

ENGINEERING

Civil Engineering & Surveying Technology Applied Water Quality Option Associate of Applied Science

PROGRAM MISSION

The Applied Water Quality Option of the Civil Engineering & Surveying Technology program prepares students with the foundation to enter the workforce with a working knowledge of water quality operations.

PROGRAM DESCRIPTION

This option includes four introductory courses in water and wastewater operations and 24 credit hours of related cooperative work. The equivalent of approximately 5 months of full-time work experience will count towards the 12 months of work experience required for Level I Certification. The coursework will help prepare for the Level I Certification exams. UCC Engineering faculty advisors will assist with finding placement at water and wastewater facilities for cooperative work experience.

PROGRAM OUTCOMES

In addition to the learning outcomes for the AAS Degree in Civil Engineering & Surveying Technology, students that complete the Applied Water Quality Option AAS degree in Civil Engineering & Surveying Technology will also:

1. Demonstrate multiple forms of communication in well-defined technical and non-technical environments based on appropriate research
2. Conduct and analyze standard test, measurements, and experiments, culminating in the interpreting and reporting of results
3. Participate effectively as a member of a technical team
4. Demonstrate functional use of 3D computer-aided drafting and design software used for a variety of drawing techniques
5. Explain operating principles of a range of unit processes for environmental control

CAREER CONSIDERATIONS

All community water and wastewater systems must be operated under the supervision of certified operators. There is a desirable career with low turnover. Many experienced operators are reaching retirement age.

PROGRAM COURSE REQUIREMENTS

Year One

Program Requirements

CIV 214	Virtual Design -CAD -Civil3D	3
DRF 112	Computer Aided Drafting (CAD) I	3
DRF 113	Computer Aided Drafting (CAD) II	3
ENGR 111	Engineering Orientation	3
ENGR 112A	Problem Solving & Technology	2
ENGR 112B	Problem Solving & Technology	1
ENGR 245	Engineering Graphics -SolidWorks	3
GIS 203	Digital World & Geospatial Concepts	4
GIS 234	GIS I: Introduction to Geographic Systems	4
GIS 235	GIS II: Analysis and Applications	4
SUR 161	Surveying I	4

General Education Requirements

Human Relations Elective, from Approved List on page 43	3	
MTH 111	College Algebra	5
MTH 112	Elementary Functions	4
WR 121	Academic Composition	4

Year One Credits 50

Year Two

Program Requirements

CWE 161	CWE Seminar I	1
WQT 227	Wastewater Treatment	3
WQT 228	Wastewater Collection	3
WQT 260	Water Treatment	3
WQT 261	Water Distribution	4
WQT 280	Cooperative Work Experience*	24

General Education Requirements

SP 111	Fundamentals of Public Speaking	4
WR 227	Technical Writing	4

Year Two Credits 46

*Note: Each 1 credit hour of Cooperative Work Experience equals 33 hours of on-the-job training.