ENGINEERING TECHNOLOGY

ASSOCIATE OF APPLIED SCIENCE: CIVIL ENGINEERING AND SURVEYING TECHNOLOGY – APPLIED SURVEY OPTION – 94 CREDITS

CAREER DESCRIPTION

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 waste 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 engineers and land surveyors.

This degree option includes additional occupational skills training to prepare students with more on-the-job work experience. The program includes 24 credit hours of occupational skills training/cooperative work experience. This is the equivalent of approximately 5 months of full-time work experience. UCC Engineering faculty advisors will assist with finding placement for occupational skills training/cooperative work experience.

PROGRAM OUTCOMES

Students who successfully complete an Associate of Applied Science degree in Civil Engineering and Surveying Technology will:

1. Use AutoCAD, Civil3D, and SolidWorks drafting software, GIS software, and MATLAB software
2. Use Word, Excel, PowerPoint
3. Use surveying equipment to perform basic land and construction surveys
4. Use basic lab equipment to test basic properties of soils, aggregate and concrete
5. Interpret plans and contract documents
6. Complete capstone municipal design project
7. Communicate and write effectively
8. Think critically to solve engineering problems
9. Visualize and interpret real world situations and translate them into drawings and designs
10. Work effectively on a team to complete an engineering project

ASSOCIATE OF APPLIED SCIENCE —
Civil Engineering and Surveying Technology Program – Applied Survey Option

94 Credits — Recommended Sequence for Students (Students should see an advisor to customize their educational plan.)

YEAR ONE

Fall	Computer Aided Drafting I DRF 112 3 CR	Engineering Orientation I ENGR 111 3 CR	Digital World and Geospatial Concepts GIS 203 4 CR	Academic Composition WR 121 4 CR	CREDITS 14
Winter	Computer Aided Drafting II DRF 113 3 CR	Problem Solving and Technology ENGR 112 3 CR	College Algebra MTH 111 5 CR	GIS I Intro to Geographic Information Systems GIS 234 4 CR	Human Relations Elective *from Approved List, p. 86* 3 CR — CREDITS 18
Spring	GIS II Data Analysis and Applications GIS 235 4 CR	Engineering Graphics ENGR 245 3 CR	Elementary Functions MTH 112 4 CR	Surveying I SUR 161 4 CR	Computer Aided Drafting – Civil 3D Virtual Design CIV 214 3 CR — CREDITS 18

YEAR TWO

Fall	Coop. Work Experience – CIV 280 8 CR	Technical Report Writing WR 227 4 CR	Plane Surveying II SUR 162 4 CR	CREDITS 16
Winter	Coop. Work Experience – CIV 280 8 CR	CWE Seminar I CWE 161 1 CR	Route Surveying SUR 163 4 CR	CREDITS 13
Spring	Coop. Work Experience – CIV 280 8 CR	Land Descriptions & Cadastre SUR 242 3 CR	Fundamentals of Public Speaking SP 111 4 CR	CREDITS 15

NOTES

UCC General Education Requirements. A minimum of 90 credit hours must be completed to receive an AAS at UCC. If student places higher than Math 111, student may need to take additional elective courses to graduate with 90 or more hours. Engineering faculty advisor can provide recommendations on electives. Approved UCC Human Relations electives for an AAS are listed on p. 86. See UCC Career and Advising Services.

OAR Requirements for FLS and FE Exams. A minimum of 96 credit hours for the AAS are required under OARs to take either the FLS or FE exam in Oregon after working for two years. See the UCC Engineering Faculty Advisor and refer to OAR 800-010-222/226 for educational requirements related to the fundamentals exams.

Engineering Program Approved Electives. Students may benefit by taking more than 96 credits hours and more electives than required for graduation, depending on career and educational goals.

Engineering Program Requirements. Student must complete all required credit hours with a grade of C or better in all courses. WLD 131 Basic Metallurgy or WLD 140 Blue Print Reading or Sketching may be substituted for 3 credits of Cooperative Work Experience, CIV 280.