

Section 1 – Program Mission

Program Mission:

The Bachelor of Science program in Biology-Health Sciences (BHS) prepares undergraduate students for professional and graduate schools in the medical sciences (medicine, dentistry, pharmacy, veterinary sciences, physical therapy, physician assistant, etc.).

Mission Alignment:

The BHS program has the following Educational Objectives:

- Provide an integrated foundation of knowledge in biological disciplines that includes morphological, cellular, molecular, physiological, developmental, and evolutionary principles.
- Train students to utilize the scientific method and develop skills in analysis, evaluation, and critical thinking, as well as communication, team building, and professionalism.
- Prepare students for entrance into graduate schools and professional health schools, including preparation for national admissions examinations such as the Graduate Record Examination (GRE), Medical College Admission Test (MCAT), Dental School Admissions Test (DAT), and similar examinations, or qualify them for entry level positions in biology and health-related occupations.

Section 2 – Program Student Learning Outcomes

Upon completion of the program, students will have demonstrated the following abilities:

- PSLO 1 - Demonstrate scientific knowledge and understanding.
 - Demonstrate foundational knowledge in the natural sciences (e.g., terminology, organization, classifications, appropriate use of units, methodologies, and fundamental principles).
 - Apply scientific principles to biological and medical examples/contexts.
- PSLO 2 - Be proficient in scientific reasoning and critical thinking.
 - Analyze data to determine its relationship to principles and evaluate the data for errors.
 - Analyze and evaluate content in biology.
- PSLO 3 - Be able to effectively find and use resources from literature.
- PSLO 4 - Demonstrate effective oral, written and visual communication.
- PSLO 5 - Demonstrate mathematical knowledge and skills in the biological sciences.

Section 3 – Curriculum Map

PSLOs are aligned relative to the Institutional Student Learning Outcomes (ISLOs).

ISLO 1 – Communication

ISLO 2 – Inquiry & Analysis

ISLO 3 – Ethical Reasoning

ISLO 4 – Teamwork

ISLO 5 – Quantitative Literacy

ISLO 6 – Diverse Perspectives

PSLOs and ISLOs are assessed at three levels and each PSLO/ISLO addressed by each course is listed at the appropriate level.

- Foundational (F) – introduction to the concept
- Practice (P) – performance within programmatic coursework that builds on foundational knowledge through reinforcement and application
- Capstone (C) – synthesis of knowledge from multiple areas in coursework in application of professional level practice

*Please note that in discussions with the faculty of the program, we decided that moving forward, we will be changing how our PSLOs are mapped onto the ISLOs, which required an edit of this curriculum map from previous versions. We have made an initial change, but as we continue to evolve our classes and what we are covering in our courses, this map may continue to change as well.

Physics has been moved to sophomore year as opposed to junior year for incoming students this year to reflect the change that algebra-based physics will satisfy the requirements. Students who enrolled in earlier catalog years will still have the requirement of calculus-based physics. This map shows the changes that are taking place going forward.

University (ISLO)	1 Com	3 Ethics	4 Team	6 Diverse	2 I & A	5 Quan	
Program (PSLO)	3,4 Com, Lit				2 Critical Think	5 Math Know	1 Sci Know
FRESHMAN YEAR							
BIO 109 - Intro to Medical Sciences		F		F			
BIO 211 - Principles of Biology	F				F	F	F
BIO 212 - Principles of Biology	F				F	F	F
BIO 213 - Principles of Biology	F				F	F	F
SOPHOMORE YEAR							
BIO 209 - Crnt Rsch Tpcs Med Sci I	F	F		F	F	F	F
BIO 345 - Medical Microbiology	P				P	P	P

CHE 221 - General Chemistry I	F		F		F	F	F
CHE 222 - General Chemistry II	F		F		F	F	F
CHE 223 - General Chemistry III	F		F		F	F	F
PHY 201 - General Physics	F		P		P	P	P
PHY 202 - General Physics	F		P		P	P	P
PHY 203 - General Physics	F		P		P	P	P
JUNIOR YEAR							
BIO 331 - Human Anat/Physiology I	P				P	P	P
BIO 332 - Human Anat/Physiology II	P				P	P	P
BIO 333 - Human Anat/Physiology III	P				P	P	P
CHE 331 - Organic Chemistry I	P		P		P	P	P
CHE 332 - Organic Chemistry II	P		P		P	P	P
CHE 333 - Organic Chemistry III	P	P	P	P	P	P	P
SENIOR YEAR							
BIO 346 - Pathophysiology I	C				C	C	C
BIO 409 - Crnt Rsch Tpcs Med Sci II	<u>C</u>	C		C	C	C	C
CHE 450 - Biochemistry I	C		C		C	C	C
CHE 451 - Biochemistry II	C		C		C	C	C
Health Biology Electives (lower-division):							
BIO 200 - Medical Terminology	F				F	F	F
BIO 205 - Nutrition	F	P		P	F	F	F
BIO 216 - Intro to Veterinary Med	F				F	F	F
BIO 226 - Intro to Wildlife Rehab	F				F	F	F
Health Biology Electives (upper-division):							
BIO 326 - Parasitology	P				P	P	P
BIO 341 - Medical Genetics	P	P		P	P	P	P
BIO 342 - Cell Biology	P				P	P	P
BIO 347 - Pathophysiology II	P				P	P	P
BIO 352 - Developmental Biology	P				P	P	P
BIO 357 - Intro to Neuroscience	P	P		P	P	P	P
BIO 426 - Evolutionary Biology	P				P	P	P
BIO 435 - Exercise Physiology	P				P	P	P
BIO 436 - Immunology	P				P	P	P
BIO 461 - Hum Cadaver Dissection	C				C	C	C
BIO 462 - Hum Cadaver Dissection	C				C	C	C
BIO 495 - Research Project in Bio		C	C	C	C	C	C
CHE 360 - Clin Pharmacolgy/Hlth Prf	P				P	P	P
CHE 452 - Biochemistry III	C		C		C	C	C
CHE 495 - Research Project in Chem		C	C	C	C	C	C
STAT 414 - Stat Mthds Epidemiology	P				P	P	P

Section 4 – Assessment Cycle

The assessment cycle was revised in AY24-25 to separate out the PSLO assessment from ISLO assessment. Previously, we tried to overlap as much as possible, but this year we decided to acknowledge that the goals of our program do not directly map onto the goals of the institution. We believe this will allow us to better evaluate our program. Each PSLO and ISLO is assessed every three years. This content should remain relatively static from year to year. *Note that we are not “acting” on PSLO 1 this year separately because it was previously grouped within critical thinking and mathematical knowledge. It will be assessed in the same cycle as critical thinking and mathematical knowledge moving forward.

ISLO	PSLO	Act 2023-2024	Collect 2024-2025	Plan 2025-2026
ISLO 1 Communication	PSLO 3, 4 Lit resources, Communication		F BIO 209 – Crnt Rsch Tpcs in Med Sci I C BIO 409 – Crnt Rsch Tpcs in Med Sci II	
ISLO 3 Ethics			F BIO 109 – Intro to Medical Sciences P BIO 341 – Medical Genetics	
ISLO 4 Teamwork			F PHY 201 – Gen Physics P BIO 333 – Human Anatomy/Physiology III	
ISLO 6 Diverse Perspectives				F BIO 109 – Intro to Medical Sciences P BIO 209 – Crnt Rsch Tpcs in Med Sci I C BIO 409 – Crnt Rsch Tpcs in Med Sci II
ISLO 2 Inquiry and Analysis	PSLO 2 Critical thinking	F BIO 212 – Principles of Biology P PHY 203 – Gen Physics III C CHE 451 – Biochemistry II		
ISLO 5 Quantitative Literacy	PSLO 5 Math knowledge	F CHE 221 – Gen Chemistry I P PHY 201 – Gen Physics I C CHE 450 Lab – Biochemistry I		
	PSLO 1* Science knowledge	F BIO 200 – Medical Terminology P BIO 345 – Medical Microbiology C BIO 333 – Human Anatomy/Physiology III		

Section 5 – Assessment Data Collection Processes

In 2024-25 data was collected on three of six ISLOs and two of five PSLOs:

- ISLO 1 – Communication
- ISLO 3 – Ethical Reasoning
- ISLO 4 – Teamwork
- PSLO 3 - Be able to effectively find and use resources from literature.
- PSLO 4 - Demonstrate effective oral, written and visual communication.

Performance Target:

The overall standard of success established by BHS faculty members for this year was that 80% of students would achieve a 50 (2/4) on the standard rubric for foundational courses, 75 (3/4) for practicing courses, and 100 (4/4) for capstone courses. Depending on the assignment and how it was graded, this could vary. If faculty used a different rubric, the rubric was included when possible.

Activity:

Assignments for ISLO 1 and PSLO 3, 4 – BIO 209, BIO 409:

Foundational

This course was taught by two different instructors and data was collected by both.

Instructor 1 Assignment and Rubric

This seminar course is designed to get students to engage in science literature research and discussion, by way of developing a presentation on a current topic in medical science. Topics should be researched using current published/peer reviewed journal articles. Each student will prepare a 20-25 min lecture on a topic of their choice and present it to their classmates, who will discuss the benefits and ramifications of such research. We will stress effective communication skills and welcome the opinions and relevant experiences of all students.

You will be required to write a 3-5 pages (excluding title page and reference page; APA format) research paper on the same topic as your oral presentation. This article should utilize at least 3 referenced sources, including at least 1 primary research article (published within the recent 5 years), and should describe an area of current research, explain its context and importance, and suggest the possible direction of further developments in the field. It should be written in the third person, and illustrations or figures should only be included if they help explain the topic and are referred to within the text of the paper.

Note: sections in boldface in the rubric below are the most important ones.

<i>Content</i>	<i>Exemplary</i>	<i>Competent</i>	<i>Developing</i>	<i>Unacceptable</i>
Scope of student paper	Paper had a narrow, specific focus on current research, with enough background to see why it is important in a broader field	Paper gave a good overview of a field of current research, with snippets of specific research studies	Focus was made exclusively on a very narrow topic that was not related well to a broader field	Topic was very broad, and not related to current research
Use of research data	<u>Student paper</u> specifically describes original data from current research sources to bolster main points	Data alluded to but not described, <i>OR</i> is "thrown in" with little connection	Data alluded to but not described, <i>and</i> is "thrown in" without connection	Research data not used/described
Context	uses principles and info from biology-related courses smoothly to enhance the meaning of the paper	uses info from biology-related courses smoothly within the paper	points out tie-ins to biology-related courses, but these are "add-ins" not well-integrated into the paper	ignores the broader scientific/medical implications of the research
Factual accuracy	Description of factual info is correct, precise and helpful	Description of factual info is correct, but fuzzy, or goes overboard in explaining minor details	Minor inaccurate statements were made	Fundamental misunderstandings detracted from the paper's conclusions
Critical analysis	Sophisticated analysis of the strength of evidence and conclusions	some analysis of evidence is done to draw conclusions	makes appropriate inferences, but unclear how these are supported by the evidence	makes inferences that are not supported by evidence; takes everything at face value

<i>Research</i>	<i>Exemplary</i>	<i>Competent</i>	<i>Developing</i>	<i>Unacceptable</i>
Primary sources	Used one or more peer-reviewed primary research articles as main info sources, including full-text article of those articles.	Used primary research somewhat, but relied more on other sources, such as literature review articles current, technical journals	Used primary research or technical literature reviews, but only a little bit, or only from abstracts of those papers	Used popular journalism, course texts or general web sources almost exclusively.
Contextual sources	Cited literature review articles from current, technical journals to help provide a broader picture	Used popular journalism or general web sources to help provide a broader picture	Context was described but poorly referenced	Little or no contextual info was given

Reference sources	Used popular journalism, course texts or general web sources sparingly but appropriately, as reference sources to help explain terminology or basic concepts	Background info was described but was not well- referenced	Used popular journalism, course texts or general web sources extensively, so that the bulk of the paper explained terminology or basic concepts	Necessary background info was not described
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<i>Writing</i>	<i>Exemplary</i>	<i>Competent</i>	<i>Developing</i>	<i>Unacceptable</i>
Introduction	Engages reader's interest creatively, introduces the general subject as well as the deeper, specific research addressed in the paper. The abstract provides a clear, concise thesis statement.	Engages reader's interest, introduces the general subject effectively Thesis statement of paper is clearly identifiable	Introduces the general subject as well as the deeper, specific research addressed in the paper. Dry. A statement of the topic is made, but is somewhat fuzzy	Vague; hard to know what direction the paper will take.
Conclusions	Sums up paper well, and clearly points to likely/desirable future developments. Good critical analysis of the contribution of the current research in the big picture.	Sums up paper well, and clearly points to likely/desirable future developments.	Sums up paper well	Confused, or does not follow from what is in the body of the paper.
Organization	Concise, understandable, with a sophisticated blend or flow of pertinent topics	paragraphs are internally coherent, and most of the writing flows together, with some breaks	Understandable but choppy, with little relationship between subtopics until the end of the paper	Rambling, missing key explanations, never tied together
Grammar/ spelling	No errors in paper	1-4 minor mistakes	Lots of minor errors, or 1-2 errors that interfere with paper's content	Repeated errors that interfere with paper's content
Length etc	At least 3 full pages, & fully develops its main topic. Reader not left wondering about loose ends.	At least 3 full pages, not including headings, figures, or references	At least 3 full pages (excluding refs), but with significant formatting "filler"	Paper too short, under 3 full pages (excluding refs) Missing ancillary materials

Instructor 2 Assignment and Rubric

BIO 209, Current Research Topics in Medical Sciences I, Winter 2025

Each student will lead a 25 minute presentation and discussion on a health science topic of his/her choosing. Your topic should be in a biomedical area that interests you and should relate to scientific concepts that you have learned in coursework thus far at Oregon Tech, but should not just repeat a topic from your classes. Topics should be researched using current biomedical sources, including at least one primary research article, as well as web sources.

The main part of your presentation should introduce the subject and give it a broader context, but you should also include some element of interpreting specific primary research within your topic area. Use of Powerpoint (or equivalent software) for presentations is required.

Presentation Essay: an 800-1200 word paper on the same topic as your oral presentation. This can be at a comparable level of detail as your presentation, using the same sources. It should have in-text citations and be written in the third person. Illustrations or figures should only be included if they help explain the topic and are referred to within the text of the paper.

Reflection essay: (200-300 words) does not need to reference any materials and may be written in first-person. It should consider what you drew you to your topic, what you learned from researching it, and/or how your topic related to your study of the sciences at Oregon Tech.

BIO 209 Oral Presentation Evaluation form:

Rate on a scale of one to five (5 = best performance)

Note from instructor: "5+" counts equally with a 5, but indicates outstanding performance far beyond the expectations of the course.

A. Topic was introduced well, giving needed background without going overboard.

1 2 3 4 5 5+

B. Presenter explained the topic clearly and accurately.

1 2 3 4 5 5+

C. Presenter included effective use of primary research material, and this use was focused to show how it contributes to the broader scientific topic.

1 2 3 4 5 5+

D. Topic was presented well, with a clear focus and including effective visual aids.

1 2 3 4 5 5+

E. Presenter connected his/her topic with fundamental knowledge learned in one or more science classes.

1 2 3 4 5 5+

F. The presentation goes beyond/outside of what would be covered in related science classes.

1 2 3 4 5 5+

G. Presenter answered questions well, and/or asked good questions of the audience.

1 2 3 4 5 5+

H. Length of the talk (excluding discussion) was appropriate.

way short	a bit short	just right	too long	had to cut off
<12 min	13-15 min	16-20 min	21-25 min	>25 min

Practicing
No data collected

Capstone

This course was taught by two different instructors and data was collected by both.

Instructor 1& 2 Assignment and Rubric

Evaluation Rubric:

BIO 409 research paper

ATTACH THIS SHEET TO YOUR FINAL PAPER

You will be required to write a 7-10 page research paper on the same topic as your oral presentation. This article should utilize at least six referenced sources, including at least two primary research articles, and should describe an area of current research, explain its context and importance, and suggest the possible direction of further developments in the field. It should be written in the third person, and illustrations or figures should only be included if they help explain the topic and are referred to within the text of the paper.

Note: sections in boldface in the rubric below are the most important ones.

Content	Exemplary	Competent	Developing	Unacceptable
Scope of student paper	Paper had a narrow, specific focus on current research, with enough background to see why it is important in a broader field	Paper gave a good overview of a field of current research, with snippets of specific research studies	Focus was made exclusively on a very narrow topic that was not related well to a broader field	Topic was very broad, and not related to current research
Use of research data	Student paper specifically describes original data from current research sources to bolster main points	Data alluded to but not described, OR is "thrown in" with little connection	Data alluded to but not described, and is "thrown in" without connection	Research data not used/described
Context	uses principles and info from biology-related courses smoothly to enhance the meaning of the paper	uses info from biology-related courses smoothly within the paper	points out tie-ins to biology-related courses, but these are "add-ins" not well-integrated into the paper	ignores the broader scientific/ medical implications of the research
Factual accuracy	Description of factual info is correct, precise and helpful	Description of factual info is correct, but fuzzy, or goes overboard in explaining minor details	Minor inaccurate statements were made	Fundamental misunderstandings detracted from the paper's conclusions

Research	Exemplary	Competent	Developing	Unacceptable
Primary sources	Used one or more peer-reviewed primary research articles as main info sources, including full-text article of those articles.	Used literature review articles from current, technical journals as main info sources	Used primary research or technical literature reviews, but only a little bit, or only from abstracts of those papers	Used popular journalism, course texts or general web sources almost exclusively.
Contextual sources	Cited literature review articles from current, technical journals to help provide a broader picture	Used popular journalism or general web sources to help provide a broader picture	Context was described but poorly referenced	Little or no contextual info was given
Reference sources	Used popular journalism, course texts or general web sources sparingly but appropriately, as reference sources to help explain terminology or basic concepts	Background info was described but was not well- referenced	Used popular journalism, course texts or general web sources extensively, so that the bulk of the paper explained terminology or basic concepts	Necessary background info was not described

Writing	Exemplary	Competent	Developing	Unacceptable
Introduction	Engages reader's interest creatively, introduces the general subject as well as the deeper, specific research addressed in the paper. A clear, concise thesis statement is highlighted	Engages reader's interest, introduces the general subject effectively Thesis statement of paper is clearly identifiable	Introduces the general subject as well as the deeper, specific research addressed in the paper. Dry. A statement of the topic is made, but is somewhat fuzzy	Vague; hard to know what direction the paper will take.
Conclusions	Sums up paper well, and clearly points to likely/desirable future developments. Good critical analysis of the contribution of the current research in the big picture.	Sums up paper well, and clearly points to likely/desirable future developments.	Sums up paper well	Confused, or does not follow from what is in the body of the paper.
Organization	Concise, understandable, with a sophisticated blend or flow of pertinent topics	paragraphs are internally coherent, and most of the writing flows together, with some breaks	Understandable but choppy, with little relationship between subtopics until the end of the paper	Rambling, missing key explanations, never tied together
Grammar/ spelling	No more than 1-2 errors in paper	A few minor mistakes	Lots of minor errors, or 1-2 errors that interfere with paper's content	Repeated errors that interfere with paper's content
Length etc	At least 7 full pages, & fully develops its main topic. Reader not left wondering about loose ends. Includes copies of 2 source articles, the rough draft & grading rubric	At least 7 full pages, not including headings, figures, or references Full-text copies of two main source articles are included	At least 7 full pages (excluding refs), but with significant formatting "filler"	Paper too short, under 7 full pages (excluding refs) Missing ancillary materials

BIO 409 Peer Evaluation form:

Presenter's name: _____

Date: _____

Rate on a scale of one to five (5 = best performance)

Note from instructor: "5+" counts equally with a 5, but indicates outstanding performance far beyond the needs of the course. I know y'all are great students, but 5+'s for everyone should not happen. A student a few years ago did give everyone all 5+'s, and just once or twice I have received a feedback form that I felt was unfairly harsh, out of line with the others. Therefore, I reserve the right to disregard an unreasonably high, or low, score. Please be objective and fair.

A. Topic was introduced well, giving needed background without going overboard.

1 2 3 4 5 5+

B. Presenter made substantial, effective use of primary research material, and this use was focused to show how it contributes to the broader scientific topic.

1 2 3 4 5 5+

C. Presenter explained primary research material clearly and accurately.

1 2 3 4 5 5+

D. Topic was presented well, with a clear focus and including effective visual aids.

1 2 3 4 5 5+

E. Presenter connected his/her topic with fundamental knowledge learned in one or more upper-level OIT classes.

1 2 3 4 5 5+

F. Presenter answered questions well, and/or asked good questions of the audience.

1 2 3 4 5 5+

G. I have heard a quite similar talk before; it seems to be recycled.

NO SORT OF YES

H. Length of the talk (excluding discussion) was appropriate.

way short	a bit short	just right	too long	had to cut off
< 36 min	36-39 min	40-45 min	46-50 min	>50 min

Any written comments or suggestions for the presenter

Assignments for ISLO 3 – BIO 109, BIO 341:

Ethical Reasoning was assessed using the standardized rubric for Oregon Tech.

Foundational

In this assignment, you should choose **one** of the Cases below (A or B) and respond to the questions provided. Your response should be a minimum of 500 words, though it can of course be more if necessary in order to answer the questions provided.

The following document may be helpful as you are composing your response:

[A Framework for Ethical Decision Making.pdf](#)

Choose ONE of the following cases and submit your response (500 words minimum) to the questions provided:

Case A:

You are a primary care physician (or a primary care PA or NP) and a mother comes into your office with her child who is complaining of flu-like symptoms. Upon entering the room, you ask the boy to remove his shirt and you notice a pattern of very distinct bruises on the boy's torso. You ask the mother where the bruises came from, and she tells you that they are from a procedure she performed on him known as "cao gio," which is also known as "coining."

The cao gio procedure involves rubbing warm oils or gels on a person's skin with a coin or other flat metal object. The mother explains that cao gio is used to raise out bad blood, and improve circulation and healing. When you touch the boy's back with your stethoscope, he winces in pain from the bruises. You debate whether or not you should call Child Protective Services and report the mother.

Questions for Case A:

- Should we completely discount this treatment as useless, or could there be something gained from it?
- When should a physician step in to stop a cultural practice? (If someone answers "when it harms the child" consider that there is some pain in many of our medical procedures, for example, having one's tonsils removed)
- Should the physician be concerned about alienating the mother and other people of her ethnicity/culture from modern medicine?
- Do you think that the physician should report the mother?

Case B:

A 27-year-old man is brought into a New York City emergency room with a 101-degree fever, and what he believes is chickenpox (Varicella). After a brief examination, the physician is puzzled because the pox do not appear to be typical of the varicella-zoster virus. Upon further tests, it is determined to be smallpox; smallpox was eradicated from the wild in 1980, so the man's case is likely due to bioterrorism. The physician immediately orders the patient to be quarantined and starts aggressive treatment. Though he had been in perfect health a few days earlier, the patient dies 7 hours after admittance to the hospital. (Note that smallpox is one of the most devastating diseases from history; unlike the virus responsible for COVID-19, about half of those exposed to smallpox will contract the disease, and about a third of those will die, even with medical treatment.)

The CDC decides that mandatory smallpox vaccines will be administered to all workers in the NYC hospital, and to all patients who were in the ER. His co-workers at his office are all given mandatory vaccines as well, as are all people living in his apartment complex. The hospital also orders large quantities of the vaccine to be made ready for an anticipated flood of cases. The existing vaccine (used in the decades leading up to the eradication of smallpox) is 95% effective at preventing infection, and lessens the severity of the disease if given within a few days of exposure.

Questions for Case B:

- Do you think it is ethical for the CDC to require health care workers in the NYC hospital to be vaccinated? What about non-medical individuals (coworkers, neighbors)? (Why or why not?)
- You were visiting a friend in the man's apartment complex for a few hours. You are worried and you try to get the vaccine, but are denied it, with the justification that remaining doses must be saved for those with confirmed exposure/infection. Is this an ethical policy? (Why or why not?)
- A woman that the man interacts closely with at work is religiously opposed to vaccines. The New York government says she must receive the vaccine or face a mandatory 4-week quarantine in a hospital isolation ward. Is this ethical?
- Most states allow people to refuse vaccines for more common diseases (measles, rubella, etc) for non-medical (i.e., religious or philosophical) reasons. If someone is granted an exemption from vaccination on religious or philosophical grounds, should they have certain restrictions placed on them in exchange (e.g., cannot attend public school), or should they have the same freedom of movement as those who are vaccinated?

Case Study: Newborn Genetic Screening

The Smiths had just given birth to their second child and were eagerly waiting to take the newborn home. At that moment, their obstetrician walked into the hospital room with some news about their daughter's newborn screening tests. The physician told them that the state's mandatory newborn screening test had detected an abnormally high level of phenylalanine in their daughter's blood. The Smiths asked if this was just a fleeting effect, like newborn jaundice, that would "go away" in a few days. The physician explained that it was likely a permanent condition, and asked a genetic counselor to come to their room to explain their daughter's newly diagnosed condition.

The counselor explained that phenylketonuria (PKU) is a genetic condition that results when an individual inherits an altered gene from both parents. She explained that PKU is characterized by an increased concentration of phenylalanine in blood and urine. If untreated, children with classic PKU can experience progressive intellectual disability, seizures, hyperactivity, and various additional symptoms.

To prevent the development of intellectual disability, after early diagnosis, dietary therapy must begin before the child is 30 days old. The newborn needs to follow a special diet in which the bulk of protein in the infant's formula is replaced by an artificial amino acid mixture low in phenylalanine. The child must stay on this diet indefinitely for it to be maximally effective.

In all 50 states, newborns are routinely screened for a variety of genetic disorders, including PKU. In many states, this screening is mandatory, although exemptions are often permitted for religious or other reasons. While early detection of some genetic disorders allows treatment to be initiated before symptoms develop, and in some cases can even prevent the appearance of permanent effects such as mental retardation, some argue that mandatory screening is an invasion of patients' rights. In addition, some critics have warned that genetic defects identified by such screens could lead to genetic discrimination later in life, or even serve as the basis of a renewed eugenics program.

Below are some optional additional resources for you to explore on the topics of what newborns are screened for, and what some of the issues and concerns around genetic privacy are.

[March of Dimes: Newborn Screening](#)[Links to an external site.](#)

[CDC: Importance of Newborn Screening](#)[Links to an external site.](#)

[Concerns About the Use of Residual Newborn Screening Samples](#)[Links to an external site.](#)

[USA News: Parents and Children Deserve Genetic Privacy](#)[Links to an external site.](#)

Questions:

1. What would be the main outcome(s) of making newborn screening **optional**, instead of mandatory?
2. What, if any, rules do you think should be in place with how the information from the tests is handled, and what happens to the blood samples?
3. If you were about to become a parent, would you want to know if your child had a genetic disorder? Would you worry about discrimination or other possible consequences of knowing about this information?

Vote: Should neonatal genetic screening be mandatory? Select one of the following responses (you can just type the letter of your choice):

- A. Yes, it is important to protect babies by learning what possible diseases they may have.
- B. Yes, it is important to protect babies, as long as parents can opt out of it.
- C. No, it violates the baby's right to genetic privacy.
- D. Other (explain)

Reply below with **a few sentences** or a very short paragraph to **each** of the questions (#1-3) above. (Extra writing is *not* necessary for the Vote, unless you select option *D*.) Be sure to always **justify** (*provide reasons for*) your responses.

Capstone

No data collected

Assignments for ISLO 4 – PHY 221, BIO 333:

Foundational

For this assignment, assessment was based on final score on the project.

PHY221 Project-Based Exams: Midterm & Final

Instead of traditional written tests, you'll complete two group projects—one for the midterm and one for the final. These projects let you design, test, reflect, and present in a way that makes physics learning more hands-on and meaningful.

Structure of the Project

Group Work

- Form a group of 3–5 students (no more than 5).
- Pick a hands-on activity from the course that you'd like to expand, redesign, or improve.

1. Handout/Lab Design (25%)

- Midterm Exam: Create a 2–3 page handout (HO).
- Final Exam: Create a 2–3 page lab handout.
- Make it clear, easy to follow, and engaging—something other students could actually use.

2. Testing & Reflection Report (25%)

- Try out your activity/lab yourselves—run the experiment, collect data, and take pictures.
- Your reflective report should include:
 - Learning objectives or goals
 - Design choices you made
 - Picture(s) of your group doing the experiment
 - Results and discussion
 - Reflection questions

Example: What worked? What didn't? How could we improve for the final? Why did we do this lab? What do students gain from it?

3. Oral Presentation (50%)

- Present your project live on Zoom.

- **Total time: 15–25 minutes.**
- **Each group member: at least 5 minutes of speaking.**
- **Use PowerPoint (recommended) or screen-share your report.**
- **Include a demo or physical activity if possible.**
- **A presentation rubric will be shared one week before.**
- **Please practice with your group beforehand!**

Goals

- **Create a student-centered activity or lab that connects the ideas/topics introduced in our class to a topic that interests you.**
- **Show how your design benefits students in your field—or students from your background.**
- **Explain and justify why this activity is valuable for learners like yourself.**

Timeline

- **Each project lasts about two weeks.**
- **Start early—these two projects are the core of the course.**
- **Keep them in mind throughout the term.**

Special Note

If English isn't your first language, you may write, present, or submit in your own language. I will make sure grading is fair (thanks to AI tools). Just let me know if this applies to you.

Practicing

Submit your group information and presentation topic by 11:59pm Friday of week 6.

Prior to the day of your presentation, you have to post an abstract (with a bibliography. See sample). [Click here](#) for presentation rubric.

[Click here](#) to submit your abstract and multiple choice questions (due at 11:59 pm the night before your presentation; early submission is preferred)

Abstract and questions: 5 points

Presentation: 35 points

BIO333 Oral Presentation Rubric				
Performance Criteria	No/Limited Proficiency (1)	Some Proficiency (2)	Proficiency (3)	High Proficiency (4)
Content	<i>Few or no attributed sources. Supporting materials lack credibility and/or don't relate to thesis. Limited or no attempt to inform or persuade.</i>	<i>Some attributed sources used. Supporting materials are somewhat credible and/or don't clearly relate to thesis. Attempt to inform or persuade.</i>	<i>Adequate number of credible and appropriately attributed sources used. Supporting materials relate to thesis. Informs or persuades.</i>	<i>A variety of credible and appropriate sources used. Supporting materials relate in an exceptional way to a focused thesis. Informs or persuades.</i>
Organization	<i>Lacks organizational structure. Introduction and/or conclusion missing. No transitions used.</i>	<i>Organizational structure present but unclear with underdeveloped introduction and conclusion. Transitions are awkward.</i>	<i>Appropriate organizational pattern used and easy to follow with developed introduction and satisfying conclusion. Main points are smoothly connected with transitions.</i>	<i>Organizational pattern is compelling and moves audience through speech with ease. Introduction draws in the audience and conclusion is satisfying. Main points are smoothly connected with transitions.</i>
Style	<i>No understanding of audience regarding topic or purpose of speech. Little enthusiasm and passion for topic. No regard for time constraints.</i>	<i>Some understanding of audience regarding topic or purpose of speech. Some enthusiasm and passion for topic. Some regard for time constraints.</i>	<i>Competent understanding of audience regarding topic and purpose. Enthusiasm and passion for topic. Speech given within time constraints.</i>	<i>Thorough understanding of audience regarding topic and purpose. Clear enthusiasm and passion for topic. Speech given within time constraints.</i>
Delivery	<i>No gestures or eye contact. Monotone voice or insufficient volume. Little poise. Reading of notes only. Abundant oral fillers and nonverbal distractions.</i>	<i>Some gestures and eye contact. Ineffective use of language and voice. Little poise. Heavy reliance on notes. Multiple oral fillers and nonverbal distractions.</i>	<i>Adequate use of gestures, eye contact, language, and voice. Poised with minor reliance on notes. Limited oral fillers and nonverbal distractions.</i>	<i>Effective use of gestures, eye contact, vivid language, and voice to add interest to speech. Poised with use of notes for reference only. No oral fillers and nonverbal distractions.</i>
Visuals	<i>No visuals or poorly-designed and documented visuals that distract from speech or do not create interest. Limited reference to visuals or so much reference delivery is hindered.</i>	<i>Visuals present, but simply designed with limited use of documentation. Visuals are referred to but do not create interest. Visuals may interfere with delivery.</i>	<i>Well-designed and documented visuals that clarify speech and create interest. Visuals are referred to and sufficiently discussed, while not interfering with delivery.</i>	<i>Well-designed and documented visuals that clarify speech, create interest, and hold attention of the audience. Visuals are sufficiently discussed and effectively integrated into speech.</i>

Capstone

No data collected

Reliability:

The instructor of record for each course was responsible for assessing the artifacts for the class. At the end of the term, each instructor recorded their data in a Qualtrics form to record the data at the time of collection until the Course Learning Outcomes worksheets became available. With needing to collect on three ISLOs this year, it was too difficult to try to collect data at all three levels, but we were able to collect at two levels for each. Four different faculty members within the BHS program were involved in assessment to fairly distribute the workload associated with assessment, to provide a representative sample of instruction, and to include multiple people's input.

Section 6 – Assessment Data

Program Enrollment

Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024
169	148	129	118	122

Enrollment within the BHS program was relatively stable for several years. Unsurprisingly, we saw a dip in enrollment during and after the height of the COVID 19 pandemic. Our department started experimenting with different techniques to increase recruitment as discussed in closing the loop. Fall 2023 was our lowest number and our numbers are appearing to rise again now, with Fall 2025 at 131, so we are hopefully coming out the other side after the COVID years.

1st Year Retention Rate

2019-20	2020-21	2021-22	2022-23	2023-24
75%	62%	76%	90%	69%

Our first-year retention rate generally is at or above the Oregon Tech target of 75%, though it did fall at the beginning of the pandemic. The retention rate then bounced back above the university-wide goal, speaking to the great efforts that our department has devoted in training our program students and connecting them to Oregon Tech as well as to our local community. This past year, our first-year retention dropped again below the university goal of 75%.

Enrollment and retention continue to be a priority for the BHS program. Starting this coming year AY25-26, our program will also be trying a new technique to have students who are actually pre-MIT or pre-nursing declare an Allied Health major instead of BHS to hopefully get a more accurate picture of how many students who originally planned to major in BHS are actually retained as opposed to looking at a number that includes many students who had no intention of being in our program from the beginning. This change could potentially make our enrollment numbers appear lower in the coming years but hopefully will better reflect the retention of students within our program.

ISLO and PSLO data:

Level	Course	Assessment Methods	Performance Target	Results	Goals met?	Equity gaps?
ISLO 1 Communication PSLO 3 Resources from literature PSLO 4 Communication						
Foundational	BIO 209 Current Research Topics in Medical Sciences I	Paper Oral presentation	80% of students scoring 50% (2/4 on standard rubric) 80% of students scoring 75% on assignment-specific rubric	? 13 students assessed	Yes Yes	
Practicing	N/A	N/A	N/A	N/A		
Capstone	BIO 409 Current Research Topics in Medical Sciences II	Paper Oral presentation and paper	80% of students scoring 100% (4/4 on standard rubric) 80% of students scoring 85% on assignment-specific rubric	? 10 students assessed	Yes Yes	
ISLO 3 Ethical Reasoning						
Foundational	BIO 109 Introduction to Medical Sciences	Ethical case study	80% of students achieve 50% (2/4 on standard rubric)	30 students assessed	Yes	
Practicing	BIO 341 Medical Genetics	Ethical case study	80% of students achieve 75% (3/4 on standard rubric)	30 students assessed (7 artifacts/student)	Yes	
Capstone	N/A	N/A	N/A	N/A		
ISLO 4 Teamwork						
Foundational	PHY 221 General Physics I w/ Calculus	Oral presentation	80% of students achieve 75% on standard rubric)	63 students assessed within 17 groups (2 artifacts/group)	Yes	
Practicing	BIO 333 Human Anatomy and Physiology III	Oral presentation	80% of students achieve 75% on assignment-specific rubric	?	Yes	
Capstone	N/A	N/A	N/A	N/A		
Student Success Indicators						
BBHS Graduation Rate		University Dashboard	6-year rate >50%	65.8%	Yes	No
BBHS Retention		University Dashboard	1-year rate >75%	68.9%	No	No
DFWI		University Dashboard	All program <12%	15.2%	No	No

Interpretation of results:

Faculty comments and strategies to improve learning outcomes:

ISLO 1/PSLO 3, 4 - Communication

Note here PSLO 3 was not specifically assessed separately of PSLO 4. In the future, we would like to pull this data out from the overall assessment of both.

Foundational

No comments provided.

Practicing

N/A

Capstone

Students overall did very well, but a few struggled with time management of oral presentations. Their presentations were well-organized with appropriate content, but short. Encouraging them to practice this aspect more directly might be helpful.

ISLO 3 – Ethical Reasoning

Note that the faculty member who taught both classes and had students write up discussions considering the ethical implications of different medical situations will lead a training in one of our BHS program meetings to help other faculty incorporate an ethics component into more courses throughout our curriculum.

Foundational

I'll continue enhancing the ethical discussions in this course.

Practicing

I'll continue enhancing the ethical discussions in this course.

Capstone

N/A

ISLO 4 - Teamwork

Foundational

Group size can be ideally controlled within 4 to avoid “free loaders.” Provide more formative assessment steps in the group project to give students more just-in-time feedback.

Practicing

No comments provided.

Capstone

N/A

Graduation Rate

We met the goal of a 50% graduation rate this year hitting 65.8% (25/38) compared with last year of 48% (24/50). While the percentage went up, the number of students it was calculated out of went down, so while we like the trend of the percentage increasing, at this point it is difficult to say what caused a nearly 20% increase in graduation rate from one year to the next.

Retention

We did not meet the goal this year of 75% retention hitting 69% (31/45) compared with 90% last year (36/40). While our percentage decreased, the number of students it was calculated out of increased. Last year from term 1 to term 2 we retained 100% of the students, but this year it dropped from 45 to 39 after the first term. Again, there is no clear conclusion we can make from this information, but if enrollment is going up because students who are not prepared for the rigor of college are entering the program, then we will likely see a decrease in retention. Also, as mentioned elsewhere in this report, we will be trying to move some students who are pre-MIT, etc., into the Allied Health major rather than BHS to get a better idea of how many students in our program stay.

DFWI

The DFWI rate was higher than we would like it to be for our program with an example term of summer analyzed at . The highest DFWI rate was within our Anatomy and Physiology courses. While Anatomy and Physiology is a challenging course and frequently has a higher DFWI, we were denied a new faculty hire and so had to raise the caps on our classes to move all the students through their respective programs. We believe larger class sizes have a negative impact on student success. As faculty are stretched more and more, they have less time to invest in each individual student.

Equity Gaps:

Graduation Rate

In last year's report, we noted that it was possible that there were equity gaps present within the graduation rate data, but with this year's additional data, it does not appear that we have equity gaps in graduation rate. Without total numbers of students for each group, it is still impossible to tell, but the numbers appear better this year.

We still had zero African American students graduate within 6 years, but this year the category was not included rather than saying zero, so that seems to imply our program did not have any students that would fit in that category during the 6-year range. Last year indicated zero first generation students graduated in 6 years, but this year six first generation students graduated within 6 years compared with fifteen not first generation students. Last year's data showed 4 PELL Awarded students graduated in 6 years compared with 20 non-PELL, and similarly this year, 6 PELL Awarded students compared with 19 non-PELL students.

Retention

This year, there are one or two potential equity gaps in our retention of students, but the numbers of students are so small in some categories that the data is difficult to interpret, but overall, the data does not show equity gaps in retention. That being said, we had more students that were not retained this year compared with last year's data (14/45 compared to 4/40), so that larger number, while not good for the program, helps to show our losses are not targeted.

Last year, all male BHS students were retained during their first year, and so the program only failed to retain female students during the first year, but this year the losses were spread equally across gender. Last year 3 out of 4 students not retained were PELL Awardees, but this year of the students not retained, 4 were PELL and 10 were not PELL. Last year, all first-generation students were retained, which was good, but this year of the students not retained, 2 were first generation and 8 were not first generation (4 students were not retained in which first generation status was unknown). Last year, all the students not retained were white, but this year 2 out of 3 Asian students were not retained, 3 out of 7 Hispanic students were not retained, 2 out of 7 students in the Two or More Races category were not retained, and 6 out of 26 white students were not retained.

DFWI

The data we were able to look at was collected from summer term, so is not the most representative because most of the classes would be online rather than in-person and might include a different demographic of students. There are some potential categories to continue to monitor in the future, but there does not appear to be any obvious equity gaps at this point with such small sample numbers that move percentages widely. There was an 18.5% DFWI for female students and 8.1% for male. 12.2% for PELL Awardees and 16.0% for non-PELL students. Within race, there was a DFWI rate of 0% for African American, 0% for American Indian, 23.8% for Asian, 16.0% for Hispanic, 12.5% for Two or More Races, and 13.0% for white students.

History of Results:

The last time Communication, Ethical Reasoning, and Teamwork was evaluated was in the 21-22 Assessment Report. At that time, Communication was only assessed at the Capstone level in BIO 409, Ethics was only assessed at the Foundational level in BIO

109, and Teamwork was only assessed at the Foundational level in PHY 221. It appears from the report that the goals set during that year were for 80% of students to achieve at least 75% on the assignment given. At that time, all goals were met. We evaluated similar classes and similar assignments this year but expanded our assessment to include even more classes. We again met all the goals that we set.

Evaluation of Past Actions:

Because the program achieved all its goals related to ISLOs/PSLOs during that year, we did not set any Learning Objective-specific goals. However, we set goals to 1) further update our PSLOs to better align them with ISLOs, 2) better align the assessment cycles between ISLOs and our PSLOs, and 3) improve the reliability of the collected data by using multiple courses/instructors for each learning objective.

Relating to the first goal, it appears that our PSLOs have stayed the same, and if anything, through programmatic discussions, we have decided that the goals of our program, in fact, do not align with the goals of the institution. While we still recognize that ethics and teamwork are important skills, those are topics that are not really *taught* within our program. We rely on our colleagues in other departments to teach those topics so that hopefully our students can understand them and implement them within our courses and their future careers.

On the second goal, we maintained the mapping of our PSLOs onto the ISLOs as they were outlined during that year of evaluation through this assessment cycle of 24-25, but starting next year with 25-26, we have made some changes so that we are more specifically evaluating each of our PSLOs rather than those being overshadowed by the ISLOs. Our PSLO 1 of demonstrating scientific knowledge and understanding was not specifically getting evaluated because it was getting lumped in with inquiry and analysis and proficiency in scientific reasoning and critical thinking. While it was related, we think our assessment will be improved by looking specifically at PSLO 1. In the future, we will also try to specifically pull out the data related to PSLO 3 finding and using literature from PSLO 4 effective communication. Students use sources most heavily for their oral presentations and written assignments, and the quality of the sources has been assessed within those assignments. Moving forward, it will be useful to have a separate evaluation to ensure we are meeting the standards for our literature resources on its own. We believe our new proposed mapping more clearly aligns the matching goals and separates out the objectives that do not overlap between our ISLOs and PSLOs.

Finally, for the third goal that was set, we have successfully moved from having just one class assessed to at least two for each ISLO/PSLO. We also had 4 faculty provide data and for 2 of 3 ISLOs, two separate faculty provided data.

Section 7 – Data-driven Action Plans:

Action Driver	Action Taken	Accountable Person	Resources Needed	Outcome Measure
Discussions within program resulted in acknowledgement that ethical reasoning is not a PSLO, but important for students	Embed ethical discussions throughout more of our classes even if we do not explicitly <i>teach</i> ethics within our discipline	Travis Lund	Time during BHS or department meetings for training on incorporating ethical discussions in more courses	27-28 Program Assessment comparison to this year's data
"Free loaders" in group work complicate team dynamics	Control group size	Yuehai Yang	Update assignment description and/or rubric	27-28 Program Assessment comparison to this year's data
Students' oral presentations not fitting to the time constraints of the assignment	Explicitly encourage students to practice the timing aspect of their presentation more	Ken Usher	Time during class to emphasize the importance of this for students	27-28 Program Assessment comparison to this year's data

Section 8 – Closing the Loop: Reflection on previous work

23-24 Assessment ISLO 5 Quantitative Literacy and PSLO 5 – Demonstrate mathematical knowledge and skills in the biological sciences

In last year's 23-24 assessment, we achieved our goal at the Foundational level but failed at both the Practicing and Capstone levels.

23-24 Assessment ISLO 2 Inquiry & Analysis and PSLO 2 – Be proficient in scientific reasoning and critical thinking – and PSLO 1 – Demonstrate scientific knowledge and understanding

We achieved the standard at the Practicing level (but the results were still not what we would like to see) but failed at the Capstone level.

To get a better handle on how to address this, we tried to gather even more data.

Exit Survey Data

We looked at the Exit Survey data for our BHS graduates, which is a small sample size, but still useful. We looked at the question “How well did the BHS program prepare you in the following areas?” There were 4 possible options for students to respond with Highly Prepared, Prepared, Somewhat Prepared, and Inadequately Prepared. The trend in the data became much more clear when I group Highly Prepared and Prepared into one group and Somewhat Prepared and Inadequately Prepared into a second group. The data from the 23-24 and 24-25 surveys are included below.

AY 23-24 (11 respondents)

PSLO	Highly Prepared & Prepared	Somewhat Prepared & Inadequately Prepared
1. Scientific knowledge	91%	9%
2. Scientific principles*	91%	9%
3. Literature resources	91%	9%
4. Communication	91%	9%
5. Mathematical knowledge	45%	54%

AY 24-25 (6 respondents)

PSLO	Highly Prepared & Prepared	Somewhat Prepared & Inadequately Prepared
1. Scientific knowledge	100%	0%
2. Scientific principles*	100%	0%

3. Literature resources	100%	0%
4. Communication	100%	0%
5. Mathematical knowledge	50%	50%

This data from our students shows that they feel confident leaving our program in the first four learning objectives, but the fifth relating to mathematical knowledge there is a pretty steep drop off in which less than half of our graduates feel they are prepared. This confirms what our faculty have found through our assessment over the years – students are generally achieving our benchmarks for almost everything except their quantitative literacy.

Also, by looking at this data more closely, we realized that the Exit Survey sent out by the school does not have all the correct five PSLOs. PSLO 1 2 for use have multiple subpoints, but it is broken at the incorrect spot. PSLO 2 should instead say critical thinking rather than scientific principles. We will contact the appropriate party to get the Exit survey fixed for this coming year.

Informal Survey of Graduates

While we were deciding what we should do to address the fact that our students were not hitting our goals relating to quantitative literacy, we looked at some medical school requirements. More and more, professional schools are dropping their calculus requirements, but a number of schools do still require it. We decided to send out an informal poll of graduate students from our program to determine if calculus should still be required. Most of the students who responded have gone onto other professional schools (medical, PA, veterinary, etc.). The general consensus was that calculus specifically was not useful on the MCAT, but still required for some programs and helps you to understand physics.

“I took the MCAT in 2020 (I think). I really didn’t feel like calculus was used on the MCAT, especially related to physics.”

“I did not take the MCAT to get into grad school although I will say I have not run into any course where we have had to refer to anything learned from calculus whereas concepts from most other courses like ochem, micro, virology and basic algebra have come up time and time again.”

“I also took the MCAT around Sept 2020, so it's been a little while. I remember doing some practice problems (which are typically harder than necessary) that required some basic calculus. On the real thing, I don't recall any problems that directly required calc, but I do feel that it is really helpful in understanding some physics/chemistry concepts, and being able to derive equations can be helpful (mostly cause I hate memorizing). For example, you are definitely expected to understand position/velocity/acceleration relationship concepts and interpret related graphs. I have also encountered some basic

physics/calc during class in med school like 2 times lol. Definitely not expected for licensing exams. Oh and I also want to mention I think it's generally just a good idea to take because at least a handful of medical schools require it as a prerequisite, most "recommend" it (which is more of a requirement than a recommendation), and a few require math beyond calc I/II. Many also require physics with calculus, and I'm not entirely sure how you would do that without knowing calculus."

"I did take the MCAT but ultimately took the OAT to get into Optometry School in 2020. Calculus and Physics didn't really help with the MCAT but helped a ton with the OAT and in my first year of Optometry school with learning Snells Law of Refraction and prescribing glasses. I greatly appreciated the education I got at OIT because I know that was a challenging topic for my other classmates."

"I took the MCAT in 2023 and 2024 and calculus was not tested upon at all within the test. That being said, 30-40% of the medical schools that I have applied for have required at least Calculus 1."

"I didn't take the MCAT. However, calculus was not a prerequisite I needed to get into PA school. The most math we've done includes basic algebra which is needed to determine dosing of medications."

"For the MCAT I would say it was not helpful other than just problem solving skills. I would say that Physics is extremely important though so if calculus is a required prerequisite than it is still important. Along with that I think it is important for the fact that many med schools require calculus and calculus based physics. (Just my opinion but I think it is important, just not for MCAT in particular)."

Informal Survey of Biochemistry Students

One of our faculty members also gave out a survey during winter term to the Biochemistry students to determine their feelings about math in the program. Because of the class it was given in, those surveyed mostly consisted of seniors who had completed their math requirements and would be successfully completing our program without dropping out. It is possible that students surveyed earlier in their career or students who leave our program might have different opinions. The survey included the following prompts.

1 = strongly disagree, 5 = strongly agree

The BHS program has this as one of the five Program Student Learning Outcomes:
"Demonstrate mathematical knowledge & skills applied to the biological sciences."

_____ This outcome is important for BHS students/graduates, generally.

_____ This outcome is important for me as a BHS student/graduate.

_____ The math and statistics courses required for BHS help provide a basis for this outcome.

_____ Requiring more statistics and less calculus for BHS would make a better basis for this outcome.

_____ Please estimate your GPA in your math and statistics courses only. (Please note this info will not be used individually, but it tests the theory that people who do well in math feel it is more important for their degree, and vice-versa.)

Comments:

In your experience, what other BHS science courses support or apply math skills?

23 students filled out the survey. To the first prompt, the mean was a 4.43, the second was 4.30, the third was 3.52, and the fourth was 3.43. Students clearly believe math is important for themselves, specifically, and BHS students in general. The class average was just above neutral for both that our math and stats courses provide a basis for our learning outcome and that more stats and less calculus would be a better basis. The comments students wrote are included below. The comments are clearly not a mandate for reducing the math requirements. If anything, students want to be better at math, want to have more applications of math to their other courses, and continue to use math throughout their degree so they don't forget it.

“Pharm D programs require calculus. More statistics would be good. Especially for more research and data collection techniques.”

“I believe that these calculus courses provide students with problem solving skills for lab (Gen Chem).”

“Calculus and statistics is relevant in what we do in most classes.”

“I think requiring calculus is a good thing even if it is not needed for all grad school programs, it is important ensuring the student is competent enough to function in life!”

“I feel that calculus and physics that I took in high school made me a more critical thinker and improved my problem solving ability, especially in cases where not every piece of information is laid out for me. I almost wish more upper-level math was required for MLS, because I do think it is important to take for the cognitive strength it builds. I feel that calculus/upper level math are important for everyone who is pursuing higher education.”

“Math provides a very important foundation for critical thinking and reasoning foundations.”

“I think math catered more that we will need in biology. Statistics are important.”

“The required math courses create a foundation that will become important in most other Bio Health core classes. Regardless of whether or not every aspect of these courses will be directly applied in classes further down the line – they do help form confidence in the lab-based analytical skills required in Biochem, Physics, etc...”

“Most of us have to take a MCAT, DAT, GRE which don’t let students use a calculator, so doing classes where we are to use one to such a complicated extent in my opinion is useless.”

“I only had to take 1 math class at OIT (stats), everything else I did in high school. I think while a lot of us are doing pre-med routes, the critical thinking and skills with taking math classes are useful in future tests and future work skills in the medical field.”

“For PA schools, statistics is very important to know and in this degree. I only had to take 1 stats course. I feel like the more challenging math courses would have helped me learn better if they had applied examples that related to biohealth as well as maybe continued to use statistics in courses along the way. I took stats my freshman year and feel unprepared for what I am going to need to know for PA school.”

“I believe mathematics is vital for a stem-based degree such as biology. Lowering students understanding of topics such as calculus can restrict their scientific abilities in the future.”

“3-terms of physics with calculus is dispensable. Calculus should and needs to be required. Skills acquired from calculus stretch beyond mathematics: problem solving, communications, art skills, representation and more general foundations. I found success in other courses partially because of the multiple math courses taken.”

“Statistics and graphing is utilized a lot more in gen chem and biochem. It’s important to know how to read stats but also now to get to it and actually understand the process. Tutoring should be aimed for BHS students in these different classes. Further allowing them to apply to actual concepts used in biology and gen chem etc...”

“Yes math is important but I also think the way BHS is set up, finishing all the math class early in the degree, doesn’t make sense and makes it harder to keep up on your math skills in your jr./sr. year.”

“Taking the math courses I believe have been beneficial but most math courses are dictated towards engineers. Having math courses dedicated towards bio health and tutors would be beneficial.”

“Some of the calculus math classes seemed more towards an engineering type class and it did not help really towards the harder core classes in BHS degree.”

“I think tailoring some of the math classes to the applications that the students will use later in their career will benefit the students more. Most math classes we take as BHS are tailored to the engineers.”

“As a BHS student calculus was a terrible experience. It was hard for me to understand. I went to the teachers and numerous math tutors. While I don’t blame them, I did not get much help them, I think adding math classes that are more applicable to BHS students is a great idea and will set them up for success for the future.”

“I believe that the math course are more important than preparing for med school/PA/PT/etc. it is teaching/reinforcing skills that are need to thrive in the settings above. No one wants to really take calculus but trying to learn and even struggle helps improve your learning. I feel my math could be better and I wish it was.”

“I believe removing classes because they aren’t required for Grad Schools isn’t a valis reason to eliminate a course. I believe the point of an undergraduate degree is to learn how to learn for future endeavors and by eliminating an essential skill being learned in calculus, it will be hurting BHS students.”

“I believe this makes it more difficult for those students who have taken a gap year from school and coming back vs. those who continues after high school to take math classes.”

Internal Senior Exit Survey

In terms of assessment, our program has spoken a lot about how condensing everything down into two numbers like 80% of students got at least 75% on an assignment, while helpful for comparison between years and across learning outcomes, it can lose a lot of the meaning. To counteract this, our program spent a lot of time brainstorming and decided to try a new internal exit survey with questions that are more useful to our program specifically rather than the whole school. We thought students would also be more willing to give more information through a conversation with a trusted faculty than needing to type out their responses. We offered to let students choose if there was a specific faculty they wanted to meet with, but the ones who did the survey all met with Dr. Travis Lund, which in hindsight was good that there was consistency and it makes sense as he is the program director. Below is the list of questions that we asked students.

Name:

Were you here at OIT all 4 years? Always in the BHS program?

What's next for you?

Question 0: Anything in particular on your mind as you come in, or do you want me to start asking you questions?

Intro

1. Looking back over your time in the BHS program, what aspect(s) stand out as most meaningful or impactful?
2. What aspects of the program should absolutely be preserved going forward?
3. What should we seriously consider changing, improving, or eliminating?

Facilities

4. How satisfied are you with the classrooms, laboratory facilities, and equipment?
5. How would you rate the availability and accessibility of study spaces?

Support

6. How would you rate the academic advising and support services provided by the department?
7. Did you feel like faculty and staff were accessible, supportive, and invested in your success?

Belonging

8. Did you feel a sense of belonging in the program? Why or why not?
9. Were you able to balance academics with work, family, or other responsibilities?
10. Were there any barriers or challenges you faced in the program? For example, due to identity, background, finances, scheduling, work or family commitments, or personal circumstances?

Academic Experience

11. Which courses in the program did you find most valuable or engaging? What made them stand out?
12. Were there any courses you found unhelpful, outdated, redundant, or too easy/difficult? Please explain.
13. Did you feel the sequence of courses made sense and prepared you for upper-division classes? Why or why not?
14. Was there any content or topic you feel should have been covered more deeply—or included at all—that was missing from the curriculum?

Preparation

15. How well did our curriculum prepare you for your future career or further studies?

16. Were there adequate opportunities for research, internships, or applied learning? If so, how valuable were they? If not, what was missing?

Final Reflections

17. If you were in charge of redesigning this program, what would you change or add right away?
18. What are you most proud of accomplishing during your time in the program?
19. What advice would you give to incoming students in this major?
20. Is there anything else—positive, negative, or just important—that you want us to know about your experience (or that you think we should ask graduating seniors such as yourself)??

We had 5 students respond and take the survey this first year. We will keep working on the questions based on what students said and which questions were useful to us. The primary take aways were that students really appreciate small class sizes, relationships with faculty and other classmates, having lots of labs particularly the cadaver lab. Students generally thought the classes we require are good – even if they didn't like a class they were still able to see the value in it. Some students thought that we should require even more things like Medical Ethics or other psychology courses and maybe even a class on Excel. Students really appreciate the academic advising they receive by BHS faculty helping them to figure out their classes. Students mentioned that they really build their camaraderie with their cohort during their difficult junior year classes, but maybe didn't connect as well early on. (This is one of the reasons we are planning to move BIO 109 to fall term and have everyone take the class together.) In terms of structuring the program, some students thought we should get students who are ready for Gen Chem into it their freshman year instead of waiting until their sophomore year. And moving physics into sophomore year instead of junior year. Some students mentioned that they thought they learned chemistry maybe even better than they learned biology because of the structured chemistry sequences. (We have talked about potentially trying to make suggested orders for electives or adding a cellular biology sequence like micro biology, cell biology, and virology. That way there would be the general biology sequence, cell biology, anatomy and physiology, and biochemistry at the more protein-level.) Students were happy with the opportunities to engage in research, but mentioned they wished there were more opportunities for internships or shadowing.

Actions Taken and Planned

We have had many discussions within the BHS program over the last year to come up with a plan to address the data gathered above. In response to what we have collected and discussed as a BHS program, we have taken/are taking the following actions:

- Worked with ENV faculty to crosslist their lower-level Data Analysis course that covers a lot of the same content as MATH 361 as BIO 207

- Eliminated the requirement for MATH 252 and now made it that students can take MATH 252 or MATH 362 (statistics) or BIO 207
- Worked with the Math Department to make a new course, MATH 110, that has less of a focus on preparing students for calculus and more on the applications of math using examples with units like in physics or chemistry
- Not specifically for BHS students, but BHS students could take the newly created MATH 110 before moving into MATH 111 if they wished to get more math practice
- Committed to offering PHY 201, 202, and 203 each year
- Eliminated the requirement for calculus-based physics and allowing instead algebra-based physics for the BHS degree
- Eliminated the option of STAT 243 and required for everyone MATH 361
- Agreed to make a concerted effort to add a quantitative component to as many of our biology courses as possible. To measure this effort we are currently collecting data on how many biology courses currently involve any quantitative components, and are setting a goal to try to add at least one activity throughout a term to each biology course to show how mathematics applies to biology
 - An example might be in BIO 209 and 409 when students give an oral presentation and write a research paper, explicitly requiring that the students explain a graph or table or some other quantitative aspect of a research paper to incorporate quantitative literacy
- Moving BIO 109 to fall term moving forward and making it a larger class to try to get students to develop a cohort mentality, facilitate setting up peer mentorship, and potentially introduce students to software like Word, Excel, and different AI tools to help them in their studies

On-going efforts:

Grow Enrollment

BHS is continually working to grow enrollment. The ongoing efforts include:

- Faculty visiting high schools and middle schools in the area and doing STEM outreach events
- Coordinating visits from local schools to campus and participating in events organized by admissions
- Posting about the work in the department on social media
- Teaching high school dual credit courses to build pipelines with regional, underserved schools

Increase Retention

BHS is continually working to improve retention to our collective effort in creating a supportive system within our department and university. There are several methods we have tried to improve retention.

- Last year was the second year of having tutoring available in the Dow hallway. We believe this is more convenient for our students to get help in their classes than needing to go over to the library.
- We have been thinking about implementing a peer mentorship program, and started work with the in-coming president and vice president of the Biology-Health Sciences Club and Alpha Epsilon Delta (a pre-health professional honor society) to organize a mentorship program for the incoming year.
- There has been a push to develop the department's culture. The end-of-year party was a success again last year to celebrate graduates and the culmination of another year. The Nobel Prize symposium expanded last year to include the 3 humanities talks. The Halloween celebration expanded last year so that Natural Science and MIT coordinated on the same theme. The department got jackets, vests, and hats, which people wear frequently especially on Fridays to show Oregon Tech pride.
- The department has been rapidly expanding the amount of research being done and the number of students involved in the research. Last year another chemistry faculty member was hired who will be initiating a new research program.

Streamline Assessment

The Qualtrics form we have created has improved the process of assessment collection so that faculty can enter their data before the Course Learning Outcomes worksheet becomes available. This system is continuing to be improved and optimized each year to make sure the person writing the report gets all the data they need to write the report. Our program is actively spending more time during program meetings to discuss assessment throughout the year to improve our ability to close the loop. We made changes to the curriculum mapping of ISLOs and PSLOs, so this year, we need to reassess which classes fit which Learning Objectives.

New BHS track

The new Biology-Research Sciences track has been created and students can major in that now, but no students have chosen that track yet.

Website update

The website still requires some updates including some minor errors or formatting issues and hopefully creating a new Research page.

New BMS program

The new Master's in Biomedical Sciences program welcomed its first class of graduate students last year. While it was great to have graduate students, there were growing pains associated with starting something new. There have been several logistical issues that we have improved upon but still need to continue to streamline moving forward. This will also be addressed in a separate program assessment in the future. Issues that need to be addressed include:

- Graduate student contract intervals

- Timing on getting their tuition remission paid so that graduate students can enroll for classes in the following term
- What classes are being offered what terms and who is teaching the courses
- Ensuring that the graduate courses we offer are at the graduate level
- The tuition cost of graduate-level courses especially for students doing a 3+2 program
- Whether graduate students qualify for in-state tuition
- Dissemination of information to all graduate students – maybe get a listserv
- Make a graduate handbook that contains all the information for incoming students
- Hold an orientation before school starts rather than or in conjunction with our Intro Grad classes

New hires

We were able to hire a visiting physics instructor last year but were denied an Anatomy and Physiology Professor hire. We continue to not receive approval for hiring a fire ecologist or lab manager so are not able to list jobs for those positions.

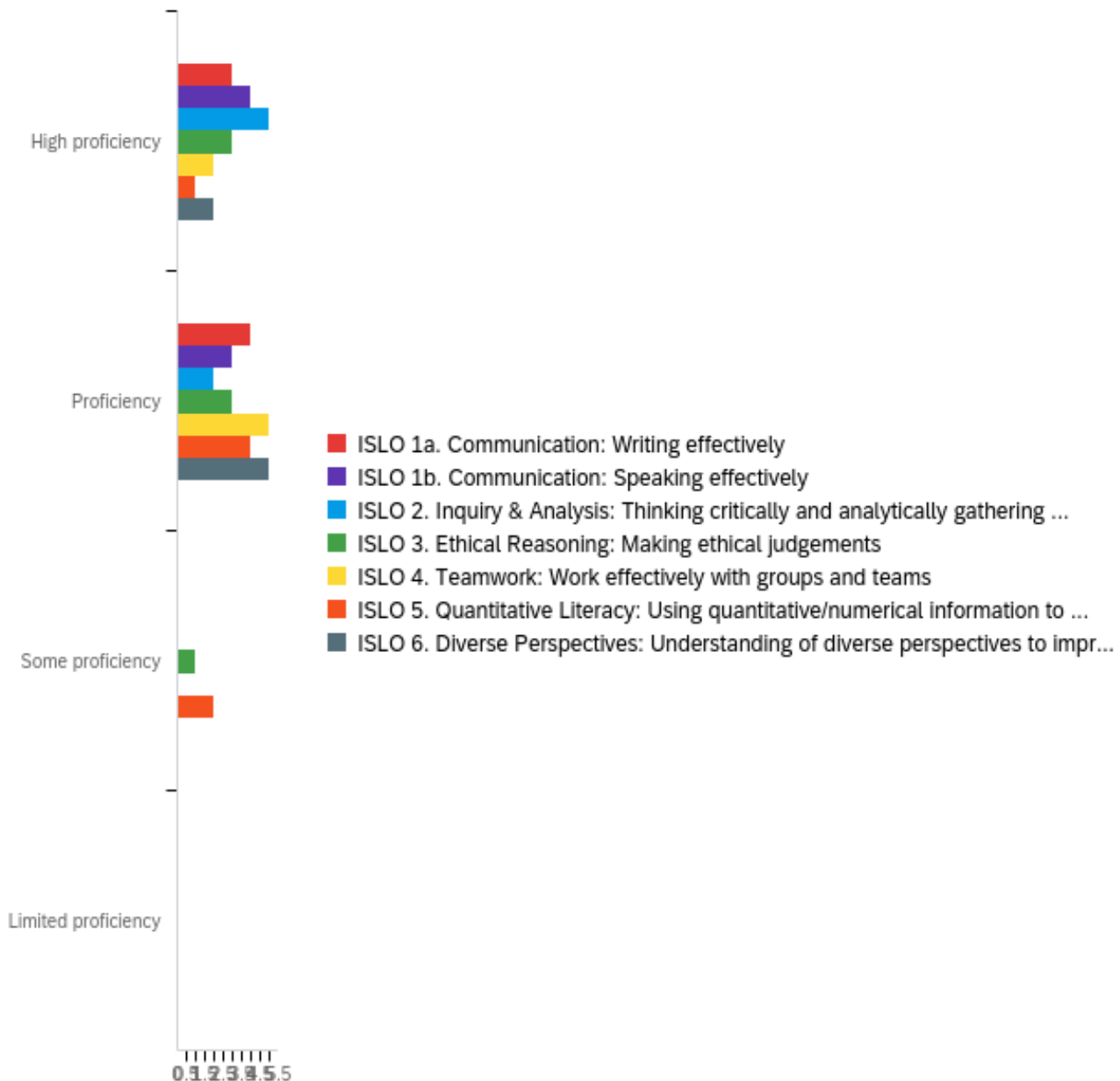
Appendix A – Exit Survey Results

BBHS

(2024-25) Student Exit Survey

June 25th 2025, 4:14 pm PDT

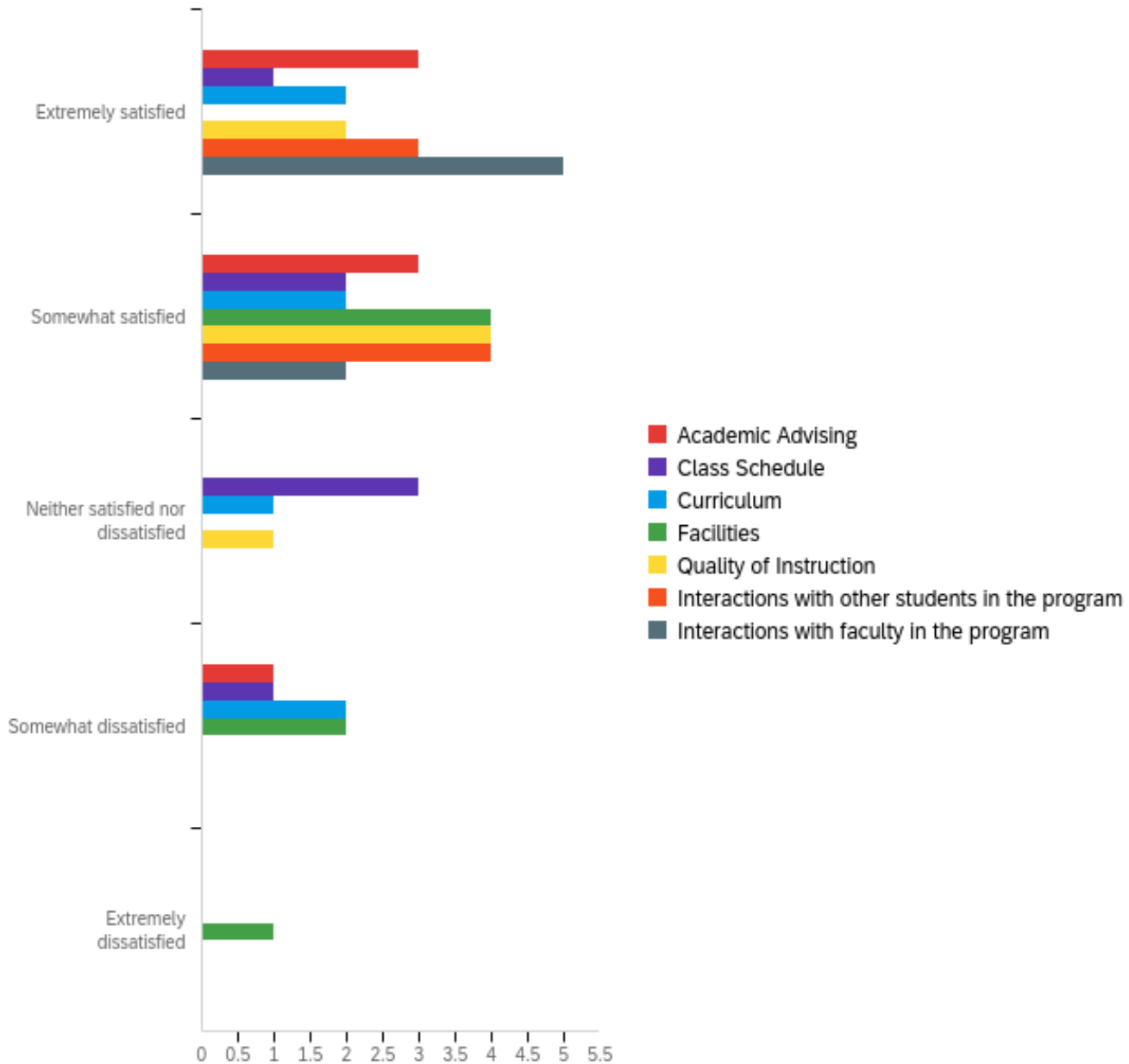
ISLO 1 - Oregon Tech Institutional Student Learning Outcomes As a student of Oregon Tech, you should have demonstrated learning in each of these areas. Please rate your proficiency in the following areas.



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	ISLO 1a. Communication: Writing effectively	1.00	2.00	1.57	0.49	0.24	7
2	ISLO 1b. Communication: Speaking effectively	1.00	2.00	1.43	0.49	0.24	7
3	ISLO 2. Inquiry & Analysis: Thinking critically and analytically gathering and evaluating relevant evidence	1.00	2.00	1.29	0.45	0.20	7
4	ISLO 3. Ethical Reasoning: Making ethical judgements	1.00	3.00	1.71	0.70	0.49	7
5	ISLO 4. Teamwork: Work effectively with groups and teams	1.00	2.00	1.71	0.45	0.20	7
6	ISLO 5. Quantitative Literacy: Using quantitative/numerical information to solve problems, evaluate claims, and support decisions	1.00	3.00	2.14	0.64	0.41	7
7	ISLO 6. Diverse Perspectives: Understanding of diverse perspectives to improve interactions with others	1.00	2.00	1.71	0.45	0.20	7

#	Question	High proficiency		Proficiency		Some proficiency		Limited proficiency		Total
1	ISLO 1a. Communication: Writing effectively	42.86%	3	57.14%	4	0.00%	0	0.00%	0	7
2	ISLO 1b. Communication: Speaking effectively	57.14%	4	42.86%	3	0.00%	0	0.00%	0	7
3	ISLO 2. Inquiry & Analysis: Thinking critically and analytically gathering and evaluating relevant evidence	71.43%	5	28.57%	2	0.00%	0	0.00%	0	7
4	ISLO 3. Ethical Reasoning: Making ethical judgements	42.86%	3	42.86%	3	14.29%	1	0.00%	0	7
5	ISLO 4. Teamwork: Work effectively with groups and teams	28.57%	2	71.43%	5	0.00%	0	0.00%	0	7
6	ISLO 5. Quantitative Literacy: Using quantitative/numerical information to solve problems, evaluate claims, and support decisions	14.29%	1	57.14%	4	28.57%	2	0.00%	0	7
7	ISLO 6. Diverse Perspectives: Understanding of diverse perspectives to improve interactions with others	28.57%	2	71.43%	5	0.00%	0	0.00%	0	7

Q PQ 1 - Oregon Tech will like to know about your experience about your program. Please indicate your level of satisfaction with the [Field-Major%201%20Desc] program in the following areas:



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Academic Advising	26.00	29.00	26.86	0.99	0.98	7
2	Class Schedule	26.00	29.00	27.57	0.90	0.82	7
3	Curriculum	26.00	29.00	27.43	1.18	1.39	7
4	Facilities	27.00	30.00	28.00	1.20	1.43	7
5	Quality of Instruction	26.00	28.00	26.86	0.64	0.41	7

6	Interactions with other students in the program	26.00	27.00	26.57	0.49	0.24	7
7	Interactions with faculty in the program	26.00	27.00	26.29	0.45	0.20	7

#	Question	Extremely satisfied		Somewhat satisfied		Neither satisfied nor dissatisfied		Somewhat dissatisfied		Extremely dissatisfied		Total
1	Academic Advising	42.86%	3	42.86%	3	0.00%	0	14.29%	1	0.00%	0	7
2	Class Schedule	14.29%	1	28.57%	2	42.86%	3	14.29%	1	0.00%	0	7
3	Curriculum	28.57%	2	28.57%	2	14.29%	1	28.57%	2	0.00%	0	7
4	Facilities	0.00%	0	57.14%	4	0.00%	0	28.57%	2	14.29%	1	7
5	Quality of Instruction	28.57%	2	57.14%	4	14.29%	1	0.00%	0	0.00%	0	7
6	Interactions with other students in the program	42.86%	3	57.14%	4	0.00%	0	0.00%	0	0.00%	0	7
7	Interactions with faculty in the program	71.43%	5	28.57%	2	0.00%	0	0.00%	0	0.00%	0	7

Q PQ 2 - Please tell us why you rated [QID1245-ChoiceGroup-SelectedChoicesForAnswer-26] or [QID1245-ChoiceGroup-SelectedChoicesForAnswer-27] or [QID1245-ChoiceGroup-SelectedChoicesForAnswer-30]

Please tell us why you rated [QID1245-ChoiceGroup-SelectedChoicesForAnswer-26] or [QID1245-ChoiceGroup-SelectedChoicesForAnswer-27] or [QID1245-ChoiceGroup-SelectedChoicesForAnswer-30]

Great job with office hours and being able to meet with faculty. more student led groups were individualized

I had amazing interactions with other students in my program. Since we all have had basically the same schedule for the last year we were able to grow close. I enjoyed the faculty in the BBHS program. They were always available and love to have students come to their office hours and overall they were very helpful. My one complaint on facilities is parking. As a Biohealth major I had nearly all my classes this year in DOW, and I rarely could find a parking spot close to that building.

I rated this way because I feel I had to guide myself a lot in terms of academic advising (especially since I am a student athlete). I believe that instruction was good, considering there is a good student-instructor ratio. I think a lot of the students in my program can relate to each other and will help each other out when they are in need. I do think the faculty (for the most part) are very fair and want to help you learn and understand if there is effort put in to learn. I do think the facilities are lacking and weren't fit for many of the labs that we were doing throughout the years.

I really liked my advisor; they were so helpful and made completing my schedule easy. It is nice that it is a faculty member that I am familiar with. With a small school, I really came to have very good relationships with the faculty, and I really appreciate that.

Q PQ 3 - Comment on specific ways to improve the [Field-Major%201] program

Comment on specific ways to improve the [Field-Major%201] program

Newer class/courses available. Expanding the program and curriculum

I believe that the biology part of the major is very disorganized and can have a more complete series in the curriculum (more like the chemistry part). I felt as if I was relearning a lot of basic biology concepts throughout my years because they weren't building off of each other consistently and I was constantly learning new and unrelated material.

More faculty would be helpful, as i got closer and closer to each professor they seemed to always feel stressed about the amount of classes/labs they taught. My main professor who helped me with research, was unable to do so since he had to cover labs sometimes and this frustrated me.

I believe that the BBHS program needs to value the difficulty of the program more. Yes I think that some classes aren't needed for future schooling (PA/PT/doctorate/etc.) those classes are building foundations of how to learn and what to learn which I think is important. I think BBHS has a lot of value and needs to be shared more throughout the school since I wouldn't say it is one of the top chosen degree paths. Overall, BBHS was everything I needed and more to help further my education.

Sometimes it was difficult to come up with a schedule because some class are not offered every term or there are only a few upper division biology electives.

Q PQ 4 - What have been the best things about your major? These might be experiences, particular courses or professors, general characteristics or features of the program - anything at all that was important to you.

What have been the best things about your major? These might be experiences, particular courses or professors, general characteristics or features of the program - anything at all that was important to you.

- hands on labs - interactive interactions / class participation - Lund and Usher made lifelong impacts on my life for the better - DOW building is very nice - very clean and modern (Boivin has perfect quiet study rooms that were often used)

The best thing about my major is particularly the courses, professors, and general characteristics. Some of my favorite courses were biochemistry and organic chemistry. Dr. Lund and Dr. Usher were amazing professors who taught me so much not just about these topics, but how to approach science and school in general. I also enjoyed this major as a whole, because you are constantly around like-minded individuals, who have goals of different graduate pathways, and you are able to grow and learn together. Biohealth is arguably the hardest major at this university and it takes a great student and staff to make it through this major. I found both to be amazing here at Oregon Tech.

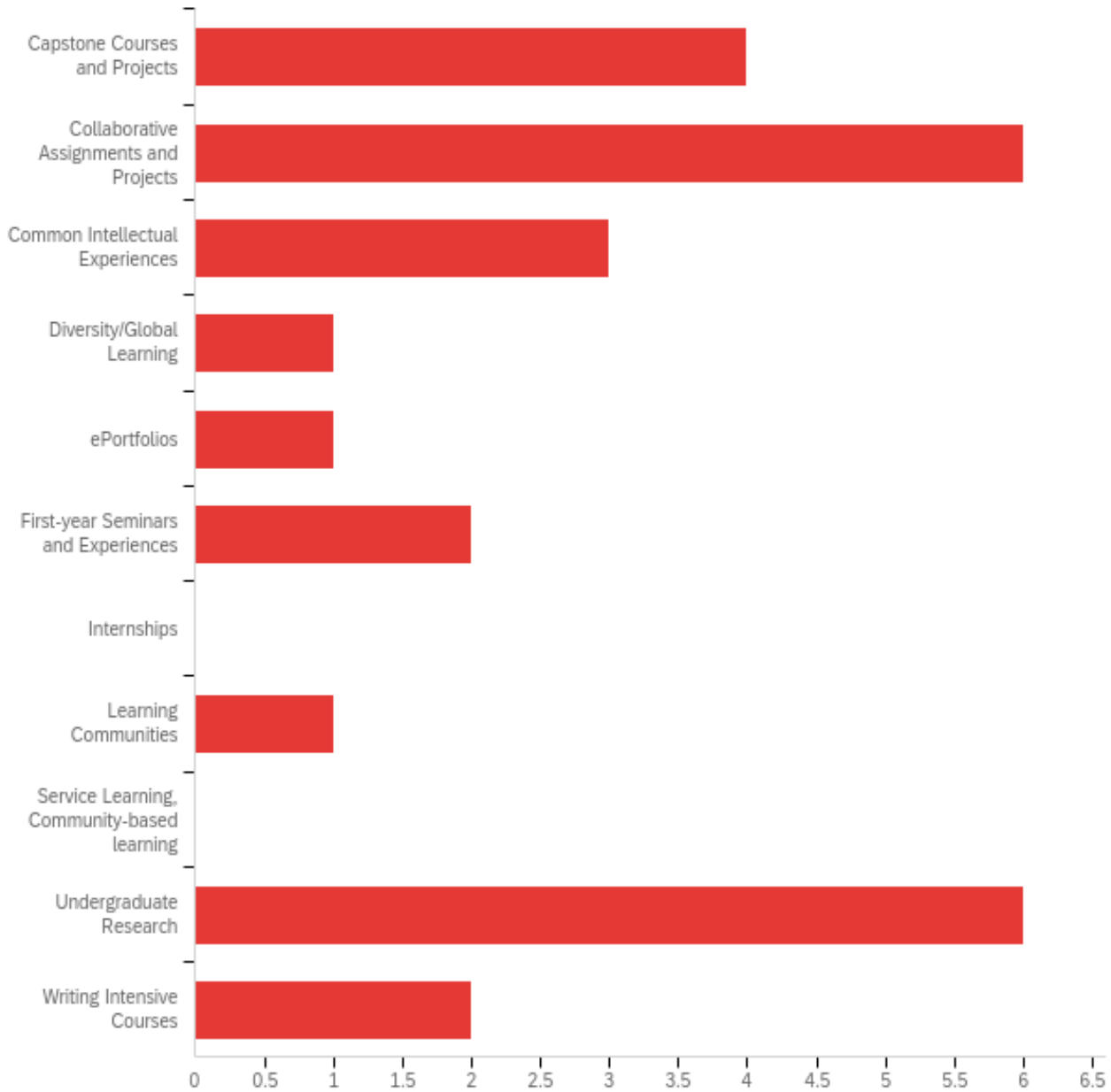
I believe that the best thing about my major is the professors, all of them seem to really care about the things they are teaching and are flexible with the personal needs of each students to help them succeed.

The overall sense is that, sure, the classes are hard, but everyone is here to support you, whether it is going to the faculty office hours or working together to study with peers.

Cadaver was a huge part of why I came to OIT and that environment became one of my favorites. I never had a professor (under BHS) that I disliked. My favorites ran among Dr. Kamal Gandhi and Dr. Rachel Edwards for the time and passion they personally gave me to help my educational journey. I enjoyed the small size of my cohort so that was another plus.

I think it's really nice to have a relationship with teachers and how willing they are to help and explain class content.

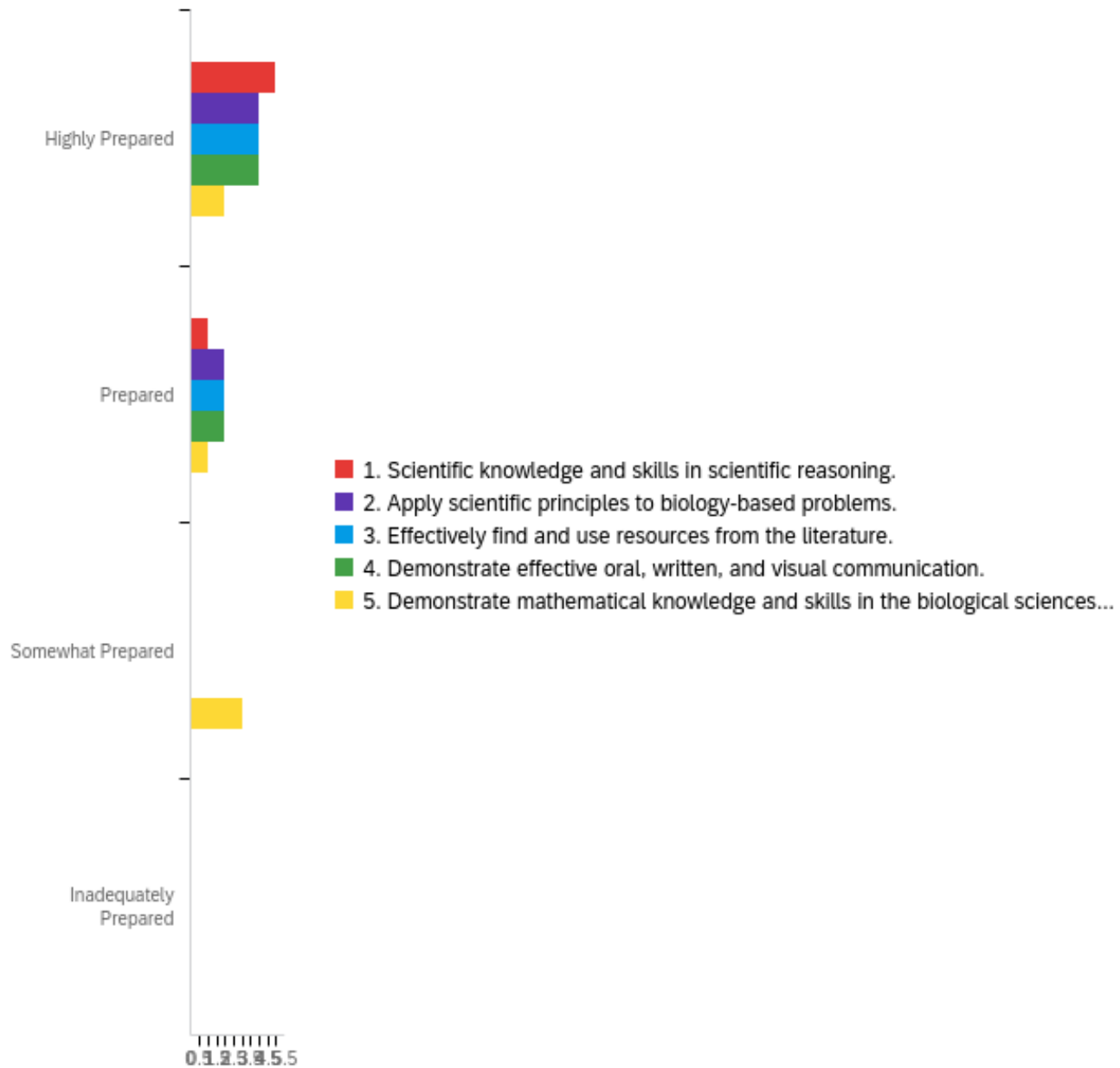
Q PQ 5 - Did your program utilize any of the following High Impact Practices (Please select all that apply):



#	Answer	%	Count
1	Capstone Courses and Projects	15.38%	4
2	Collaborative Assignments and Projects	23.08%	6
3	Common Intellectual Experiences	11.54%	3
4	Diversity/Global Learning	3.85%	1
5	ePortfolios	3.85%	1

6	First-year Seminars and Experiences	7.69%	2
7	Internships	0.00%	0
8	Learning Communities	3.85%	1
9	Service Learning, Community-based learning	0.00%	0
10	Undergraduate Research	23.08%	6
11	Writing Intensive Courses	7.69%	2
	Total	100%	26

Q BBHS 1 - Program Student Learning Outcomes for Biology-Health Sciences B.S. Please indicate how well the Biology-Health Sciences program prepared you in the following areas.

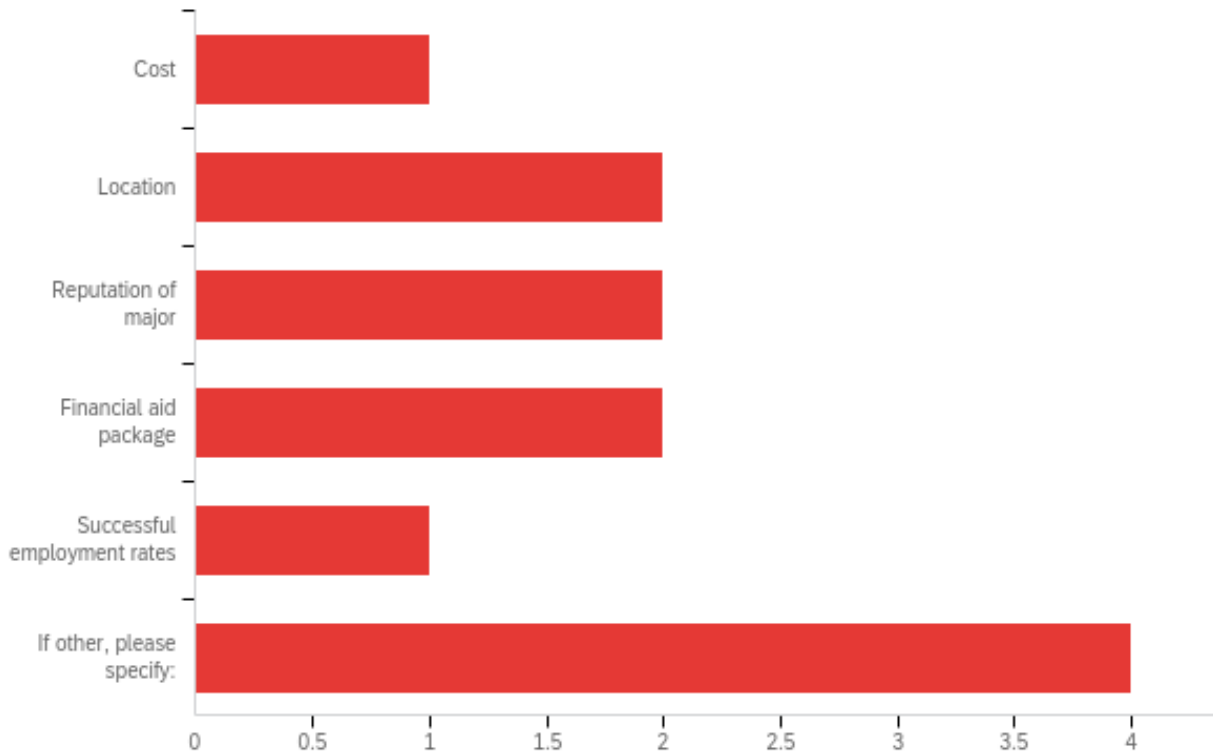


#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	1. Scientific knowledge and skills in scientific reasoning.	1.00	2.00	1.17	0.37	0.14	6
2	2. Apply scientific principles to biology-based problems.	1.00	2.00	1.33	0.47	0.22	6
3	3. Effectively find and use resources from the literature.	1.00	2.00	1.33	0.47	0.22	6
4	4. Demonstrate effective oral, written, and visual communication.	1.00	2.00	1.33	0.47	0.22	6

5	5. Demonstrate mathematical knowledge and skills in the biological sciences.	1.00	3.00	2.17	0.90	0.81	6
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#	Question	Highly Prepared		Prepared		Somewhat Prepared		Inadequately Prepared		Total
1	1. Scientific knowledge and skills in scientific reasoning.	83.33%	5	16.67%	1	0.00%	0	0.00%	0	6
2	2. Apply scientific principles to biology-based problems.	66.67%	4	33.33%	2	0.00%	0	0.00%	0	6
3	3. Effectively find and use resources from the literature.	66.67%	4	33.33%	2	0.00%	0	0.00%	0	6
4	4. Demonstrate effective oral, written, and visual communication.	66.67%	4	33.33%	2	0.00%	0	0.00%	0	6
5	5. Demonstrate mathematical knowledge and skills in the biological sciences.	33.33%	2	16.67%	1	50.00%	3	0.00%	0	6

Q BBHS 2 - What attracted you to Oregon Tech? Please check all that apply.



#	Answer	%	Count
1	Cost	8.33%	1
2	Location	16.67%	2
3	Reputation of major	16.67%	2
4	Financial aid package	16.67%	2
5	Successful employment rates	8.33%	1
6	If other, please specify:	33.33%	4
	Total	100%	12

Q BBHS 2_6_TEXT - If other, please specify:

If other, please specify: - Text

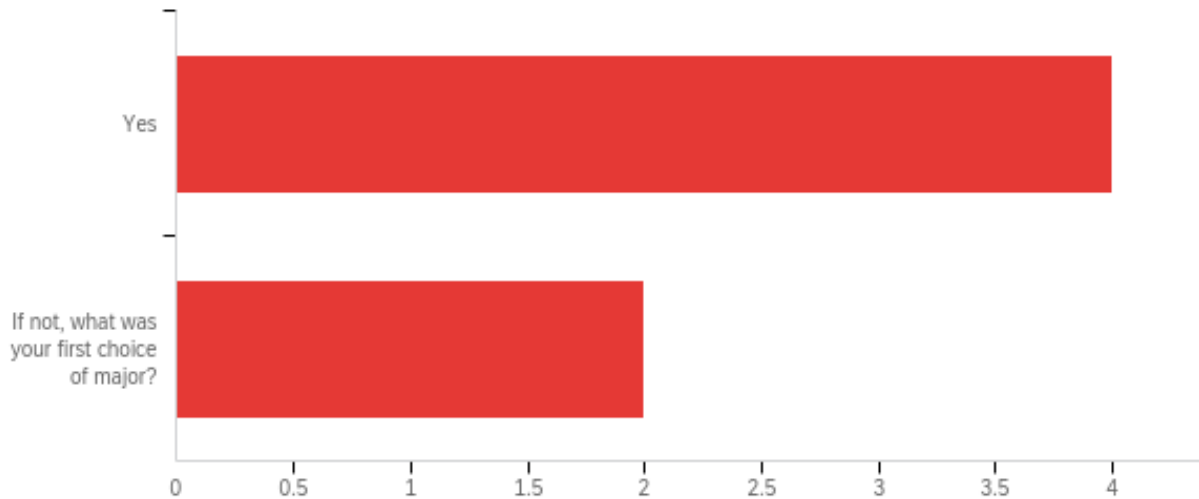
playing Men's Golf

Sports

Athletics and Cadaver

Sports team

Q BBHS 3 - Was Biology-Health Sciences your first choice of major?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Was Biology-Health Sciences your first choice of major? - Selected Choice	1.00	2.00	1.33	0.47	0.22	6

#	Answer	%	Count
1	Yes	66.67%	4
2	If not, what was your first choice of major?	33.33%	2
	Total	100%	6

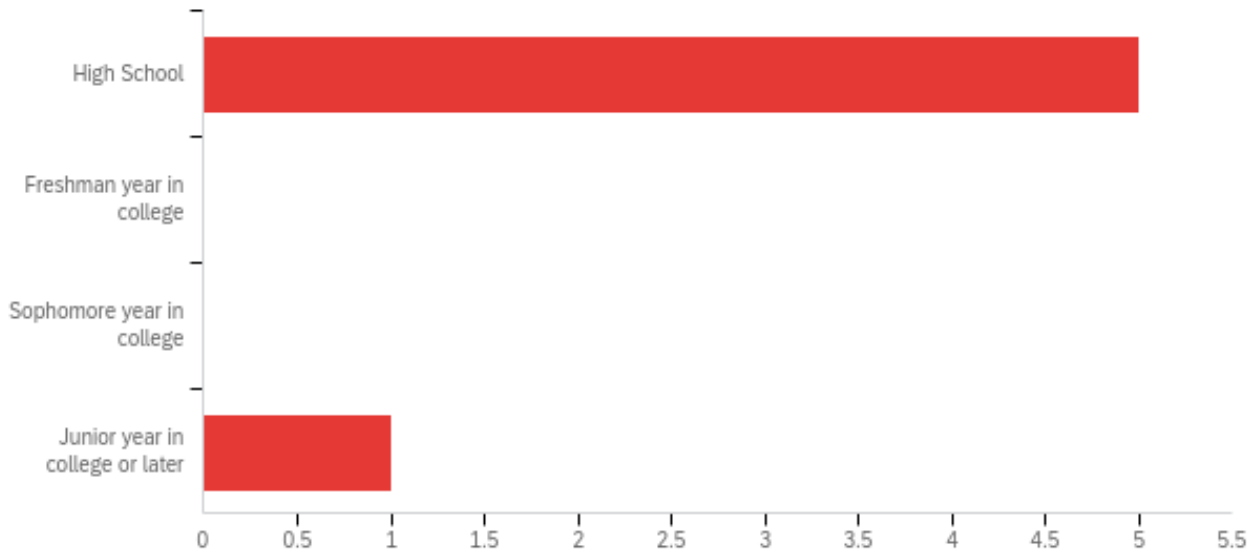
Q BBHS 3_2_TEXT - If not, what was your first choice of major?

If not, what was your first choice of major? - Text

Dental Hygiene

Kinesiology to become a PT but glad I choose BHS

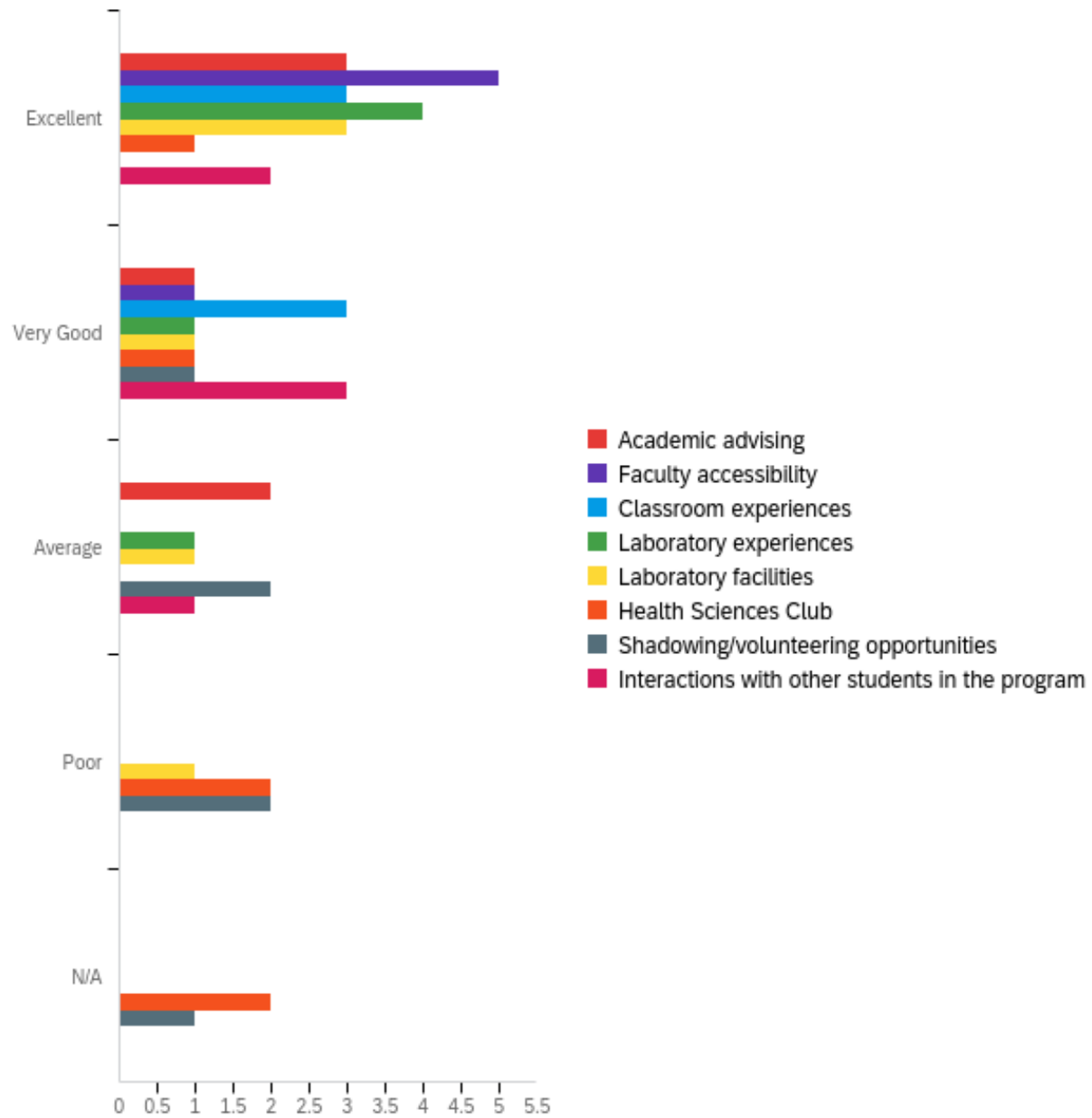
Q BBHS 4 - At what stage in your studies did you choose your major?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	At what stage in your studies did you choose your major?	1.00	4.00	1.50	1.12	1.25	6

#	Answer	%	Count
1	High School	83.33%	5
2	Freshman year in college	0.00%	0
3	Sophomore year in college	0.00%	0
4	Junior year in college or later	16.67%	1
	Total	100%	6

Q BBHS 5 - Please provide feedback about the overall quality of the following aspects of the Biology-Health Sciences Program have been to you.



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Academic advising	1.00	3.00	1.83	0.90	0.81	6
2	Faculty accessibility	1.00	2.00	1.17	0.37	0.14	6
3	Classroom experiences	1.00	2.00	1.50	0.50	0.25	6
4	Laboratory experiences	1.00	3.00	1.50	0.76	0.58	6
5	Laboratory facilities	1.00	4.00	2.00	1.15	1.33	6

6	Health Sciences Club	1.00	41.00	15.50	18.06	326.25	6
7	Shadowing/volunteering opportunities	2.00	41.00	9.50	14.10	198.92	6
8	Interactions with other students in the program	1.00	3.00	1.83	0.69	0.47	6

#	Question	Excellent		Very Good		Average		Poor		N/A		Total
1	Academic advising	50.00%	3	16.67%	1	33.33%	2	0.00%	0	0.00%	0	6
2	Faculty accessibility	83.33%	5	16.67%	1	0.00%	0	0.00%	0	0.00%	0	6
3	Classroom experiences	50.00%	3	50.00%	3	0.00%	0	0.00%	0	0.00%	0	6
4	Laboratory experiences	66.67%	4	16.67%	1	16.67%	1	0.00%	0	0.00%	0	6
5	Laboratory facilities	50.00%	3	16.67%	1	16.67%	1	16.67%	1	0.00%	0	6
6	Health Sciences Club	16.67%	1	16.67%	1	0.00%	0	33.33%	2	33.33%	2	6
7	Shadowing/volunteering opportunities	0.00%	0	16.67%	1	33.33%	2	33.33%	2	16.67%	1	6
8	Interactions with other students in the program	33.33%	2	50.00%	3	16.67%	1	0.00%	0	0.00%	0	6

Q BBHS 6 - What are one or two specific things we could do to improve the Biology-Health Sciences major?

What are one or two specific things we could do to improve the Biology-Health Sciences major?

- please expand resources for summer opportunities - internship and help shadowing over the summer would be heavily appreciated - there is minimal / if any resources for summer jobs

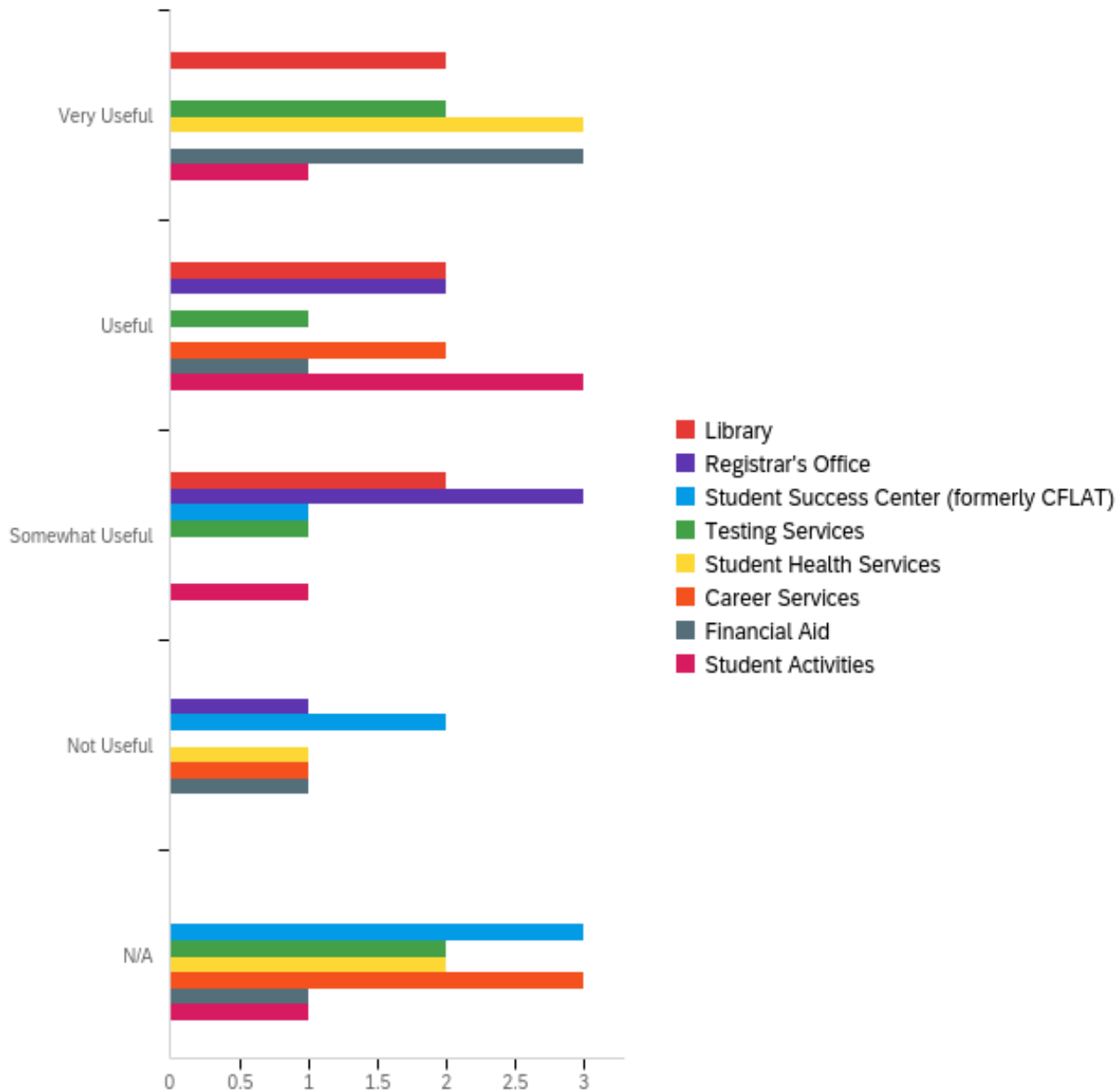
You could make the biology part of the major more cohesive.

More faculty, and more electives, I feel like as a graduate, there are interesting chemistry electives that are starting to pop up that I am missing.

Add BHS specific tutors for math fields as well

Offer upper division electives more often instead of one term a year.

Q BBHS 7 - Please provide feedback about how useful the following Oregon Tech services have been to you.

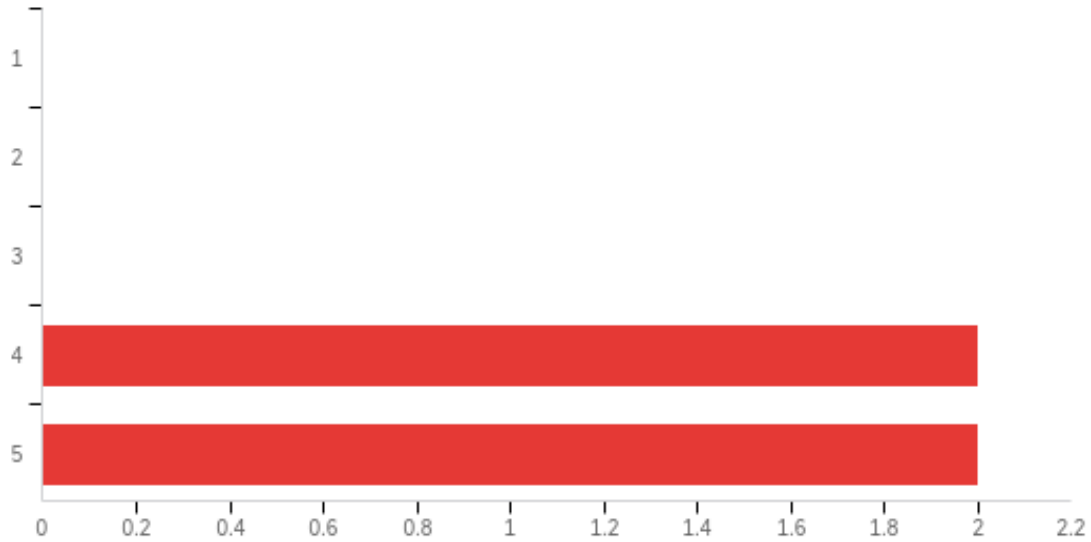


#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Library	1.00	3.00	2.00	0.82	0.67	6
2	Registrar's Office	2.00	4.00	2.83	0.69	0.47	6
3	Student Success Center (formerly CFLAT)	3.00	5.00	4.33	0.75	0.56	6
4	Testing Services	1.00	5.00	2.83	1.67	2.81	6
5	Student Health Services	1.00	5.00	2.83	1.86	3.47	6

6	Career Services	2.00	5.00	3.83	1.34	1.81	6
7	Financial Aid	1.00	5.00	2.33	1.60	2.56	6
8	Student Activities	1.00	5.00	2.50	1.26	1.58	6

#	Question	Very Useful		Useful		Somewhat Useful		Not Useful		N/A		Total
1	Library	33.33%	2	33.33%	2	33.33%	2	0.00%	0	0.00%	0	6
2	Registrar's Office	0.00%	0	33.33%	2	50.00%	3	16.67%	1	0.00%	0	6
3	Student Success Center (formerly CFLAT)	0.00%	0	0.00%	0	16.67%	1	33.33%	2	50.00%	3	6
4	Testing Services	33.33%	2	16.67%	1	16.67%	1	0.00%	0	33.33%	2	6
5	Student Health Services	50.00%	3	0.00%	0	0.00%	0	16.67%	1	33.33%	2	6
6	Career Services	0.00%	0	33.33%	2	0.00%	0	16.67%	1	50.00%	3	6
7	Financial Aid	50.00%	3	16.67%	1	0.00%	0	16.67%	1	16.67%	1	6
8	Student Activities	16.67%	1	50.00%	3	16.67%	1	0.00%	0	16.67%	1	6

Q BBHS 8 - What is your overall rating of the quality of education you received?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	What is your overall rating of the quality of education you received?	4.00	5.00	4.50	0.50	0.25	4

#	Answer	%	Count
1	1	0.00%	0
2	2	0.00%	0
3	3	0.00%	0
4	4	50.00%	2
5	5	50.00%	2
	Total	100%	4

Q BBHS 9 - Do you have any other comments about your time at Oregon Tech?

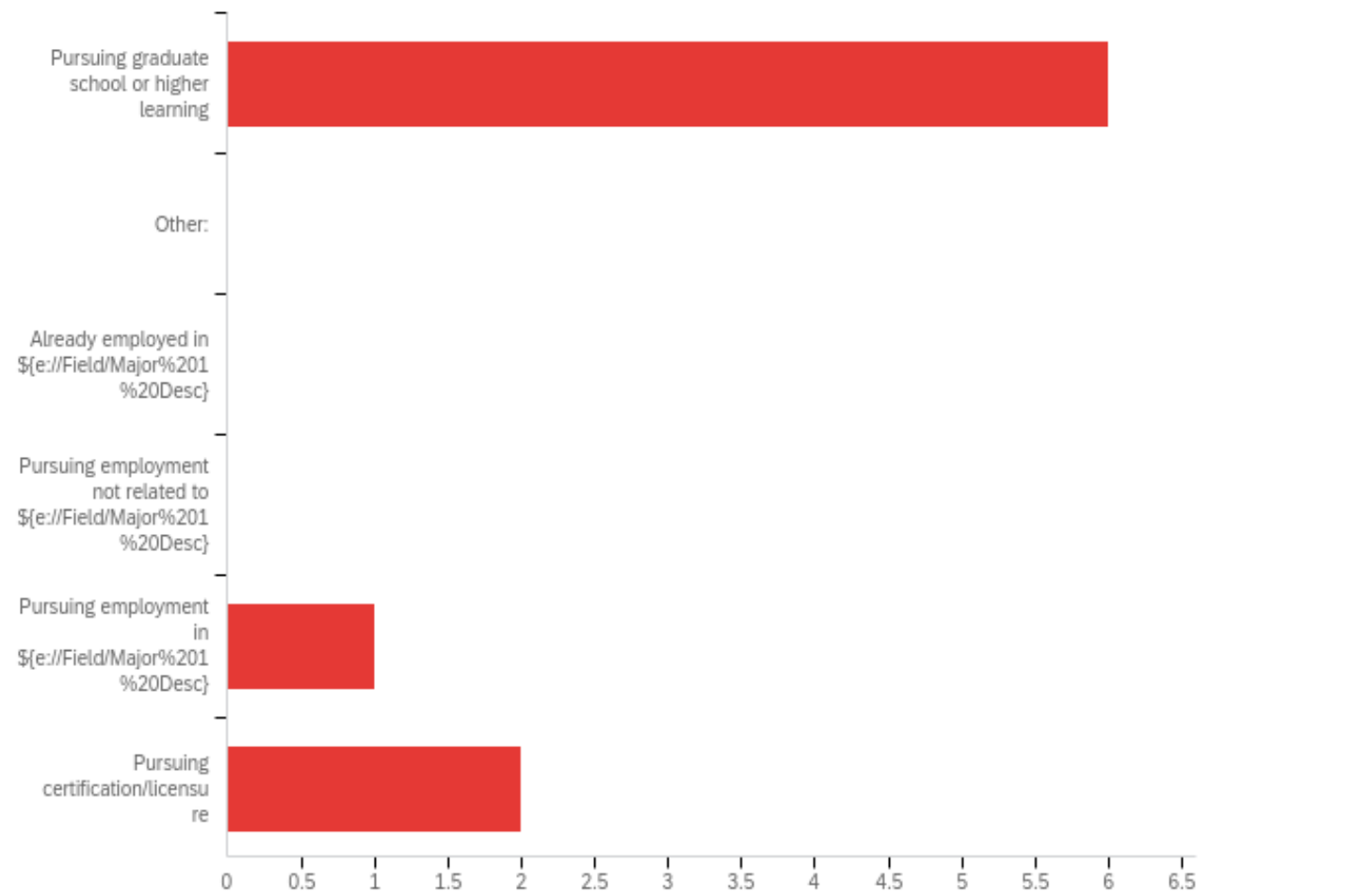
Do you have any other comments about your time at Oregon Tech?

I enjoyed my time here, and it has really prepared me well for my graduate program. I am going to graduate school feeling confident and prepared!

I enjoyed my time at oregon tech, but I do think there are a lot of issues that are being pushed under the rug that might help better the education of future students.

- once an owl always an owl

Q UQ 1 - Please indicate the statement(s) that best represents your post-graduation plans, select all that apply:



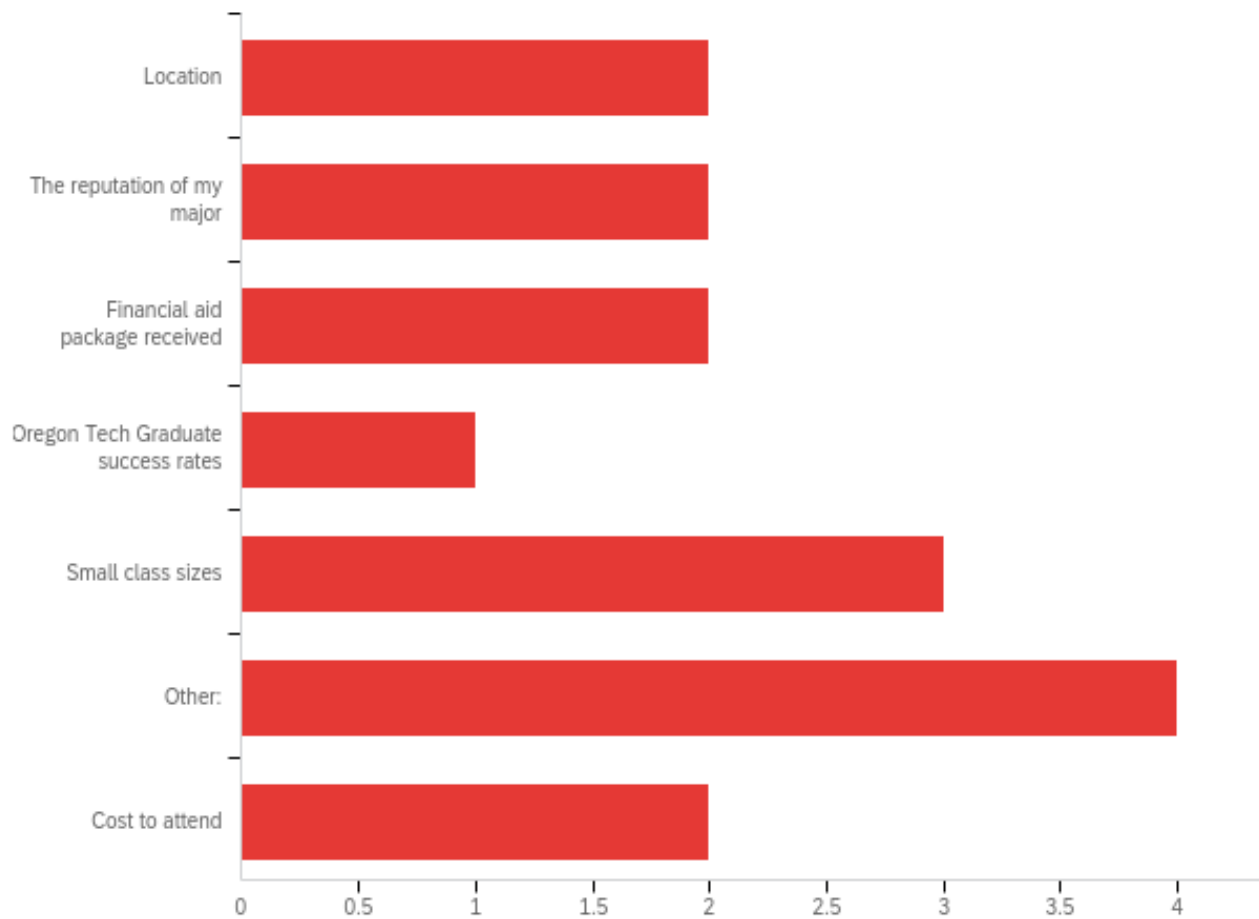
#	Answer	%	Count
1	Pursuing graduate school or higher learning	66.67%	6
4	Other:	0.00%	0
8	Already employed in {e://Field/Major%201%20Desc}	0.00%	0
10	Pursuing employment not related to {e://Field/Major%201%20Desc}	0.00%	0
12	Pursuing employment in {e://Field/Major%201%20Desc}	11.11%	1
13	Pursuing certification/licensure	22.22%	2
	Total	100%	9

Q UQ 1_4_TEXT - Other:
Other: - Text

Q UQ 2 - If you have accepted an offer of employment in your major, Career Services would like to know:

Who is your employer?

Q UQ 3 - What attracted you to Oregon Tech, select all that apply:



#	Answer	%	Count
6	Location	12.50%	2
7	The reputation of my major	12.50%	2
8	Financial aid package received	12.50%	2
9	Oregon Tech Graduate success rates	6.25%	1
10	Small class sizes	18.75%	3
11	Other:	25.00%	4
12	Cost to attend	12.50%	2
	Total	100%	16

Q UQ 3 _11_TEXT - Other:

Other: - Text

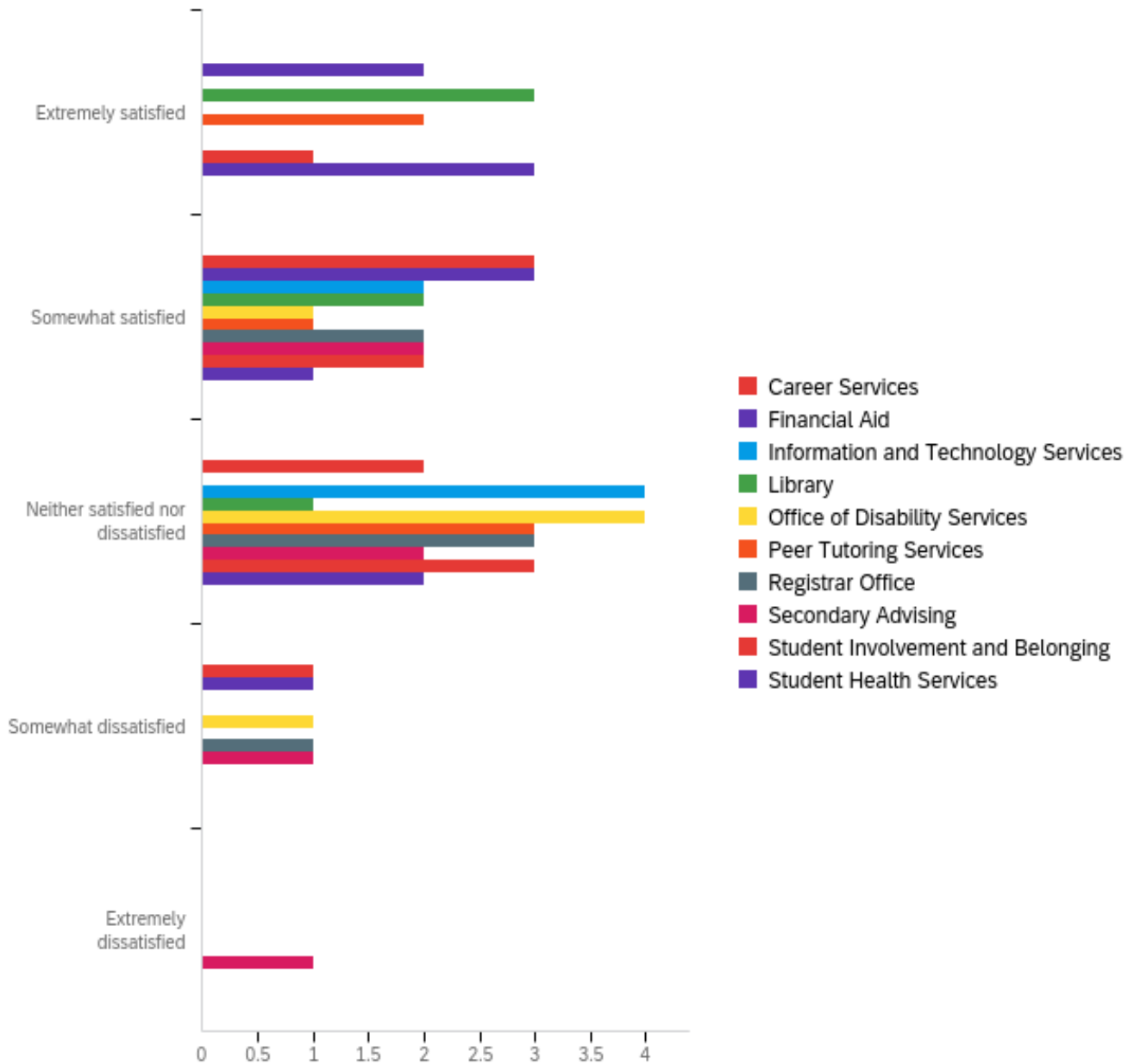
playing Men's Golf

Sports

Athletics

Sports team

Q UQ 4 - Campus Services: Please rate your level of satisfaction with the following Oregon Tech services:



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Career Services	51.00	53.00	51.67	0.75	0.56	6
2	Financial Aid	50.00	53.00	51.00	1.00	1.00	6
3	Information and Technology Services	51.00	52.00	51.67	0.47	0.22	6
4	Library	50.00	52.00	50.67	0.75	0.56	6
5	Office of Disability Services	51.00	53.00	52.00	0.58	0.33	6

6	Peer Tutoring Services	50.00	52.00	51.17	0.90	0.81	6
7	Registrar Office	51.00	53.00	51.83	0.69	0.47	6
8	Secondary Advising	51.00	54.00	52.17	1.07	1.14	6
9	Student Involvement and Belonging	50.00	52.00	51.33	0.75	0.56	6
10	Student Health Services	50.00	52.00	50.83	0.90	0.81	6

#	Question	Extremely satisfied		Somewhat satisfied		Neither satisfied nor dissatisfied		Somewhat dissatisfied		Extremely dissatisfied		Total
1	Career Services	0.00%	0	50.00%	3	33.33%	2	16.67%	1	0.00%	0	6
2	Financial Aid	33.33%	2	50.00%	3	0.00%	0	16.67%	1	0.00%	0	6
3	Information and Technology Services	0.00%	0	33.33%	2	66.67%	4	0.00%	0	0.00%	0	6
4	Library	50.00%	3	33.33%	2	16.67%	1	0.00%	0	0.00%	0	6
5	Office of Disability Services	0.00%	0	16.67%	1	66.67%	4	16.67%	1	0.00%	0	6
6	Peer Tutoring Services	33.33%	2	16.67%	1	50.00%	3	0.00%	0	0.00%	0	6
7	Registrar Office	0.00%	0	33.33%	2	50.00%	3	16.67%	1	0.00%	0	6
8	Secondary Advising	0.00%	0	33.33%	2	33.33%	2	16.67%	1	16.67%	1	6
9	Student Involvement and Belonging	16.67%	1	33.33%	2	50.00%	3	0.00%	0	0.00%	0	6
10	Student Health Services	50.00%	3	16.67%	1	33.33%	2	0.00%	0	0.00%	0	6

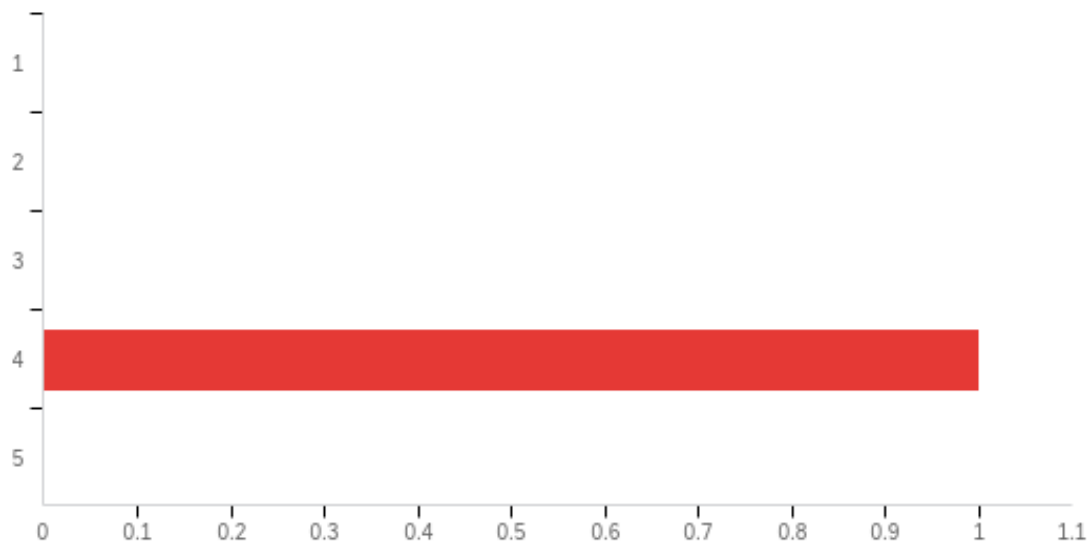
Q UQ 5 - For anything rated "somewhat dissatisfied or extremely dissatisfied" please provide comments.

For anything rated "somewhat dissatisfied or extremely dissatisfied" please provide comments.

- little to no knowledge of those areas

Not used, and they didn't feel really necessary or used while I was here.

Q UQ 6 - What is your overall rating of the quality of education you received at Oregon Tech?



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	What is your overall rating of the quality of education you received at Oregon Tech?	4.00	4.00	4.00	0.00	0.00	1

#	Answer	%	Count
1	1	0.00%	0
2	2	0.00%	0
3	3	0.00%	0
4	4	100.00%	1
5	5	0.00%	0
	Total	100%	1

Q UQ 7 - Do you have any other comments about your time at Oregon Tech?

Do you have any other comments about your time at Oregon Tech?

- very happy with education and courses taken at OIT

I have thoroughly enjoyed my time here at Oregon Tech, and I feel like it has helped prepare me for my future.