

**GEOMATICS DEPARTMENT
SURVEY OPTION
Oregon Institute of Technology
NWCCU Assessment Report
2019-2020 Academic Year**

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1 Program Introduction

Geomatics education has been offered virtually since the inception of the Oregon Institute of Technology, with Professional Development (ECPD) in 1953. ECPD is now recognized as ABET. A baccalaureate Surveying Technology degree was offered in 1966 and accredited by TAC-ABET in 1970. The program was one of the first two Bachelor of Science surveying programs nationwide to receive RAC-ABET accreditation in 1984. The geomatics program has enjoyed 67 years of continuous accreditation under ABET or its predecessor, ECPD. Oregon Tech can be proud of having the oldest BS Geomatics program in the nation. The degree title of the program was officially changed from Surveying to Geomatics in 2001, reflecting a global trend recognizing the broadening of the profession and the impact of a revolution in advanced technology. Since 2007, the department has offered the BS Surveying option (former BS Geomatics degree) and the BS GIS option on the Klamath Falls campus.

Table 1-1 Geomatics department enrollment trends

Fall Terms	Year (2015-16)	Year (2016-17)	Year (2017-18)	Year (2018-19)	Year (2019-20)
Full-time Students	37	30	41	34	38

Reported values represent enrollment during the fourth week of the fall quarter as recorded by Oregon Tech Institutional Research.

Table 1.2 shows the number of geomatics degrees (Survey Option) awarded over the last five years.

Table 1-2 Geomatics - Survey Option degrees awarded

Fall Terms	Year (2015-16)	Year (2016-17)	Year (2017-18)	Year (2018-19)	Year (2019-20)
The number of degrees awarded	12	7	6	6	13

Reported values represent graduations as recorded by Oregon Tech Institutional Research for the Geomatics-Survey Option.

2 Program Summary

The mission of the Geomatics Department is to provide students with fundamental knowledge and skills in the geomatics discipline. The Surveying Option prepares students to pass the Fundamentals of Surveying (FS) examination and pursue licensure as a registered Professional Land Surveyor (PLS). The GIS Option prepares

students to become certified GIS Professionals. All students learn the professional responsibility of protecting the health, safety and welfare of the public, and become aware of global and cultural issues.

Program educational objectives are statements that describe the expected accomplishments of graduates during the first few years after graduation, usually 3-5 years. These objectives are consistent with the mission of the program and the institution.

Graduates of the Oregon Tech Geomatics Options will:

1. Acquire the ability to obtain professional licensure and/or certifications in the geospatial industry.
2. Advance in the geospatial industry during their career by becoming involved in local, state, national, or international professional organizations.
3. Obtain industry positions requiring increased responsibility.
4. Assume responsibility for lifelong learning in professional and personal development.
5. Demonstrate readiness for graduate education and/or advanced technical education.

(1) An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.

(2) An ability to formulate or design a system, process, procedure or program to meet desired needs.

(3) An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.

(4) An ability to communicate effectively with a range of audiences.

(5) An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.

(6) An ability to function effectively in teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

Note: The expected learning outcomes for the survey option are based on ABET/ASAC accreditation criteria.

Geomatics student professional learning opportunities include:

1. Geomatics Student Club community service activities. Each year, students in the Geomatics Club are encouraged to take on survey/GIS-related projects that benefit the community. These projects provide the students with exposure to real-world projects, negotiations, and fulfillment of a specific scope of work, as well as the opportunity to work with other disciplines.
2. The National Society of Professional Surveyors (NSPS) National Geomatics Student Competition. If a critical mass of students are committed to participating, a fundraising drive is initiated to supplement funding provided by the department and professional organizations. In 2020, two Geomatics students won the NSPS Student Project of the Year, which involved a surveying/GIS application.
3. Professional Land Surveyors of Oregon (PLSO) annual conference. Students volunteer as runners to assist with conference details, attend technical paper presentations, and staff an Oregon Tech Geomatics department booth.

Additional PSLO Assessments							
Review FS Exam Results		X	X	X	X	X	X
Review IAB comments		X	X	X	X	X	X
Alumni Survey				X			X
Employer Survey		X			X		

NOTE: The IAC did not meet during the pandemic years 2019 through 2022 and is being reconstituted as many members retired from their employment and did not continue to serve in the IAC. Alumni and Employer surveys are typically conducted at the Annual PLSO Conference, which was suspended and disrupted during the pandemic.

4 Summary of Current Academic Year Assessment Activities

Table 4.1 summarizes the Program Student Learning Outcomes (PSLOs) assessed during the 2019/2020 academic year. The matrix also indicates what course the outcome will be assessed in, the quarter of assessment, the instructor who will perform the assessment, and the method that will be utilized.

Table 4-1 – PSLOs evaluated during the 2019/2020 assessment cycle.

PSLO	Course	Faculty	Term	Method
(3) An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.	GME 241	Marker	Spring 2019	Dashboard Poster
	GIS 134	Ritter	Winter 2020	Comprehensive Practical Exam
(4) An ability to communicate effectively with a range of audiences.	GIS 205	Ritter	Spring 2020	Examination questions Assignments
	GME 468	Marker	Spring 2020	Term Paper

Note: GME241, GIS205, and GME468 were not included in this process because enrollments were low, and assignments were not related to PLSO 3 and 4.

Performance Criteria:

GIS 134 Students must develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.

Students are rated based on the following scores:

- 1) Below 50% of the score
- 2) Above 50% of the score

8 Appendices

