CET Program Vision

The Construction Engineering Technology Program is focused on providing distinctive education and experience through its program aiming to serve the educational needs of the construction industry. This major industry includes a variety of large general contracting firms, small specialized contractors, materials suppliers, equipment manufacturers, and the design services of architects and engineers. The wide choice of career opportunities includes estimator, field superintendent, construction scheduler, expediter, project manager, materials technician, architectural/civil technician, and other similarly related occupations.

The program strives for excellence in teaching and learning, community awareness, professionalism and studying the development and application of new technologies. Each year construction contractors, consulting engineering firms, laboratory testing companies, materials suppliers and government agencies contact the program’s director and the University’s Career Center seeking associate and baccalaureate degree graduates for work in the Northeastern Ohio region and in other parts of the country.

Mission

The mission of the Construction Engineering Technology program is to provide opportunities for all students, regardless of age, educational, societal, or cultural background, to reach their educational goals in the area of construction engineering technology. The program shall provide comprehensive, quality technical education that prepares students for careers in construction engineering technology. The program shall provide employers and the public of northeastern Ohio with educated, technologically equipped graduates, able to serve the varied construction industries’ needs for solutions to problems facing the public and private sector. Persons enrolled in the program may earn an AAS or a BS. Additionally, the program offers certificate programs in areas of economic demand to both degree and non-degree seeking students.

Core Values

The Construction Engineering Technology Program is committed to:

- Continuous improvement
- Enhancing student learning
- Providing students with the tools to work in continuous improvement and learning beyond graduation
- Providing an environment of committed teaching and application of knowledge
- Keeping state-of-the-art equipment and laboratories conductive toward discovery and application of new technologies
- Encouraging students to become model citizens with strong sense of ethics and duty
There are CET Program objectives, strategies, and plans within each of the following management areas:

1. Credit Program Management/Accreditation
2. Documentation
3. Marketing/Enrollment/Retention
4. Faculty expertise
5. Industry awareness & keeping with current industrial technology
6. Student extra-curricular activities

**AAS CET Program Objectives:**

AAS Educational Objectives (Updated Fall 2019)
Graduates of the associate degree program will have developed:

- a sound understanding of construction concepts and technical skills needed for employment as a technician or first-line supervisor in the Construction Engineering Technology field.
- an appropriate level of specialized technical expertise to perform construction materials testing for quality control.
- a narrowly-based level of expertise related to maintenance of buildings and infrastructure.
- the ability to interpret construction drawings/documents and effectively communicate job-related information.

BS Educational Objectives (Updated Fall 2019)
Graduates of the BS CET degree program will have developed:

- a sound understanding of the concepts of construction engineering, including fundamentals of design and project management.
- the technical skills needed for successful employment as a leader/manager in the construction engineering technology field.
- an appropriate level of broad-based technical expertise related to construction administration and project management.
- the knowledge and dexterity to perform effectively in the workplace with the communication skills needed to deal with fellow workers, clients and the public.

**CET Program Strategies:**
1. Continuously satisfying the ABET guidelines regarding CET Program requirements.
2. Continuously manage the operation of the CET Program to include the following activities:
   a) program requirements
   b) course requirements
   c) course scheduling
   d) textbook selection
   e) directing the CET program budget and all program purchases
   f) assigning and monitoring all CET faculty
   g) directing all CET program data collection and analysis and all program assessment initiatives
   h) directing all CET Program-related articulation/transfer initiatives
   i) managing any and all CET program-related activities as requested by the department, the college, or the university
3. Continuously collect and manage useful data through surveys, focus groups, formal and informal discussions, and periodic meetings with faculty, students, graduates, advisory committees, and other appropriate groups and individuals.
4. Develop and maintain CET-related student clubs and other professional relationships for CET students.
6. Create, update and promote programs, options and certificate courses that will aid employers in ensuring continuous learning and improvement of their employees.

CET Program Plans:

1. **Course & Program Analysis & Evaluation**
   - Use the standard College Evaluation Form for ALL CET courses.
   - Each full time faculty member must collect other course improvement data for each course taught.
   - Manage informal program-improvement data. This shall include random student/faculty discussions, phone calls from local industry, graduates, etc.

2. **Employer Survey**
   - Periodically, surveys will be sent to employers to obtained their input in issues like:
     1. The ability to solve technological problems.
     2. The level of preparedness to function at entry level.
     3. The ability and willingness to engage in lifelong learning
     4. The ability to function effectively in diverse work teams
     5. The understanding and application of ethics in job related decisions.
     6. The ability to communicate effectively.
   - Information gathered from these surveys will help to determine strengths and weaknesses of the program in order to establish method of improvement. These data can be used in conjunction with input from alumni survey and input from the Industrial Advisory Committee.
3. **Faculty expertise data**
   - The Department of Engineering & Science Technology gathers information on all faculty (tenured, tenure track and part-time) regarding licensure, certifications, educational background, scholarly & professional activities, Department/College/University Service, organization membership, awards, publications, and community and consulting services.
   - With the appropriate university administrative support, manage all CET Program faculty through the following:
     i. Maintain a yearly updated list of qualified potential CET faculty.
     ii. Monitor the performance of all CET faculty each semester.
     iii. Promote professional development of faculty through participation in seminars, conferences and training courses.

4. **Enrollment & Retention**

   With the appropriate university administrative support, the CET Program shall:

   - A CET program member will actively serve on the appropriate Engineering & Science Technology Department marketing/enrollment/retention committee each academic year.
   - The CET program shall administer student scholarship for all sponsoring agencies. This shall include the timely distribution of forms for all students and a centralized location for obtaining and submitting application shall be maintained.
   - To help develop semester schedules and to monitor the program strategic plan, enrollment data shall be kept that indicates:
     i. The number of student credit hours taken by students enrolled in the program per semester
     ii. The courses offered every semester
     iii. The number of graduating seniors each semester

5. **Industrial Advisory Committee (IAC)meetings**

   - Faculty members of the department shall have at least one annual meeting with the IAC to obtain input on curriculum updating, latest trends in the industry and latest technology, equipment and software used.
   - Minutes of these meetings shall be kept in the department’s office files.
   - The program shall recruit engineers and construction management experts from local industry to serve on the IAC.
   - The data shall be used to align the education provided in the program with industry needs and trends.
6. **Student Professional/Community Awareness & Extra-curricular Activities**
   - The Construction Program shall maintain at least one student focus group per academic year.
   - Students will be provided with opportunities, through the Construction program, to participate in community service events doing work related to their field.
   - With the appropriate university administrative support, the Construction program faculty shall perform the following CET student extra-curricular activities:
     i. Advise and maintain a student chapter of CMAA (Construction Management Association of America) on a yearly basis.
     ii. Provide an active faculty advisor for this student club.
     iii. Encourage membership in all professional society appropriate for CET student participation. (Can include engineering technology honor societies, technology and engineering professional societies, other university clubs, organizations, and groups.)
     iv. Encourage student participation in all appropriate career fairs and activities. (Can include engineering technology career days, use of the Career Center, co-op and intern opportunities, etc.)
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<th>Program Education Objectives</th>
<th>Related Program Outcomes</th>
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| To develop in students a sound understanding of the concepts of construction engineering and the technical skills needed for successful employment in the Construction Engineering Technology field and related areas of employment. | MASTERY OF KNOWLEDGE AT AAS LEVEL: Students will demonstrate mastery of appropriate technical expertise at the AAS Level including skills in:  
   a. construction materials testing;  
   b. operation & maintenance of buildings and infrastructure;  
   c. utilization of basic construction documents to participate in construction activities;  
   d. utilizing techniques that are appropriate to administer and evaluate construction contracts, documents, and codes. |
| To develop in students an appropriate level of narrowly-based technical expertise. | Demonstrate an ability to select and apply knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies.  
Demonstrate an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes; |
| To develop in students the knowledge and dexterity to perform effectively in the workplace with the communication skills needed to deal with fellow workers, clients and the public. | Demonstrate an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature. |
| To develop in students the ability to function appropriately in a diverse and changing business environment | Demonstrate an ability to function effectively as a member or leader on a technical team  
Demonstrate a knowledge of the impact of engineering technology solutions in a societal and global context; |
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<tr>
<th>Objective</th>
<th>Description</th>
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<td>Develop ethics, professionalism, diversity, and global issues.</td>
<td>Demonstrate understanding and commitment to address professional and ethical responsibilities including a respect for diversity.</td>
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<td>Develop ability to function as a professional and responsible person.</td>
<td>Demonstrate commitment to quality, timeliness, and continuous improvement.</td>
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<td>Develop desire and ability to engage in lifelong learning.</td>
<td>Demonstrate understanding of the need and ability to engage in self-directed continuing professional development.</td>
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### AAS: Outcomes Mapping for CET Courses

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>2990:125</td>
<td>Statics</td>
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<td>2990:131</td>
<td>Build. Const.</td>
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<td>2990:150</td>
<td>Plan Reading</td>
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<td>2990:225</td>
<td>Strength of Mat.</td>
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<td>2990:234</td>
<td>Elem. Structures</td>
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<td>Mat. Test. I</td>
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<td>2990:238</td>
<td>Mat. Test. II</td>
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<tr>
<td>2990:245</td>
<td>Const. Estimating</td>
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<tr>
<td>2990:246</td>
<td>Site Engineering</td>
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### AAS Required Courses

- Mastery of appropriate knowledge, techniques, skills of discipline

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## AAS: Outcomes Mapping for CET Courses

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<tr>
<td>Select and apply knowledge of mathematics, science, engineering, and technology to problems</td>
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<td>Conduct, analyze, and interpret experiments, apply experimental results</td>
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<td>Identify, analyze, and solve broadly-defined engineering technology problems</td>
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<td>Apply written, oral, and graphical communication; use literature.</td>
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<td>Work effectively as a member or leader on a technical team.</td>
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<td>Demonstrate an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity.</td>
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<td>Demonstrate a knowledge of the impact of engineering technology solutions in a societal and global context.</td>
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**AAS REQUIRED COURSES**

Demonstrate a commitment to quality, timeliness, and continuous improvement and recognize the need for, and an ability to engage in lifelong learning. X
CET Program Assessment Plan:

The following personnel and tools are used for the continuous assessment and improvement of the CET Program including all required courses within the program:

1. A CET Industrial Advisory Committee comprised of the following stakeholders in the CET Program: five local professionals involved in the CET field, all full-time CET faculty, one part-time CET faculty member, one CET graduate, one current CET student. At least 1/3 of the Committee membership will be changed every third year.

2. The CET Industrial Advisory Committee communicates (via meetings, e-mail, phone or mail) at least once per semester and meets personally at least once per year. The primary responsibility of this committee is to set the Program Educational Objectives and the Program Outcomes, to provide advice on current trends, equipment, and methods, and to provide input regarding individual course learning outcomes. Written minutes of all meetings are produced.

3. The content of the Program Educational Objectives and the Program Outcomes are reviewed for modification at least every third year.

4. Each CET Faculty member analyzes at least one CET course per semester to match and verify course learning outcomes with the Program Outcomes and with Program Educational Objectives. Results of student performance and student surveys are accumulated, organized AND evaluated for continuous improvement by the faculty. Each CET course will be evaluated at least once per three year cycle beginning Spring 2007.

5. Each CET faculty member uses the Summit College Evaluation Form for all courses taught.

6. The CET faculty review and modify learning outcomes as needed based on the recommendations from items 4 and 5 above.