Civil Engineering Technology AAS
2019 Calendar Year Assessment Report

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What was assessed?

SUNY Canton ISLO 5. Professional attributes of graduates corresponds with several program outcomes dictated by our accrediting body – ABET, including

- Surveying

- Estimating

- Design

- Engineering Plan Reading and Preparation

The assessment was accomplished through a variety of measures from many classes including

- CONS101 and 203 Surveying classes
- CONS274 Project Management
- CONS222 Estimating
- CONS375 Structural Design
- SOET392 Intro to BIM
- CONS280 Materials
- CONS216 Soils
- Homework assignments, exams, projects and surveys were used
- All eligible students were included in the assessment process.

TAC ABET GENERAL CRITERIA

- For associate degree programs, these student outcomes must include, but are not limited to, the following:

- (1) an ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline;

- (2) an ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline;

- (3) an ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature

- (4) an ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results; and

- (5) an ability to function effectively as a member of a technical team.

TAC ABET Civil CRITERIA

- Graduates of associate degree programs typically enter careers in construction testing, operation, and maintenance of buildings and infrastructure and may produce and utilize basic construction documents and perform basic analysis and design of system components. The curriculum must provide instruction in the following curricular areas:

a. utilization of principles, hardware, and software that are appropriate to produce drawings, reports, quantity estimates, and other documents related to civil engineering;

b. performance of standardized field and laboratory tests related to civil engineering;

c. utilization of surveying methods appropriate for land measurement and/or construction layout; and

d. application of fundamental computational methods and elementary analytical techniques in sub-disciplines related to civil engineering

Program is to perform self study for re-accreditation this year. Report will be available at the end of Spring term.
Only one example item is provided here

Able to do surveying work and use software

From CONS203 Advanced Surveying : Collect topographic data and turn into a map using AutoCad Civil 3D.

Target is 80% score 75% or better on the project

- 2015   10 of 11   MET
- 2016   6 of 15   NOT MET
- 2017   17 of 19   MET
- 2018   15 of 18   MET
- 2019   4 of 11   NOT MET
- Aggregate 52 of 74 (70% success rate)

Closing the LOOP

The MAP project in CONS203 is a somewhat comprehensive measure of the student's professional attributes in that it incorporates application of semester long, physical skill in operating equipment, group skills and team work, use of a software application that is common to industry, and preparation of an engineering drawing. So it is representative of the student's "professional acumen".

Closing the Loop

- In 2019 the results were particularly poor.

- A contributing source of the problem is that the equipment we use in the class is out dated and requires a 4 step process to get the information from the field and into the computer. It is recommended that new instruments be purchased. The new total stations will allow direct download of field data to a USB drive.

What resources were used or have been requested to close the loop?

- Price of new total stations is about $8,000 per instrument. 6 are required.

- Request $50,000 funding of purchase.

What changes would you make to the Assessment Process?

- Eliminate ISLOs.

- College will "mine" information from the programs.