## Oregon TECH

# 2020-21 Program Assessment Report Biology-Health Sciences B.S. 

## 1) Program Mission and Educational Objecetives

## Mission:

The Bachelor of Science program in Biological-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.).

## 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 - may be added following more discussion).
- 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.


## 2) Program Description and History

The Biology-Health Sciences program serves all OIT students wishing to major in a course of study that prepares for entry into professional programs in medicine, dentistry, pharmacy, veterinary medicine, physical therapy, physician assistant, optometry, and related health fields.

Biology-Health Sciences was implemented in 1996, and was originally called Health Sciences. The number of students graduating in past years when the program was called Health Sciences was 8 (1999-2000), 2 (2000-2001), 9 (2001-2002), 10 (2002-2003), 10 (2003-2004), 11 (2004-2005), 7 (2005-2006), 1 (2006-2007), 3 (2007-2008), 2 (2008-2009), 2 (2009-2010), 1 (2010-2011), 6 (2011-2012), 1 (2012-2013), and falling to 0 (2013-2014 and beyond).

Subsequently, the Biology program was implemented in 2006-2007 and removed from the catalog in 2012-2013. The number of students graduating in past years were 10 (2006-2007), 8 (2007-2008), 18 (2008-2009), 14 (2009-2010), 12 (2010-2011), 13 (2011-2012), 2 (2012-2013), 4 (2013-2014), 1 (2014-2015), 2 (2015-2016), and falling to 0 (2016-17 and beyond).

The current Biology-Health Sciences (BHS) program was established in 2012-2013. It has remained a popular program since, with an enrollment of approximately 150 or more students. Enrollment, Graduation, and Graduation Outcome figures are provided on the following page. Note that with respect to graduates, we have limited information regarding employment rates and salaries, as most students go on to graduate school and are not employed for two to four years while working on their graduate degrees. Many take a year off while applying to graduate schools, making follow up more difficult, and generally only a low percentage of students complete the exiting senior surveys.

BSH Program Enrollment, 2017-2021.
In this five year period, the program has seen a $12 \%$ increase in enrollment (with some annual variation).

|  | Fall 2016 | Fall 2017 | Fall 2018 | Fall 2019 | Fall 2020 |
| :---: | ---: | ---: | ---: | ---: | ---: |
| Biology-Health Sciences | 151 | 148 | 162 | 165 | 169 |
| Klamath Falls | 151 | 148 | 161 | 164 | 169 |
| Full-Time | 127 | 128 | 132 | 134 | 145 |
| Part-Time | 24 | 20 | 29 | 30 | 24 |
| Online |  |  | 1 | 1 |  |
| Part-Time |  |  | 1 | 1 |  |

BHS Program Graduates, 2015-16 to 2019-20.
In this five year period, while seeing significant annual variation, the BHS program has seen a graduation rate increase comparable to or exceeding the observed increase in enrollment. This speaks positively to our retention of students.

|  | $2015-16$ | $2016-17$ | $2017-18$ | $2018-19$ | $2019-20$ |
| :---: | ---: | ---: | ---: | ---: | ---: |
| Biology-Health Sciences | 18 | 28 | 18 | 26 | 30 |
| Bachelor of Science |  |  |  |  |  |
| Klamath Falls | $\mathbf{1 8}$ | $\mathbf{2 8}$ | $\mathbf{1 8}$ | $\mathbf{2 5}$ |  |
| Online |  |  |  | $\mathbf{3 0}$ |  |

BHS Program Graduate Outcomes, 2017-2020.
A significant number of our students continue to see success in employment and continuing education.

| Oregon Tech Graduate Outcome Data |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $a=2017 / 2018 / 2019$ <br> combined | \% Employed |  | \% Continuing Ed |  | \% Seeking |  | \% Not Seeking |  | Success Rate |  | Median Salary |  |
| $\begin{aligned} & \mathrm{b}=2018 / 2019 / 2020 \\ & \text { combined } \end{aligned}$ | a | b | a | b | a | b | a | b | a | b | a | b |
| Biology-Health Sciences (BS) | 52 | 62 | 39 | 19 | 7 | 14 | 2 | 5 | 93 | 86 | \$33,250.00 | \$34,470.00 |

## 3) Program Student Learning Outcomes

Graduates of our program will:

1) Demonstrate scientific knowledge and understanding.
a. Demonstrate foundational knowledge in the natural sciences (e.g., terminology, organization, classifications, appropriate use of units, methodologies, and fundamental principles).
b. Apply scientific principles to biological and medical examples/contexts.
2) Be proficient in scientific reasoning and critical thinking.
a. Analyze data to determine its relationship to principles, and evaluate the data for errors.
b. Analyze and evaluate content in biology.
3) Be able to effectively find and use resources from the literature.
4) Demonstrate effective oral, written and visual communication.
5) Demonstrate mathematical knowledge and skills in the biological sciences.
6) Curriculum map of departmental courses, with PSLOs at Foundational (F), Practicing (P), and Capstone (C) levels

|  | PSLO 1 | PSLO 2 | PSLO 3 | PSLO 4 | PSLO 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| FRESHMAN YEAR |  |  |  |  |  |
| BIO 109 - Intro to Medical Sciences Credit Hours: 2 |  |  | F | F |  |
| BIO 211 - Principles of Biology Credit Hours: 4 | F | F |  |  |  |
| BIO 212 - Principles of Biology Credit Hours: 4 | F | F |  |  |  |
| BIO 213 - Principles of Biology Credit Hours: 4 | F | F |  |  |  |
|  |  |  |  |  |  |
| SOPHOMORE YEAR |  |  |  |  |  |
| BIO 209 - Current Research Tpc Med Sci I Credit Hours: 1 |  | F | F | F |  |
| BIO 345 - Medical Microbiology Credit Hours: 5 | P | P |  |  |  |
| CHE 221-General Chemistry I Credit Hours: 5 | F | F |  |  | F |
| CHE 222-General Chemistry II Credit Hours: 5 | F | F |  |  | F |
| CHE 223 - General Chemistry III Credit Hours: 5 | F | F |  |  | F |
|  |  |  |  |  |  |
| JUNIOR YEAR |  |  |  |  |  |
| BIO 331 - Human Anatomy/Physiology I Credit Hours: 5 | P | P |  |  |  |
| BIO 332 - Human Anatomy/Physiology II Credit Hours: 5 | P | P |  |  |  |
| BIO 333 - Human Anatomy/Physiology III Credit Hours: 5 | P | P |  |  |  |
| CHE 331- Organic Chemistry I Credit Hours: 4 | P | P |  |  | P |
| CHE 332-Organic Chemistry II Credit Hours: 4 | P | P |  |  | P |
| CHE 333 - Organic Chemistry III Credit Hours: 4 | P | P | P | P | P |
| PHY 221 - General Physics w/Calculus Credit Hours: 4 d | F | P |  |  | P |
| PHY 222-General Physics w/Calculus Credit Hours: 4 d | F | P |  |  | P |
| PHY 223-General Physics w/Calculus Credit Hours: 4 d | F | P |  |  | P |
|  |  |  |  |  |  |
| SENIOR YEAR |  |  |  |  |  |
| BIO 346 - Pathophysiology I Credit Hours: 3 | C | C |  |  |  |
| BIO 409 - Crnt Rsch Tpcs in Med Sci ll Credit Hours: 2 |  | C | C | C |  |
| CHE 450 - Biochemistry I Credit Hours: 4 | C | C |  |  | C |
| CHE 451 - Biochemistry II Credit Hours: 4 | C | C |  |  | C |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Health Biology Electives (lower-division): |  |  |  |  |  |
| BIO 200 - Medical Terminology Credit Hours: 2 | F | F |  |  |  |
| BIO 205 - Nutrition Credit Hours: 3 | F | F | P | P |  |
| BIO 216 - Intro to Veterinary Medicine Credit Hours: 4 | F | F |  |  |  |
| BIO 226 - Intro to Wildlife Rehab Credit Hours: 3 | F | F |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Health Biology Electives (upper-division): |  |  |  |  |  |
| BIO 326 - Parasitology Credit Hours: 4 | P | P |  |  |  |
| BIO 341 - Medical Genetics Credit Hours: 3 | P | P | P | P |  |
| BIO 342-Cell Biology Credit Hours: 4 | P | P |  |  |  |
| BIO 347 - Pathophysiology II Credit Hours: 3 | P | P |  |  |  |
| BIO 352 - Developmental Biology Credit Hours: 4 | P | P |  |  |  |
| BIO 357 - Intro to Neuroscience Credit Hours: 3 | P | P | P | P |  |
| BIO 426 - Evolutionary Biology Credit Hours: 3 | P | P |  |  |  |
| BIO 435 - Exercise Physiology Credit Hours: 3 | P | P |  |  |  |
| BIO 436 - Immunology Credit Hours: 4 | P | P |  |  |  |
| BIO 461 - Human Cadaver Dissection Credit Hours: 1 | C | C |  |  |  |
| BIO 462 - Human Cadaver Dissection Credit Hours: 1 | C | C |  |  |  |
| BIO 495 - Research Project in Biology Credit Hours: Varies (1-4) |  | C | C | C | C |
| CHE 360-Clinical Pharmacology/HIth Prf Credit Hours: 3 | P | P |  |  |  |
| CHE 452 - Biochemistry III Credit Hours: 4 | C | C |  |  | C |
| CHE 495 - Research Project in Chemistry Credit Hours: Varies (1-4) |  | C | C | C | C |
| STAT 414 - Stat Methods in Epidemiology Credit Hours: 4 | P | P |  |  |  |

## 5) Assessment Cycles

Program assessment cycle and alignment with OIT ESLO "Collect" years:

| $\underline{A Y}$ | $\underline{\text { ESLO collect: }}$ | $\underline{B B H S ~ P S L O \text { collect: }}$ |
| :--- | :--- | :--- |
| $16-17$ | Comm | Knowledge and Understanding, Comm |
| $17-18$ | Inquiry \& Analysis | Math skills |
| $18-19$ | Ethical Reasoning | Sci reasoning/critical thinking, Literature |
| $19-20$ | Teamwork | Knowledge and Understanding, Comm |
| $\mathbf{2 0 - 2 1}$ | I\&A, QL | Math skills |

Program assessment courses often targeted for data collection:

| PSLO: | Sample course(s) |
| :--- | :--- |
| 1) Scientific knowledge and understanding | BIO 211/212/213 |
| 2) Scientific reasoning and critical thinking | BIO 409 |
| 3) Finding and using literature resources | BIO 409 |
| 4) Oral, written, and visual communication | BIO 409 |
| 5) Mathematical knowledge and skills | PHY 220, CHE 450 |

## 6) Assessment Activities and Results

Data for the Quantitative Literacy (QL) ESLO was specifically collected with a faculty survey (indirect) from Department of Natural Sciences. We discussed about the result and included these results as Appendix A.

COVID and the loss of departmental faculty members hindered our ability to collect the data as planned.

Student exit survey results were positive (see Appendix B for the results from the BHS-specific questions) and after discussion we saw no need for action at this time.

## Appendix A

Specific questions in this QL faculty survey can be found in this link

| Question | Yuehai | Travis | Kamal | Jherime | Ken | Huiyun | Average |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  |  |  |  |  |  |
| 2 | 6 | 7 | 7 | 7 |  |  | 6.8 |
| 3 | 4 | 5 | 5 | 4.5 |  |  | 4.6 |
| 4 | 7 | 7 | - 8 | 5 |  |  | 6.8 |
| 5 | 5 | 5 | 8 | 5.5 |  |  | 5.9 |
| 6 | 5 | 7 | 8 | 7 |  |  | 6.8 |
| 7 | 6 | 7 | 7 | 7 |  |  | 6.8 |
| 8 | 6 | 5 | 5 | 7 |  |  | 5.8 |
| 9 | 8 | 7 | 8 | 8 |  |  | 7.8 |
| 10 | 7 | 7 | 8 | 8 |  |  | 7.5 |
| 11 | 7 | 5 | 6 | 4.5 |  |  | 5.6 |
| 12 | 7 | 5 | 6.5 | 6 |  |  | 6.1 |
| 13 | 5 | 5 | 7 | 7 |  |  | 6.0 |
| 14 |  |  |  |  |  |  |  |
| 15 | 5 | 4 | 4 | 6.5 |  |  | 4.9 |
| 16 | 5 | 6 | 6 | 6 |  |  | 5.8 |
| 17 | 7 | 5 | 7 | 6.5 |  |  | 6.4 |
| 18 | 5 | 7 | 7 | 7 |  |  | 6.5 |
| 19 | 5 | 7 | 8 | 8 |  |  | 7.0 |
| 20 | 6 | 7 | 8 | 8 |  |  | 7.3 |
| 21 | 6 | 6 | 4 | 6 |  |  | 5.5 |
| 22 | 5 | 4 | 5 | 6 |  |  | 5.0 |
| 23 | 8 | 6 | 5 | 5 |  |  | 6.0 |
| 24 | 5 | 5 | 6 | 7 |  |  | 5.8 |
| 25 | 7 | 7 | 7 | 7 |  |  | 7.0 |
| 26 | 7 | 7 | 7 | 7 |  |  | 7.0 |
| 27 | 7 | 6 | 8 | 8 |  |  | 7.3 |
| 28 |  |  |  |  |  |  |  |
| 29 |  |  |  | 10 | 7 | 7 | 8.0 |
| 30 |  |  |  | 10 | 7 | 7 | 8.0 |
| 31 |  |  |  | 10 | 7 | 8 | 8.3 |
| 32 |  |  |  | 10 | 7 | 7 | 8.0 |
| 33 |  |  |  | 10 | 6 | 7 | 7.7 |
| 34 |  |  |  | 10 | 7 | 7 | 8.0 |
| 35 |  |  |  | 10 | 6 | 7 | 7.7 |
| 36 |  |  |  | 10 | 8 | 7 | 8.3 |
| 37 |  |  |  | 10 | 8 | 8 | 8.7 |
| 38 |  |  |  | 10 | 8 | 9 | 9.0 |
| 39 |  |  |  | 10 | 8 | 8.5 | 8.8 |

Our survey results showed that the mathematical ability differences between our students are in a wide range. Their weaknesses in these abilities were reflected when they were taking required lower-vision and upper-division foundational courses (such as physics and organic chemistry).

We would like to see improvements in student quantitative ability in performing basic mathematical problem solving (e.g., at the level of college algebra) and their reasoning ability with quantitative information.

## Appendix B

## BBHS - Biology Health Sciences BS

(2020-21) Student Exit Survey

Q ESLO 1-Oregon Tech Essential Student Learning Outcomes Please rate your proficiency in the following areas.


| \# | Field | Minimum | Maximum | Mean | Std <br> Deviation | Variance | Count |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | ESLO 1a. Communication: Writing effectively | 1.00 | 3.00 | 1.41 | 0.51 | 0.26 | 419 |
| 2 | ESLO 1b. Communication: Speaking effectively | 1.00 | 3.00 | 1.51 | 0.58 | 0.33 | 418 |
| 3 | ESLO 2. Inquiry \& Analysis: Thinking critically and analytically | 1.00 | 3.00 | 1.29 | 0.47 | 0.22 | 417 |
| 4 | ESLO 3. Ethical Reasoning: Making ethical judgements | 1.00 | 3.00 | 1.36 | 0.54 | 0.29 | 419 |
| 5 | ESLO 4. Teamwork: Work effectively with groups and teams | 1.00 | 4.00 | 1.39 | 0.59 | 0.35 | 418 |
| 6 | ESLO 5. Quantitative Literacy: Using quantitative/numerical information to solve problems, evaluate claims, and support decisions | 1.00 | 3.00 | 1.44 | 0.56 | 0.31 | 418 |
| 7 | ESLO 6. Diverse Perspectives: Understanding of diverse perspectives to improve interactions with others | 1.00 | 4.00 | 1.50 | 0.64 | 0.41 | 419 |


| \# | Question | High proficiency |  | Proficiency |  | Some proficiency |  | Limited proficiency |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | ESLO 1a. Communication: Writing effectively | 60.62\% | 254 | 38.19\% | 160 | 1.19\% | 5 | 0.00\% | 0 | 419 |
| 2 | ESLO 1b. Communication: Speaking effectively | 53.11\% | 222 | 42.82\% | 179 | 4.07\% | 17 | 0.00\% | 0 | 418 |
| 3 | ESLO 2. Inquiry \& Analysis: Thinking critically and analytically | 72.18\% | 301 | 27.10\% | 113 | 0.72\% | 3 | 0.00\% | 0 | 417 |
| 4 | ESLO 3. Ethical Reasoning: Making ethical judgements | 67.30\% | 282 | 29.83\% | 125 | 2.86\% | 12 | 0.00\% | 0 | 419 |
| 5 | ESLO 4. Teamwork: Work effectively with groups and teams | 66.51\% | 278 | 29.19\% | 122 | 3.59\% | 15 | 0.72\% | 3 | 418 |
| 6 | ESLO 5. Quantitative Literacy: Using quantitative/numerical information to solve problems, evaluate claims, and support decisions | 58.85\% | 246 | 37.80\% | 158 | 3.35\% | 14 | 0.00\% | 0 | 418 |
| 7 | ESLO 6. Diverse Perspectives: Understanding of diverse perspectives to improve interactions with others | 57.28\% | 240 | 36.28\% | 152 | 5.73\% | 24 | 0.72\% | 3 | 419 |

Q ESLO 2-Oregon Tech Essential Student Learning Outcomes How much has your experience at Oregon Tech contributed to your knowledge, skills, and personal development in these areas?


| \# | Field | Minimum | Maximum | Mean | Std <br> Deviation | Variance | Count |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | ESLO 1a. Communication: Writing effectively | 1.00 | 4.00 | 1.82 | 0.85 | 0.73 | 419 |
| 2 | ESLO 1b. Communication: Speaking effectively | 1.00 | 4.00 | 1.87 | 0.85 | 0.72 | 418 |
| 3 | ESLO 2. Inquiry \& Analysis: Thinking critically and analytically | 1.00 | 4.00 | 1.50 | 0.69 | 0.47 | 419 |


| 4 | ESLO 3. Ethical Reasoning: Making ethical judgements | 1.00 | 4.00 | 1.84 | 0.91 | 0.83 | 418 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | ESLO 4. Teamwork: Work effectively with groups and teams | 1.00 | 4.00 | 1.79 | 0.86 | 0.74 | 419 |
| 6 | ESLO 5. Quantitative Literacy: Using quantitative/numerical information to solve problems, evaluate claims, and support decisions | 1.00 | 4.00 | 1.66 | 0.79 | 0.62 | 418 |
| 7 | ESLO 6. Diverse Perspectives: Understanding of diverse perspectives to improve interactions with others | 1.00 | 4.00 | 1.93 | 0.94 | 0.89 | 418 |


| \# | Question | Very much |  | Quite a bit |  | Some |  | Very <br> little |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | ESLO 1a. Communication: Writing effectively | 43.68\% | 183 | 34.61\% | 145 | 18.14\% | 76 | 3.58\% | 15 | 419 |
| 2 | ESLO 1b. Communication: Speaking effectively | 41.15\% | 172 | 33.49\% | 140 | 22.97\% | 96 | 2.39\% | 10 | 418 |
| 3 | ESLO 2. Inquiry \& Analysis: Thinking critically and analytically | 60.38\% | 253 | 30.31\% | 127 | 8.35\% | 35 | 0.95\% | 4 | 419 |
| 4 | ESLO 3. Ethical Reasoning: Making ethical judgements | 44.50\% | 186 | 33.01\% | 138 | 16.27\% | 68 | 6.22\% | 26 | 418 |
| 5 | ESLO 4. Teamwork: Work effectively with groups and teams | 45.82\% | 192 | 33.89\% | 142 | 16.23\% | 68 | 4.06\% | 17 | 419 |
| 6 | ESLO 5. Quantitative Literacy: Using quantitative/numerical information to solve problems, evaluate claims, and support decisions | 51.44\% | 215 | 33.73\% | 141 | 12.44\% | 52 | 2.39\% | 10 | 418 |
| 7 | ESLO 6. Diverse Perspectives: Understanding of diverse perspectives to improve interactions with others | 41.39\% | 173 | 31.82\% | 133 | 19.62\% | 82 | 7.18\% | 30 | 418 |

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.

4. Demonstrate effective oral, written and visual communication.
5. Demonstrate mathematical knowledge and skills in the biological sciences.

| 1.00 | 2.00 | 1.33 | 0.47 | 0.22 | 9 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 1.00 | 3.00 | 1.67 | 0.67 | 0.44 | 9 |

\#

1 Question

1. Scientific knowledge and skills in scientific reasoning.
2. Apply scientific principles to biology based problems.
3. Effectively find and use resources from the literature.
4. Demonstrate effective oral, written and visual communication.
5. Demonstrate mathematical knowledge and skills in the biological sciences.

| Highly Prepared |  | Prepared |  | Somewhat Prepared |  | Inadequately Prepared |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 88.89\% | 8 | 11.11\% | 1 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 88.89\% | 8 | 11.11\% | 1 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 77.78\% | 7 | 22.22\% | 2 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 66.67\% | 6 | 33.33\% | 3 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 44.44\% | 4 | 44.44\% | 4 | 11.11\% | 1 | 0.00\% | 0 | 9 |

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


Q BBHS 2_6_TEXT - If other, please specify:

If other, please specify: - Text
athletics
Athletics

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


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

If not, what was your first choice of major? - Text
Medical Laboratory Science
Information Technology. However, I was always interested in the health science realm coming out of high school, so I found my way back.

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 | 3.00 | 1.67 | 0.82 | 0.67 | 9 |


| $\#$ | Answer | $\%$ | Count |
| :--- | ---: | ---: | ---: |
| 1 | High School | $55.56 \%$ | 5 |
| 2 | Freshman year in college | $22.22 \%$ | 2 |
| 3 | Sophomore year in college | $22.22 \%$ | 2 |
| 4 | Junior year in college or later | $0.00 \%$ | 0 |
|  | Total | $100 \%$ | 9 |

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 | 1.78 | 0.92 | 0.84 | 9 |
| 2 | Faculty accessibility | 1.00 | 2.00 | 1.11 | 0.31 | 0.10 | 9 |
| 3 | Classroom experiences | 1.00 | 2.00 | 1.44 | 0.50 | 0.25 | 9 |
| 4 | Laboratory experiences | 1.00 | 2.00 | 1.22 | 0.42 | 0.17 | 9 |


| 5 | Laboratory facilities | 1.00 | 3.00 | 1.89 | 0.74 | 0.54 | 9 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6 | Health Sciences Club | 1.00 | 41.00 | 14.89 | 18.48 | 341.43 | 9 |
| 7 | Shadowing/volunteering opportunities | 1.00 | 41.00 | 11.00 | 16.05 | 257.56 | 9 |
| 8 | Interactions with other students in the | 1.00 | 3.00 | 1.44 | 0.83 | 0.69 | 9 |


| \# | Question | Excellent |  | Very Good |  | Average |  | Poor |  | N/A |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Academic advising | 55.56\% | 5 | 11.11\% | 1 | 33.33\% | 3 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 2 | Faculty accessibility | 88.89\% | 8 | 11.11\% | 1 | 0.00\% | 0 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 3 | Classroom experiences | 55.56\% | 5 | 44.44\% | 4 | 0.00\% | 0 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 4 | Laboratory experiences | 77.78\% | 7 | 22.22\% | 2 | 0.00\% | 0 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 5 | Laboratory facilities | 33.33\% | 3 | 44.44\% | 4 | 22.22\% | 2 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 6 | Health Sciences Club | 33.33\% | 3 | 11.11\% | 1 | 22.22\% | 2 | 0.00\% | 0 | 33.33\% | 3 | 9 |
| 7 | Shadowing/volunteering opportunities | 11.11\% | 1 | 22.22\% | 2 | 44.44\% | 4 | 0.00\% | 0 | 22.22\% | 2 | 9 |
| 8 | Interactions with other students in the program | 77.78\% | 7 | 0.00\% | 0 | 22.22\% | 2 | 0.00\% | 0 | 0.00\% | 0 | 9 |

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

What are one or two specific things we could do to improve the Biology-Health Sciences major?
I think Biology-Health Sciences students should be encouraged to take more classes outside of the realm of biology, especially because physics and electrochem ideas greatly help with understanding biological concepts. I also think the advising is really uneven, and a lot of advisors give students a lot of freedom, but in doing so, haven't made sure students stay on track to graduate.

The workload is overbearing at times. More access to research help for projects and presentations.
Seek out partnerships with local healthcare providers to provide students shadowing experiences. It is extremely difficult to find shadowing opportunities, as many hospitals/providers do not offer the opportunity if it is not schoolaffiliated.
Include more shadowing opportunities and provide more funding for better labs for the introductory biology courses. (bio 211 and 212)

More advice and guidance for graduate school students.

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 | 1.89 | 0.74 | 0.54 | 9 |
| 2 | Registrar's Office | 1.00 | 3.00 | 1.56 | 0.68 | 0.47 | 9 |
| 3 | Student Success Center (formerly CFLAT) | 1.00 | 5.00 | 2.33 | 1.33 | 1.78 | 9 |
| 4 | Testing Services | 1.00 | 3.00 | 1.44 | 0.68 | 0.47 | 9 |


| 5 | Student Health Services | 1.00 | 5.00 | 2.11 | 1.59 | 2.54 | 9 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6 | Career Services | 1.00 | 5.00 | 3.00 | 1.33 | 1.78 | 9 |
| 7 | Financial Aid | 1.00 | 5.00 | 2.78 | 1.47 | 2.17 | 9 |
| 8 | Student Activities | 1.00 | 5.00 | 2.56 | 1.42 | 2.02 | 9 |


| \# | Question | Very Useful |  | Useful |  | Somewhat Useful |  | Not Useful |  | N/A |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Library | 33.33\% | 3 | 44.44\% | 4 | 22.22\% | 2 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 2 | Registrar's Office | 55.56\% | 5 | 33.33\% | 3 | 11.11\% | 1 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 3 | Student Success Center (formerly CFLAT) | 33.33\% | 3 | 33.33\% | 3 | 11.11\% | 1 | 11.11\% | 1 | 11.11\% | 1 | 9 |
| 4 | Testing Services | 66.67\% | 6 | 22.22\% | 2 | 11.11\% | 1 | 0.00\% | 0 | 0.00\% | 0 | 9 |
| 5 | Student Health Services | 55.56\% | 5 | 22.22\% | 2 | 0.00\% | 0 | 0.00\% | 0 | 22.22\% | 2 | 9 |
| 6 | Career Services | 11.11\% | 1 | 33.33\% | 3 | 22.22\% | 2 | 11.11\% | 1 | 22.22\% | 2 | 9 |
| 7 | Financial Aid | 22.22\% | 2 | 33.33\% | 3 | 11.11\% | 1 | 11.11\% | 1 | 22.22\% | 2 | 9 |
| 8 | Student Activities | 22.22\% | 2 | 44.44\% | 4 | 11.11\% | 1 | 0.00\% | 0 | 22.22\% | 2 | 9 |

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


| \# | Field | Minimum | Maximum | Mean | Std <br> 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 | 6 |


| $\#$ | Answer | $\%$ | Count |
| :--- | ---: | ---: | ---: |
| 1 | 1 | $0.00 \%$ | 0 |
| 2 | 2 | $0.00 \%$ | 0 |
| 3 | 3 | $0.00 \%$ | 0 |
| 4 | 4 | $50.00 \%$ | 3 |
| 5 | 5 | $50.00 \%$ | 3 |
|  | Total | $100 \%$ | 6 |

## 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 wish there was less of a disconnect between admin and faculty, because if it weren't for the faculty, I wouldn't have stayed at Oregon Tech. I love the faculty and the education I've received, but don't love much of the rest of the school. Priorities are not in the right place, and while I've had a good time and am proud of my education, I'm not proud of the school or the reputation.
The small class sizes, one-on-one time with professors outside of class, and a focus on education first is what makes Oregon Tech so great, and I hope to see all of these aspects prioritized in the future.

It's been great.
It was very challenging (which it should be), but also very rewarding. Great professors who care about the quality that they provide. I've had an enjoyable time, and look to the future with great pride about my experience here at Oregon Tech.

Q EL 1-Oregon Tech recognizes that learning occurs in a variety of venues and experiences. Please check all of the following learning experiences you participated in while enrolled as a student at Oregon Tech.


| $\#$ |  | Answer | \% | Count |
| ---: | ---: | ---: | ---: | ---: |
| 1 | Internship / Externship / Clinical / Practicum | $19.98 \%$ | 231 |  |
| 4 | Student Club or Program | $13.84 \%$ | 160 |  |
| 5 | On-Campus Job | $9.00 \%$ | 104 |  |
| 6 | Off-Campus Job | $12.54 \%$ | 145 |  |


| 8 | Volunteer Experience | $11.07 \%$ | 128 |
| :--- | ---: | ---: | ---: |
| 10 | Capstone Project / Senior Project | $18.51 \%$ | 214 |
| 12 | Course project with industry or community partnership | $7.35 \%$ | 85 |
| 13 | Research with a faculty member | $6.31 \%$ | 73 |
| 20 | None | $1.38 \%$ | 16 |
|  | Total | $100 \%$ | 1156 |

To save space, please review more qualitative questions/answers of this survey in the following ink

