GEOMATICS DEPARTMENT
SURVEY OPTION
Oregon Institute of Technology
NWCCU Assessment Report
2022-2023 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. 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 Bachelors of Science surveying programs in the nation 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 program degree title 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. As of 2007 the department now offers the BS Surveying option (former BS Geomatics degree), and the BS GIS option on the Klamath Falls campus.

1.2 Enrollment Trends (Geomatics - Surveying Option Students)

Fall Terms	Year (2018-19)	Year (2019-20)	Year (2020-21)	Year (2021-22)	Year (2022-23)
Full-time Students	34	38	21	29	35
Surveying Minors Awarded	0	0	0	1	2

Commented [JW1]:

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

Table 1.1 – Geomatics department enrollment trends

1.3 Recent Number of Graduates

A summary of the number of geomatics degrees (survey option) awarded for the last 5 years is shown below.

Fall Terms	Year (2018-19)	Year (2019-20)	Year (2020-21)	Year (2021-22)	Year (2022-23)
Students	6	13	9	1	4

Commented [JW2]: 2022-23

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

Table 1.2 – Geomatics – Survey Option degrees awarded.

1.4 Employment Rates and Salaries

2018 graduates reported a salary range from $42,000 to $64,000 for initial starting salary. 67% of students indicated that they also received a signing bonus but did not indicate the value of these bonuses.

2. Program summary.

2.1 Geomatics Department Mission, Objectives, and Program Student Learning Outcomes (PSLOs)

On June 19, 2023, the Geomatics department faculty met and reviewed the department mission, program educational objectives (PEOs) and Program Student Learning Objectives (PSLOs) listed below. Faculty affirmed that the department mission, PEOs, and PSLOs still meet the goals of the program.

Department Mission

The mission of the Geomatics Department is to provide students with fundamental knowledge and skills in the geomatics and GIS disciplines. 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

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.

Program Student Learning Outcomes (PSLO)

(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 on 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.

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 projects, negotiations, and fulfillment of a specific scope of work, as well as opportunity to work with other disciplines.
2. The National Society of Professional Surveyors (NSPS) National Geomatics Student Competition. If there is a critical mass of students committed to participate, 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 that 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.
4. GME 468 Geomatics Practicum. Students are responsible for completing several community service projects for city, county, state, and federal agencies.
5. Industry speakers are invited to make presentations at the PLSO Student Chapter meetings.
6. Students are encouraged to participate in professional organizations, such as becoming a student member of PLSO.

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 22/23	AY 23/24	AY 24/25	AY 26/27	AY 27/28	AY 28/29
(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.	6			GME175 GIS306			GME175 GIS306
(2) An ability to formulate or design a system, process, procedure or program to meet desired needs.	4			GIS306 GME468			GIS306 GME468
(3) An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.	2	GME241 GIS316			GME241 GIS316		
(4) An ability to communicate effectively with a range of audiences.	1	GME161 GME468			GME161 GME468		

(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.	3		GME162 GME454/455			GME162 GME454/455	
(6) An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.	5		GIS205 GME468			GIS205 GME468	
Additional PSLO Assessments							
Review FS Exam Results		X	X	X	X	X	X
Review IAC comments			X	X	X	X	X
Alumni Survey				X	X		
Employer Survey						X	

Table 3.1 – Six-Year Assessment Cycle

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 2022/2023 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
(4) An ability to communicate effectively with a range of audiences.	GME 161 GME 468	Walker Walker	Fall 2022 Spring 2023	Total lab score Project assessment
(3) An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.	GME 241 GIS 316	Mollett Lee	Fall 2022 Winter 2023	Examination questions Assignments Laboratory Exercises

Table 4.1 – PSLOs evaluated during the 2022/2023 assessment cycle.

4.2 Summaries of individual assessment activities

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

Performance Criteria:

GME 161 students must demonstrate the ability to function effectively on a surveying field crew and record legible and organized data in a field notebook for use by other individuals.

Students are rated based on the following scores:

1) Poor work or no contribution at all
2) Significantly below average
3) Slightly below average
4) Average work
5) Above average work

Performance Criteria	Poor (1)	Significantly Below Average (2)	Slightly Below Average (3)	Average (4)	Above Average (5)	Score
Ability to communicate - surveying field notes.	Little or no ability to communicate	Some, but limited ability to communicate	Some limitations on ability to communicate	Ability to communicate effectively	Excellent ability to communicate effectively	

Table 4.2 – Rubric For
PSLO 1: "An ability to communicate effectively with a range of audiences."
GME 161 – Plane Surveying I – Fall 2022

Departmentally Expected Score:

For PSLO (4), the Geomatics Department expects that 70% of students be expected to score a 4 or a 5 in all categories.

Assessment results:

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Creating a functional Excel spreadsheet	Lab Total Score	1 to 5 scale	70%	93%

Number of students assessed = 34

Table 4.3 – Student performance on PSLO (4) in GME 468, Spring 2023

Actions to be taken.

As the score exceeded the departmentally established minimum of 70%, no actions will be taken for PSLO (4) at this time.

Table 4.3 – Rubric For
PSLO 4: "An ability to communicate effectively with a range of audiences."
GME 468 Geomatics Senior Practicum – Spring 2023

Departmentally Expected Score:

For PSLO (4), the Geomatics Department expects that 70% of students be expected to score a 4 or a 5 in all categories.

Assessment results:

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Scope of Work	Paper	1 to 5 scale	70%	98%
Critical Path Management	Paper	1 to 5 scale	70%	100%
50% Submittal	Project status report	1 to 5 scale	70%	100%
Final Project Binder	Research Paper	1 to 5 scale	70%	97%

Number of students assessed = 7

Table 4.3 – Student performance on PSLO (4) in GME 468, Spring 2023

Actions to be taken.

As the scores exceeded the departmentally established minimum of 70%, no actions will be taken for PSLO (4) at this time.

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

Performance Criteria:

GME 241 Students must analyze land records and field surveying data to support a legal decision regarding land boundaries.

Students are rated based on the following scores:

Table 4.4 – Rubric For

Performance Criteria	Poor (1)	Significantly Below Average (2)	Slightly Below Average (3)	Average (4)	Above Average (5)	Score
Ability to analyze field data and support legal decision	Little or no ability to effectively analyze data	Some, but limited ability to effectively analyze data	Some limitations on ability to effectively analyze data	Ability to effectively analyze data	Excellent ability to effectively analyze data	

Table 4.4 – Rubric For
PSLO 3: "An ability to formulate or design a system, process, procedure or program to meet desired needs." GME 241– Legal Aspects of Surveying – Fall 2023

Departmentally Expected Score:

For PSLO (3), the Geomatics Department expects that 70% of students be expected to score a 4 or a 5 in all categories.

Assessment results:

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Report Score	Research Report #1	1 to 5 scale	70%	85%
Report Score	Research Report #2	1 to 5 scale	70%	75%

Number of students assessed = 12

Table 4.4 – Student performance on PSLO (3) in GME 241, Fall 2023

Actions to be taken.

As the scores in all categories exceeded the departmentally established minimum of 70% for PLSO (3) at this time.

PSLO (3) – "An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions." GIS 316 – Geospatial Vector Analysis I.

Performance Criteria:

In GIS, as in most real-world situations, we are faced with numerous constraints, contradictions, and uncertainties. What data do we need? Are they available? If we obtain the data in that form now, will it compromise what we (or someone else) want to do later? Should we use a different data set? Should we wait until better data are available? Can we afford the data? Are they worth the cost? Therefore, In GIS 316, students are able to develop their own thoughts on various issues and problems by defining relevant indicators and data needs.

The key to the process, however, is to translate the problem to be tackled into a clearly defined set of data needs. This, in itself, requires an understanding not only of GIS (and how the analysis might ultimately be carried out) but also of the system to be studied.

Students needed to choose three issues out of tens: 1) level of provision of social services, 2) access to mass transit, 3) adult employment, 4) access to open space, 5) housing stress, 6) food security, 7) access to freshwater storage, 8) level of law enforcement coverage, 9) emergency response preparedness to seasonal wildfires or mudslides, and 10) emergency response preparedness to a volcano eruption. Students needed to develop valid indicators and determine datasets for each issue.

Students must demonstrate the following:

1. Understanding the problem of concerns
2. Defining relevant indicators
3. Understanding the specific units of measurement and how to standardize data
4. Understanding the level of geographic aggregation required

Students are rated based on the following scores:

1) Poor work or no contribution at all
2) Significantly below average
3) Slightly below average
4) Average work
5) Above-average work

Table 4.5. Rubric

Performance Criteria	Poor (1)	Significantly Below Average (2)	Slightly Below Average (3)	Average (4)	Above Average (5)	Score
Understanding the problem of concerns	No evidence of understanding the problem of concerns	Some, but limited understanding of the problem of concerns shown	Some understanding of the problem of concerns	Clear evidence of understanding the problem of concerns	Suggestions to solve the problems	4
Defining relevant indicators	No evidence of understanding the concept of indicators	Some, but limited understanding of the concept of indicators	Some understanding of the concept of indicators	Clear evidence of understanding of the concept of indicators	Clear definitions of indicators with good examples.	4
Understanding the specific units of measurement and how to standardize data	No evidence of understanding the specific units of measurement and data	Some, but limited understanding of the specific units of measurement and data	Some understanding of the specific units of measurement and data	Clear evidence of understanding of the specific units of measurement and data	Providing the specific units of measurement and data with clear explanations	5
Understanding the level of geographic aggregation required	No evidence of understanding the aggregation concept	Some, but limited understanding of the aggregation concept	Some understanding of the aggregation concept	Clear understanding of the aggregation concept	Explaining the pros and cons of the selected geographic boundary	4

LO (3) – "An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions." GIS 316 – Geospatial Vector Analysis I. **– Winter 2023**

Departmentally Expected Score:

For PSLO (3), the Geomatics Department expects that 70% of students be expected to score a 4 or a 5 in all categories.

Assessment results:

Table 4.5. Student performance on PSLO (3) in GIS 316, Winter 2023.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Understanding the problem of concerns	Laboratory exercise	1 to 5 scale	70%	100%

Defining relevant indicators	Laboratory exercise	1 to 5 scale	70%	100%
Understanding the specific units of measurement and how to standardize data	Laboratory exercise	1 to 5 scale	70%	100%
Understanding the level of geographic aggregation required	Laboratory exercise	1 to 5 scale	70%	100%

Number of students assessed = 13

Actions to be taken.

As the scores in all categories exceeded the departmentally established minimum of 70% for PLSO (3).

5. Evidence of Student Learning

5.1 Summary of Department Discussions on Assessment Activities

September 21, 2023 – Geomatics Department Faculty Meeting (Convocation)

The department faculty met and discussed the following items with respect to assessment:

- No changes were deemed necessary for the department's mission statement, Program Learning Objectives (PLSOs), or Student Learning Objectives.
- Changes made to the PLSOs during the 2018/19 academic year to align with the new ABET 1-6 student outcomes were retained so that the six-year cycle would be in sync with the new PSLOs.
- Geomatics faculty are very happy with the 100% pass rate on the NCEES FS exam in recent years. Faculty will continue to incorporate discussions of FS exam topics into relevant courses and support students in forming study groups to prepare for the exam. Faculty will also encourage students to wait until spring quarter of their senior year in order to ensure that they have had course work on all of the topics covered on the FS exam.

5.2 Summary of Faculty Decisions on Program Improvements

The following is an area identified during this assessment cycle that needs additional monitoring.

- While students generally meet all the departmentally required minimums, the scores in communication are generally lower than desired and opportunities for improvement will be discuses. "Closing the Loop" – Changes Resulting from Assessment

The lead surveying faculty member resigned in the spring of 2021. This position remains unfilled, with multiple remote adjuncts hired to fill in during the 2022-23 academic year. The lead GIS faculty member resigned in spring 2022, and this position was successfully filled for in the fall of 2023 with a tenure-track assistant professor, however that individual was given no administrative duties their first year so they could focus their efforts on effective instruction. This placed an unrealistic burden on the long-serving department

chair to operate the entire department and programs. The goal was to preserve program quality as best as possible until the department is again fully staffed. Fortunately assessment results did not find and significant program shortcomings, and no changes to programs or curriculum will be made.

Casual conversations during the year indicate that student progress toward program and student learning objectives were adequate to excellent for the courses under assessment for the 2022-2023 academic year.

6. "Closing the Loop" – Changes Resulting from Assessment

The following is a summary of areas identified during the last assessment cycle as areas that need additional monitoring or improvement:

No significant shortcomings were identified, and with the department currently understaffed no major curriculum changes will be undertaken.

Senior Exit Survey – data from the Senior Exit Survey for 2022 are shown in Appendix B.

Casual conversations during the year indicate that student progress toward program and student learning objectives were adequate to excellent for the courses under assessment for the 2021-2022 academic year.

NCEES Fundamentals of Surveying Exam Results – The department expectation for students taking the NCEES Fundamentals of Surveying Exam is 90%. The data available from NCESS for this assessment cycle shows students passing this exam at the 100% level. Students are required to take the FS exam as a graduation requirement and are encouraged to form study groups winter term and take the exam during the spring quarter of their senior year. This approach has now produced two consecutive years of 100% pass rates.

8. Appendices

Geomatics – Surveying Option
Appendix A – Senior Exit Survey Results
2022-23

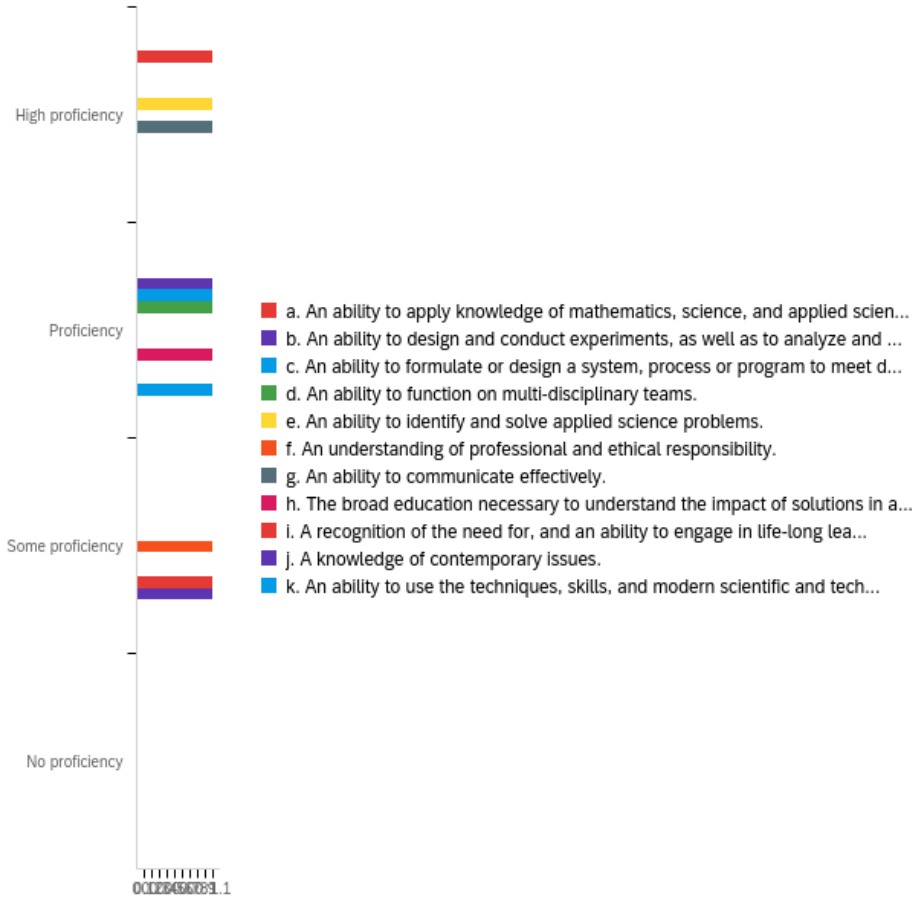
Note: The Senior Exit Survey is administered by the Department of Online Learning and has not yet been updated to the current ANSAC-ABET 1-6 Student Criteria. This oversight will be corrected.

BGMS

(2022-23) Student Exit Survey

September 12th 2023, 11:18 am PDT

Q BGMS 1 - Program Student Learning Outcomes for Geomatics B.S. Surveying Option Please rate your proficiency in the following areas.



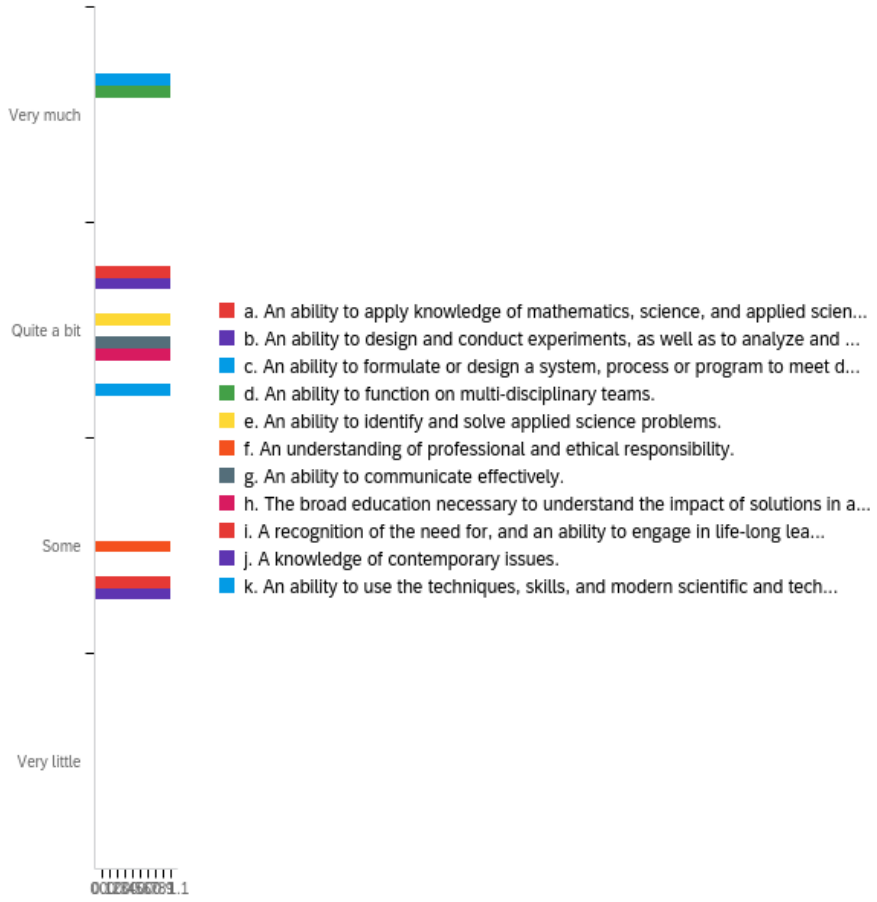
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	a. An ability to apply knowledge of mathematics, science, and applied sciences.	1.00	1.00	1.00	0.00	0.00	1
2	b. An ability to design and conduct experiments, as well as to analyze and interpret data.	2.00	2.00	2.00	0.00	0.00	1
3	c. An ability to formulate or design a system, process or program to meet desired needs.	2.00	2.00	2.00	0.00	0.00	1

4	d. An ability to function on multi-disciplinary teams.	2.00	2.00	2.00	0.00	0.00	1
5	e. An ability to identify and solve applied science problems.	1.00	1.00	1.00	0.00	0.00	1
6	f. An understanding of professional and ethical responsibility.	3.00	3.00	3.00	0.00	0.00	1
7	g. An ability to communicate effectively.	1.00	1.00	1.00	0.00	0.00	1
8	h. The broad education necessary to understand the impact of solutions in a global and societal context.	2.00	2.00	2.00	0.00	0.00	1
9	i. A recognition of the need for, and an ability to engage in life-long learning.	3.00	3.00	3.00	0.00	0.00	1
10	j. A knowledge of contemporary issues.	3.00	3.00	3.00	0.00	0.00	1
11	k. An ability to use the techniques, skills, and modern scientific and technical tools necessary for professional practice.	2.00	2.00	2.00	0.00	0.00	1

#	Question	High proficiency		Proficiency		Some proficiency		No proficiency		Total
1	a. An ability to apply knowledge of mathematics, science, and applied sciences.	100.00%	1	0.00%	0	0.00%	0	0.00%	0	1
2	b. An ability to design and conduct experiments, as well as to analyze and interpret data.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1
3	c. An ability to formulate or design a system, process or program to meet desired needs.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1
4	d. An ability to function on multi-disciplinary teams.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1
5	e. An ability to identify and solve applied science problems.	100.00%	1	0.00%	0	0.00%	0	0.00%	0	1
6	f. An understanding of professional and ethical responsibility.	0.00%	0	0.00%	0	100.00%	1	0.00%	0	1
7	g. An ability to communicate effectively.	100.00%	1	0.00%	0	0.00%	0	0.00%	0	1
8	h. The broad education necessary to understand the impact of solutions in a global and societal context.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1
9	i. A recognition of the need for, and an ability to engage in life-long learning.	0.00%	0	0.00%	0	100.00%	1	0.00%	0	1

10	j. A knowledge of contemporary issues.	0.00%	0	0.00%	0	100.00%	1	0.00%	0	1
11	k. An ability to use the techniques, skills, and modern scientific and technical tools necessary for professional practice.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1

Q BGMS 2 - Program Student Learning Outcomes for Geomatics B.S. Geographic Information Systems Option How much has your experience at Oregon Tech contributed to your knowledge, skills, and personal development in these areas?



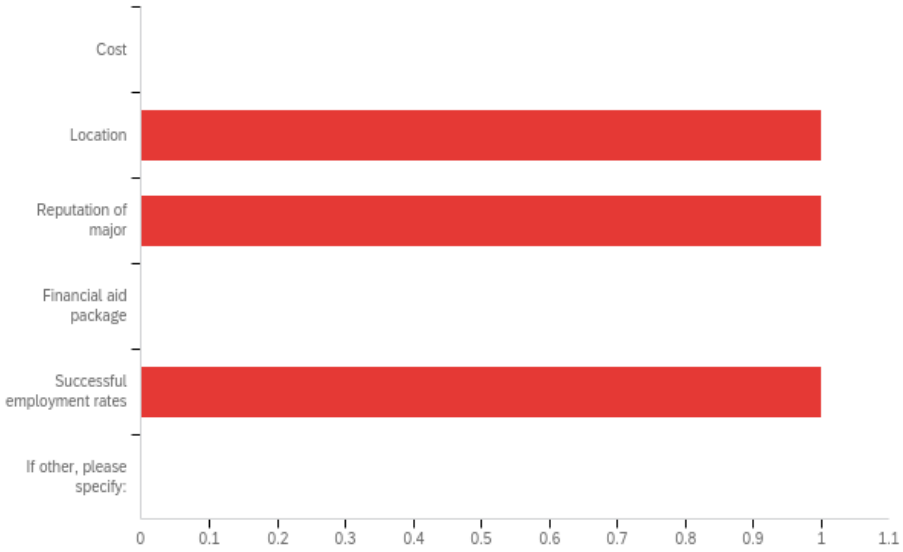
#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	a. An ability to apply knowledge of mathematics, science, and applied sciences.	2.00	2.00	2.00	0.00	0.00	1
2	b. An ability to design and conduct experiments, as well as to analyze and interpret data.	2.00	2.00	2.00	0.00	0.00	1

3	c. An ability to formulate or design a system, process or program to meet desired needs.	1.00	1.00	1.00	0.00	0.00	1
4	d. An ability to function on multi-disciplinary teams.	1.00	1.00	1.00	0.00	0.00	1
5	e. An ability to identify and solve applied science problems.	2.00	2.00	2.00	0.00	0.00	1
6	f. An understanding of professional and ethical responsibility.	3.00	3.00	3.00	0.00	0.00	1
7	g. An ability to communicate effectively.	2.00	2.00	2.00	0.00	0.00	1
8	h. The broad education necessary to understand the impact of solutions in a global and societal context.	2.00	2.00	2.00	0.00	0.00	1
9	i. A recognition of the need for, and an ability to engage in life-long learning.	3.00	3.00	3.00	0.00	0.00	1
10	j. A knowledge of contemporary issues.	3.00	3.00	3.00	0.00	0.00	1
11	k. An ability to use the techniques, skills, and modern scientific and technical tools necessary for professional practice.	2.00	2.00	2.00	0.00	0.00	1

#	Question	Very much		Quite a bit		Some		Very little		Total
1	a. An ability to apply knowledge of mathematics, science, and applied sciences.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1
2	b. An ability to design and conduct experiments, as well as to analyze and interpret data.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1
3	c. An ability to formulate or design a system, process or program to meet desired needs.	100.00%	1	0.00%	0	0.00%	0	0.00%	0	1
4	d. An ability to function on multi-disciplinary teams.	100.00%	1	0.00%	0	0.00%	0	0.00%	0	1
5	e. An ability to identify and solve applied science problems.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1
6	f. An understanding of professional and ethical responsibility.	0.00%	0	0.00%	0	100.00%	1	0.00%	0	1
7	g. An ability to communicate effectively.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1
8	h. The broad education necessary to understand the impact of solutions in a global and societal context.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1
9	i. A recognition of the need for, and an ability to engage in life-long learning.	0.00%	0	0.00%	0	100.00%	1	0.00%	0	1
10	j. A knowledge of contemporary issues.	0.00%	0	0.00%	0	100.00%	1	0.00%	0	1

11	k. An ability to use the techniques, skills, and modern scientific and technical tools necessary for professional practice.	0.00%	0	100.00%	1	0.00%	0	0.00%	0	1

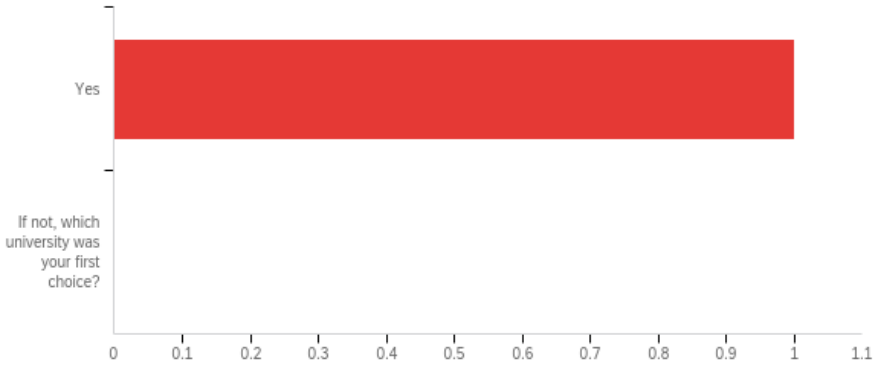
Q BGMS 3 - What attracted to you to Oregon Tech? Please check all that apply.



#	Answer	%	Count
1	Cost	0.00%	0
2	Location	33.33%	1
3	Reputation of major	33.33%	1
4	Financial aid package	0.00%	0
5	Successful employment rates	33.33%	1
6	If other, please specify:	0.00%	0
	Total	100%	3

Q BGMS 3_6_TEXT - If other, please specify:
If other, please specify: - Text

Q BGMS 4 - Was Oregon Tech your first choice?

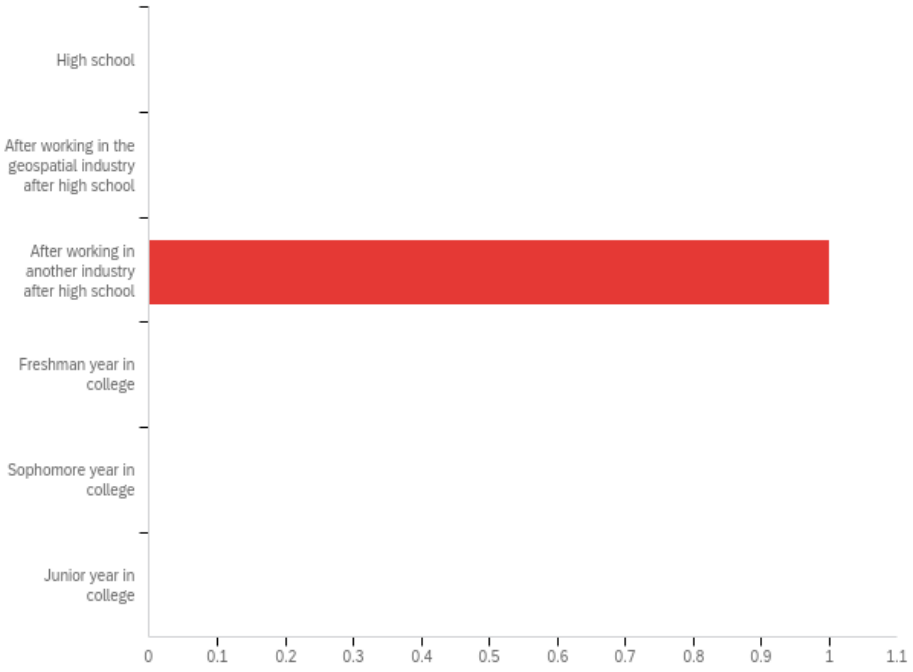


#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Was Oregon Tech your first choice? - Selected Choice	1.00	1.00	1.00	0.00	0.00	1

#	Answer	%	Count
1	Yes	100.00%	1
2	If not, which university was your first choice?	0.00%	0
	Total	100%	1

Q BGMS 4_2_TEXT - If not, which university was your first choice?
If not, which university was your first choice? - Text

Q BGMS 5 - When did you choose Geomatics as a major?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	When did you choose Geomatics as a major?	3.00	3.00	3.00	0.00	0.00	1

#	Answer	%	Count
1	High school	0.00%	0
2	After working in the geospatial industry after high school	0.00%	0
3	After working in another industry after high school	100.00%	1
4	Freshman year in college	0.00%	0
5	Sophomore year in college	0.00%	0

6	Junior year in college	0.00%	0
	Total	100%	1

Q BGMS 6 - How many summer internships did you complete?

How many summer internships did you complete?
3