

ENGINEERING

Surveying & Geomatics Associate of Science

PROGRAM MISSION

The Surveying and Geomatics transfer program provides a balanced pre-surveying and geomatics curriculum to prepare students for transfer to a bachelor's degree program at Oregon Tech (OIT).

PROGRAM DESCRIPTION

This degree prepares students for transfer to the bachelor's degree program Oregon Tech. Oregon Tech (OIT) is currently the only university in Oregon that offers either a Bachelor of Science in Geomatics, Surveying Option or a Bachelor of Science in Geomatics, Geographic Information Systems (GIS) Option. OIT also offers a minor in Geomatics for Civil Engineering majors. Students interested in a 2-year AAS degree with focus in Surveying & Geomatics may want to consider an AAS in Civil Engineering and Surveying Technology.

PROGRAM OUTCOMES

Students who complete the Surveying & Geomatics Associate of Science (AS) will have the knowledge, skills, and abilities to:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. Demonstrate ability to communicate effectively with a range of audiences
3. Take part in participating on teams whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
4. Develop and utilize appropriate experimentation, analyze and interpret data, and make use of engineering judgment to draw conclusions
5. Discover and make use of new knowledge as needed, using appropriate learning strategies
6. Demonstrate introductory understanding of land surveying and geographic information systems

CAREER CONSIDERATIONS

The surveying and geomatics professions work with private and public projects. Projects may include property surveys, road construction, topographical maps or building layout. Geographic information systems (GIS) is a systematic approach to management, analysis, and display of geographic information. Many public agencies now use GIS for most of their mapping. Surveying, geomatics, and GIS often overlap. There is a strong job market for these skills, and virtually 100% of graduates from OIT with a degree in Geomatics are employed at graduation.

PROGRAM COURSE REQUIREMENTS

Year One

General Education Requirements

Arts & Letter Elective ¹	3	
MTH 251	Calculus I	5
WR 121	Academic Composition	4
WR 122	Argument, Research, and Multimodal Comp	4

Program Requirements

CIV 214	CAD – Civil3D & Virtual Design	3
DRF 112	Computer Aided Drafting (CAD) I	3
ENGR 111	Orientation to Engineering	3
GIS 203	Digital World	4
GIS 234	GIS I Intro to GIS	4
GIS 235	GIS II Data Anal & Apps	4
SUR 161	Surveying I	4

Year One Credits (minimum) 49

Year Two

General Education Requirements

SP 111	Fundamentals of Public Speaking	4
	Social Sciences Elective	3
WR 227	Technical Writing	4

Program Requirements

MTH 243 ²	Introduction to Probability & Statistics	5
MTH 254	Vector Calculus I	4
PH 211	General Physics w/Calculus	4
PH 212	General Physics w/Calculus	4
PH 213	General Physics w/Calculus	4
SUR 162	Surveying II	4
SUR 163	Route Surveying	4
SUR 242	Land Descriptions & Cadastre	3

Year Two Credits (minimum) 45

NOTES:

¹ At least one Arts & Letters elective must be designated as Cultural Diversity. OSU General Ed requirements include 5 "Perspective" courses, see website info at OSU website. OIT General Ed requirements allow up to 9 cr of Humanities electives and 12 cr of Social Science Electives, see articulation agreements

² MTH 265 can be substituted for MTH 243