Akron or an approved associate degree program

Successful completion of a minimum of 121 credits in the B.S. in Construction Engineering Technology Program including the associate degree program, the general education courses, co-op/work study, and Year 3 and Year 4 course requirements.

#### Transfer to the College of Applied Science and Technology

To be admitted to the College of Applied Science and Technology, a student must have a GPA of 2.0. A student can complete the transfer process through an appointment with an Academic Advisor in the college in which they reside.