GEOMATICS DEPARTMENT
SURVEY OPTION
Oregon Institute of Technology
NWCCU Assessment Report
2016-2017 Academic Year

1. Program Introduction

1.1 Program History

Geomatics education has been offered virtually since the inception of the Oregon Institute of Technology, with an associate degree in Surveying initiated in 1951. The program was accredited by the Engineer's Council on Professional Development (ECPD) in 1953.

Program Educational Objectives

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

2.2 Survey Option Student Learning Opportunities

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

3. **Summary of Six-Year Assessment Cycle**

Table 3.1 shown below depicts the six year PSLO/ISLO assessment cycle for the geomatics survey option. Table 3.1 indicates the PSLO/ISLO and the academic year and the course where the learning outcome will be assessed.

PSLO	ISLO	AY 12/13	AY 13/14	AY 14/15	AY 15/16	AY 16/17	AY 17/18

4. Summary of Current Academic Year Assessment Activities

4.1 Matrix Summary of 2016/2017 PSLOs Evaluated During this Assessment Cycle.

Table 4.1 summarizes the Program Student Learning Outcomes (PSLO) that will be assessed during the 2016/2017 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.

PSLO	Course	Faculty	Term	Method
(d) an ability to function on	GME163	Marker	Fall 2016	Final Exam Question
multi-disciplinary teams	GME163	Marker	Fall 2016	

The student will:

1. **Demonstrate an understanding** of the contributions made by other disciplines in a route design/construction project.

Students are rated with the following scores:

0. Cannot correctly identify three professions involved in a route design/construction project
1. Can correctly identify three professions involved in a route design/construction project

Departmentally Expected Score:

For PSLO (d), the geomatics department expects that 70% or more of students evaluated will correctly answer the exam question and receive a score of “1”.

Assessment Results:

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results

Performance Criteria:

GME 163 – Route Surveying includes a lab section where students are expected to work in teams to collect field data, reduce the data, create a road design, and stake the design in the field. During this project, the students work in teams. The course often has both civil and geomatics students so they are working in a multi-disciplinary environment such as they will find when they graduate. Each team's performance is rated by their instructor for how well they work together and the quality of the work that they produce.

The student will

1. **Produce high quality work**
2. **Participate fully in all assigned tasks**
3. **Complete work in a timely fashion**
4. **Produce work that is professional**

Students are rated on the following:

Actions to be taken

As the scores in all categories exceeded the departmentally established minimum of 70%, no actions will be taken for this PSLO at this time.

4.2.3 PSLO (e) – "An ability to identify and solve applied science problems." GME 351 – Construction and Engineering Surveying homework exercise.

Performance Criteria:

GME 351 – Construction and Engineering Surveying students must be able to combine field measurements, engineering design drawings, and project specifications in order to layout construction reference points for builders in the field. In Homework 5, students are asked to take engineering drawings (plan and profile of a proposed street), typical street section details, and contractor requirements and compute required reference points both by hand and with the aid of a field computer.

Students must demonstrate the following:

1. **Correctly calculate** by hand layout points for 0.29 0 T78sts020 (80 (f)3 (i(s)-1 u)-2 n004 Tw 1.5 0 T

Departmentally Expected Score:

For PSLO (e), the geomatics department expects that 70% or more of students evaluated will score a 4 or 5 in all categories.

Assessment results:

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Understand theoretical concepts	Lab Exercise	1 to 4 scale	70%	75%
Demonstrate ability to perform computations	Lab Exercise	1 to 4 scale	70%	88%
Demonstrate ability to design application	Lab Exercise	1 to 4 scale	70%	88%

Number of students assessed = 8

Table 4.4 – St

Students are rated on the following:

Students are expected to be able to describe the meaning of the principle “Follow in the footsteps of the original surveyor”. A score of “0” is given if the cannot correctly describe the principle and a score of “1” is given if they can. The Geomatics Department expects that 70% of students will be able to correctly describe this principle on their final exam.

Performance Criteria	Assessment Method

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Provided two viable alternatives to an ethical problem	Lab Exercise	0 or 1	70%	100%

Number of students assessed = 7

Table 4.6 – Student performance on PSLO (c) in GME 466, Winter 2016

Actions to be taken

As the scores in all categories exceeded the departmentally established minimum of 70%, no actions will be taken for this assessment.

4.2.7 PSLO (g) – "An ability to communicate effectively" assessed in GME 466 – Boundary Law II winter 2017.

Performance Criteria:

Geomatics graduates are expected to be able to communicate effectively through writing. In GME 466 – Boundary Law II, students must write a twelve page research paper on a topic of boundary law. The student is expected to write the paper as an informative document for surveyors or similar disciplines (engineering, law, etc.) that provides an introduction to a specific boundary law problem. The paper must demonstrate research ability, writing ability, writing style, and the ability to document work.

Students must demonstrate the following:

1. **Sufficient research** to adequately define the topic being covered and provide new information that the average, practicing professional would not be aware of.
2. **Organization** must be sufficient to move the audience through the report with ease, provide information in a logical order, and give adequate conclusions to tie the paper together.
3. **Style** must be professional
4. **Documentation** must follow the APA style and provide references for all of the research materials utilized in the paper

Students are rated on the following scores:

1. Poor
2. Significantly below average
3. Slightly below average
4. Average
5. Above average

Departmentally Expected Score:

For PSLO (g), the geomatics department expects that 70% or more of students evaluated will score a 4 or 5 in all categories.

Assessment results:

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance

Students must demonstrate the following:

1. **Topic Selection** should demonstrate a knowledge of current and relevant topics to GNSS applications.
2. **Content** should be beyond what students typically know from about GNSS from earlier course work and class work in GME 454/455.
3. **Organization** must be professional. The presentation should have a logical structure a provide information about GNSS clearly.
4. **Delivery** should be effective and engaging to the audience.
5. **Visuals** should enhance the presentation and clarify the topic being discussed.

Students are rated on the following scores:

1. No/Limited Proficiency
2. Some Proficiency
3. Proficiency
4. High Proficiency

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Actions to be taken

As the scores in all categories exceeded the departmentally established minimum of 70%, no actions will be taken for this assessment.

4.2.9 – Industrial Advisory Committee (IAC) Meetings

During this assessment period Geomatics faculty met with the Industrial Advisory Committee (IAC) one time. The meeting took place on May 19th, 2017. No items with respect to assessment were covered in this meeting.

4.2.10 – Senior Exit Survey

At the end of the GME 468 (Senior Practicum) course, students are given the opportunity to answer a short survey regarding their experience in the program. One of the questions asks the student to rate how well prepared they felt that they were for each of the program student learning outcomes a-k. This provides an indirect assessment from the students on how well they feel they have been prepared for each of the objectives stated for the program. The survey is administered online to graduating seniors using the Qualtrics survey tool.

The students are asked how well prepared they felt for each of the Program Student Learning Outcomes (A-K) and are asked to assign a score with 1 being “Inadequately

Figure 4.1 –

Assessment Results

Examination of Figure 4.2 shows that 70% or more of students graduating spring of 2016 felt “prepared” or “highly prepared” in all categories. Review of Figure 4.1 shows that students graduating spring of 2017 fell short of the 70% goal in five categories. These were PSLOs d, f, g, h, and j. Faculty find

Actions to be taken

No additional actions will be taken by faculty at this time.

5. Evidence of Student Learning

5.1 Summary of Department Discussions on Assessment Activities

September 21, 2016 – Geomatics department faculty met to review the department

7. References

1. Oregon Institute of Technology. Institutional Research Home Page. June 9, 2011 <

8. Appendices

Geomatics – Survey Option
Appendix A - PSLO Curriculum Map
2016/2017

PSLO (d) "An ability to function on multi-disciplinary teams".

Shaded courses indicate that the PSLO is taught in the course and that students are evaluated on the outcome.

	Freshman		Sophomore		Junior		Senior	
Fall	GIS 103		GME 163		GIS 306		BUS 304	
	GME 161		GME 241		GME 343		GME 425	
	MATH 112		MATH 254N		MIS 113		GME 451	
	WRI 121		PHY 221		WRI 327		MIS 118	
					Social Science Elec.			
Winter	CE 203		GME 242		GIS 316		GME 452	
	GIS134		GME 264		GME 466		GME 454	
	GME 175		PHY 222		SPE 321		Science Elec.	
	MATH 251 WRI 122343.5		WRI 227		MATH Elec.			

PSLO (e) “

PSLO (f) “An understanding of professional and ethical responsibility”.

Shaded courses indicate that the PSLO is taught in the course and that students are evaluated on the outcome.