

CIVIL ENGINEERING & SURVEYING TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Program Description

The Associate of Applied Science (AAS) degree prepares graduates to be job ready after graduation in two years. Some of the courses are application based and will not transfer. However, it is possible to transfer with the AAS degree and a third year of coursework at UCC. Two quarters of calculus are included in the second-year of classes for the AAS degree.

Program Outcomes

In addition to the learning outcomes for the Completion Certificate as an Engineering & Drafting Technician, students that complete the AAS degree in Civil Engineering & Surveying Technology will also:

1. Solve well-designed engineering problems using integrated STEM concepts
2. Examine and design viable engineering solutions for well-defined technical problems
3. Demonstrate multiple forms of communication in well-defined technical and non-technical environments based on appropriate research
4. Conduct and analyze standard test, measurements, and experiments, culminating in the interpreting and reporting of results
5. Participate effectively as a member of a technical team
6. Demonstrate functional use of 3D computer-aided drafting and design software used for a variety of drawing techniques

Career Considerations

Civil engineering and surveying are some of the broadest fields of engineering, and are part of virtually all construction-related projects. Graduates have local, state-wide, and nation-wide employment opportunities. The field of civil engineering deals with planning, design, construction, and maintenance of private and public projects. Projects include highways, bridges, dams, subdivisions, water supply and wastewater systems. Land Surveyors perform a variety of important tasks such as boundary surveys, topographic mapping and construction staking. Civil Engineering and Surveying Technology graduates work with or in support of professional architects, engineers and land surveyors.

Program Course Requirements

| Course | Title | Credits |
|--------------------|--------------------------------|-----------|
| First Year | | |
| First Term | | |
| COM 111Z | Public Speaking | 4 |
| DRF 112 | Computer Aided Drafting I | 3 |
| ENGR 111 | Engineering Orientation I | 3 |
| MTH 111Z | Precalculus I Functions | 4 |
| WR 121Z | Composition I | 4 |
| Credits | | 18 |
| Second Term | | |
| ART 115 | Art and Design Foundation 1-2D | 4 |
| DRF 113 | Computer Aided Drafting II | 3 |

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|------------------------------|--------------------------------|------------|
| ENGR 112A | Problem Solving and Tech Pt 1 | 2 |
| MTH 112Z | Precalculus II Trigonometry | 4 |
| WR 227Z | Technical Writing | 4 |
| Credits | | 17 |
| Third Term | | |
| CIV 214 | CAD-Civil 3D-Virtual Design | 3 |
| ENGR 112B | Problem Solving and Tech Pt 2 | 1 |
| ENGR 245 | Engineering Graphics | 3 |
| MTH 251 | Calculus I | 5 |
| PSY 101 | Psychology of Human Relations | 3 |
| SUR 161 | Surveying I | 4 |
| Credits | | 19 |
| Second Year | | |
| First Term | | |
| CIV 280 | CWE-Engineering | 3 |
| ENGR 211 | Statics | 4 |
| GIS 203 | Digital Earth-Geospatial | 4 |
| SUR 162 | Plane Surveying II | 4 |
| Credits | | 15 |
| Second Term | | |
| CIV 280 | CWE-Engineering | 3 |
| ENGR 213 | Strength of Materials | 4 |
| GIS 234 | GIS I-Intro to Geographic Info | 4 |
| SUR 163 | Route Surveying | 4 |
| Credits | | 15 |
| Third Term | | |
| CIV 280 | CWE-Engineering | 3 |
| ENGR 212 | Dynamics | 4 |
| GIS 235 | GIS II Data Analysis-App | 4 |
| SOIL 205 | Soil Science | 3 |
| SOIL 206 | Soil Science Lab | 1 |
| SUR 242 | Land Descriptions-Cadastre | 3 |
| Credits | | 18 |
| Total Minimum Credits | | 102 |

Advising Notes

- It is strongly recommended that students pursuing the AAS degree apply to the UCC Registrar's Office for award of the Pathways Certificates when the coursework is completed, since the certificates are not automatically awarded. Having Pathway Certificate's increases employment opportunities
- MTH 112Z can be a corequisite with SUR 161.
- CIV 280 can be taken whenever time and placement with an agency has been set up. Typically completed during summer term. See Program Coordinator for paperwork and forms.
- See advisor for elective options and course prerequisites.