

Construction Engineering Management Technology (CEMT)

Assessment Implementation Plan

Introduction

The CEMT Assessment Implementation Plan addresses the following items:

- Strategic Plan
- Mission Statement
- Program Outcomes
- Student Learning Outcomes
- Course Learning Outcomes
- First Destination Survey
- Graduating Senior Exit Interviews
- Course Assessment Reports
- Employer Evaluation Survey - CEMT 39000 (Internship)
- Student Evaluation Survey - CEMT 39000 (Internship)
- CEMT IAB Course Reviews

Strategic Plan

CEMT Strategic Plan was implemented in May 2018 at the same time as the strategic plan of the School of Engineering and Technology. Both are 5-year plans and run through April 2023. The initiatives and action items will be reviewed by CEMT faculty in August at the department retreat. This review identifies which action items can be accomplished during the upcoming academic year and how much progress should be made on other action items. At the May 2019 CEMT Program meeting, initiatives and action items will be evaluated to determine which actions were accomplished and the percent or progress on other actions. In addition, modifications to the strategic plan will be discussed and necessary revisions will be adopted.

Mission Statement

The purpose of the CEMT Mission Statement is to provide focus and direction for the program. Mission statements typically do not change on a regular schedule. The CEMT Mission Statement is discussed periodically at program meetings and IAB meetings. Rephrasing may be suggested and if appropriate will be incorporated into the mission statement.

Program Outcomes

The CEMT Program Outcomes describe the career and professional accomplishments that we expect our graduates to achieve early in their careers. Assessment of the Program Outcomes occurs on a 3-year cycle. The next assessment of the Program Outcomes will be conducted in May 2020 by alumni of the CEMT Program. Suggestions for modifications to the outcomes will be solicited.

Student Learning Outcomes

The Program Learning Outcomes are the ACCE Student Learning Outcomes (1-20). Both Direct and Indirect Measures are used to assess and evaluate the Student Learning Outcomes. The Indirect Measure is the ACCE Student Learning Outcome Survey (Graduating Senior Exit Survey). Data is collected every semester in November and April. The Indirect Measure is evaluated at the time each Student Learning Outcome is evaluated, as indicated on the Student Learning Outcome Assessment Schedule on page 4.

The Direct Measures of the Student Learning Outcomes are performed at the course level using a variety of assessment tools. Data for the Direct Measures is collected annually and evaluated on a 2½- year cycle as indicated in the Student Learning Outcome Schedule.

Course Learning Outcomes

Data for the Course Learning Outcomes is collected every semester and evaluated annually in the form of a Course Assessment Report which is reviewed by the Program Director and the CEMT Curriculum Committee. Changes to Course Learning Outcomes are discussed, and if appropriate, are implemented in the syllabus and course delivery.

First Destination Survey

The Career Center administers the First Destination Survey. Data is collected every semester for CEMT 39000 (Internship). Data is compiled for the calendar year (spring, summer, and fall semesters). A report is published in May for the data from the previous calendar year.

Graduating Senior Exit Interviews

The Graduating Senior Exit Interviews is administered by the CEMT IAB and consist of a written section and an oral interview (which is transcribed by the IAB interviewers). The exit interviews are conducted every semester in December and April. Results of the Graduating Senior Exit Interviews are sent to CEMT faculty and the CEMT IAB for discussion at a future meeting.

Course Assessment Reports

As described in Course Learning Outcomes, data for course assessment reports is collected every semester and evaluated annually.

Employer Evaluation Survey - CEMT 39000 (Internship) and Student Evaluation Survey - CEMT 39000 (Internship)

These two surveys are required components of CEMT 39000 - Construction Experience (internship). Every semester the employers evaluate their experiences with the internship and the interns evaluate their experience at that firm. All the data is recorded in a spreadsheet. As part of the grading rubric for CEMT 39000, the employer evaluation and the student evaluation are reviewed. Where appropriate the Program Director extracts data and provides comments that could be used for program and course improvement. The employer survey also serves as a means of connecting the program to an individual firm for networking and can serve as a recruiting tool for membership to the CEMT IAB.

CEMT IAB Course Reviews

Prior to the May 2017 spring semester, the CEMT IAB Course Reviews we attempted for all courses once every academic year with partial success. Some courses were not reviewed. The courses that were reviewed had mixed results. Some of the reports provided valuable information and some did not. Beginning in the 2018 fall semester, a set schedule of course reviews has been established and is located on the last page of this report.

Assessment Schedule

The following tables present a graphic representation of the Annual Assessment Schedule for assessment measures and tools used by the CEMT Program. The first table list the assessment measures and tools where data is collected every semester and evaluated at least annually.

Annual Assessment Schedule (E = Data Evaluated)		
Measure / Tool	December	May
First Destination Survey		E
Graduating Senior Exit Interviews	E	E
Faculty Course Assessment Reports Course Learning Outcomes		E
Employer Evaluation Survey	E	E
Student Evaluation Survey	E	E

The tables on the following pages show the assessment schedule for the Student Learning Outcomes (1-20) and the CEMT IAB Course Reviews. Where possible the IAB Course Reviews were aligned with the evaluation of Student Learning Outcome(s) associated with that course. This is not always possible since the evaluation of Student Learning Outcomes is not associated with every course and some courses evaluate multiple Student Learning Outcomes.

Student Learning Outcome Assessment Schedule (E = Evaluated)

ACCE Student Learning Outcomes	Dec 2018	May 2019	Dec 2019	May 2020	Dec 2021
Create written communications appropriate to the construction discipline.	E				
Create oral presentations appropriate to the construction discipline.		E			
Create a construction project safety plan.			E		
Create construction project cost estimates.				E	
Create construction project schedules.					E
Analyze professional decisions based on ethical principles.	E				
Analyze construction documents for planning and management of construction processes.		E			
Analyze methods, materials, and equipment used to construct projects.			E		
Apply construction management skills as a member of a multi-disciplinary team.				E	
Apply electronic-based technology to manage the construction process.					E
Apply basic surveying techniques for construction layout and control.	E				
Understand different methods of project delivery and the roles and responsibilities of constituencies involved in the design and construction process.		E			
Understand construction risk management.			E		
Understand construction accounting and cost control.				E	
Understand construction quality assurance and control.					E
Understand construction project control processes.	E				
Understand the legal implications of contract, common, and regulatory law to manage a construction project.		E			
Understand the basic principles of sustainable construction.			E		
Understand the basic principles of structural behavior.				E	
Understand the basic principles of mechanical, electrical and piping systems.					E

CEMT IAB Course Reviews (E = Evaluated)

CEMT	Course Title	Dec 2018	May 2019	Dec 2019	May 2020	Dec 2021
10400	Fundamentals of Surveying	E				
10500	Introduction to Construction Technology	E				
11000	Construction Accounting				E	
12000	Construction Materials and Systems			E		
16000	Statics		E			
21500	Mechanical and Electrical Systems					E
26000	Strength of Materials		E			
26700	Materials Testing		E			
27500	Applied Civil Engineering Drafting			E		
28000	Quantity Survey				E	
31200	Construction and Route Surveying	E				
33000	Construction Field Operations			E		
34100	Construction Scheduling and Project Control	E				
34200	Construction Cost and Bidding				E	
34700	Construction Contract Admin. & Specs		E			
35000	Construction Project Cost & Prod. Control		E			
39000	Construction Experience	E				
43000	Soils and Foundations			E		
44700	Construction Project Management					E
45200	Hydraulics and Drainage					E
45500	Construction Safety and Inspection			E		
48400	Wood, Timber & Formwork Design				E	
48600	Reinforced Concrete Design & Construction				E	
49400	Engineering Economics for Construction					E