

Bachelor of Applied Science in Technology and Management

Oregon Tech Assessment Report

2018-19

Program Description and History

The Bachelor of Applied Science in Technology and Management program (BAS) was a new degree program at Oregon Tech in January 2012. The degree was designed specifically for students who have completed a technical Associate of Applied Science (AAS) or Associate of Science (AS) degree and are seeking career advancement in management or in their technical career fields. AAS degrees have historically been terminal associate degrees; they typically contain very few general education credits and concentrate heavily on the technical specialty to produce workforce-ready skilled technicians. Today's workplace, however, often demands broad-based general education, business acumen and managerial skills in addition to the depth of technical knowledge found in the AAS. The BAS was designed to build on a core of 60 credits of career and technical education (CTE) courses taken as part of the AAS or AS degree, adding 65 credits of business, management, and information technology courses and 55 credits of broad-based general education courses to enable the BAS graduate to advance in the workplace or continue on to graduate school. The Bachelor of Applied Science in Technology and Management applied for first-time accreditation with the International Accreditation Council for Business Education (IACBE) in 2014.

Program Highlights

Program Enrollment, Graduation and Employment Rates

Total enrollment across all campuses is approximately 49 students; 3 at the Klamath Falls campus, 13 in Wilsonville, and 33 online. The program graduated 7 students for 2018. The three-year annual starting salaries averaged \$65,000. The program has an 82% success rate (within six months of graduation students are employed or in graduate school).

Industry Relationships

The program enrolls students in a wide range of industries and occupations from diesel mechanics to pilots, from computer information systems to building construction so we do not have any single industry aligned with this degree. Students head off to a variety of different types of jobs and careers when they graduate. Some stay in their field and move into positions of greater responsibility. Some change fields entirely. Some start their own businesses. Recent graduates are employed by organizations including the ONECK, Inc., Biotronik, Inc., Eva Airways, Bonneville Power Administration, KeHE Distributors, Portland State University, City of Hillsboro, Stream Global Services, United Health Group, Northwest Christian University, Pioneer Pacific College. In addition, the program has many articulation agreements with community college AAS degree programs.

Student Learning Experiences

A tremendous learning experience in the program is the year-long senior project. Students identify a real-world business problem and apply their business knowledge to develop a solution for an organization. Students are given the opportunity to present their projects in a formal environment to peers, faculty, industry sponsors, and the community at large. Many students in this program use this opportunity to take on a project at their current employer or industry-of-interest in order to advance their career into a management position.

Success Stories

Some of the successful BAS graduates have gone onto a variety of successful careers:

- Lead Flight Instructor

- Floor Manager
- Construction Coordinator
- Senior Engineering Technician
- Medical Practice Business Manager
- Senior Project Manager
- Adjunct Faculty

Quotes from the senior exit survey include:

"I liked the way several classes integrated with others to give a better overall understanding."

"The three best parts about this program are: The ability to finally explore my interest in managerial theory, to practice and apply my skills and education in the for pf reports and presentations, to continue my learning and analyzing and synthesizing informed business decisions."

Program Purpose

Bachelor of Applied Science in Technology and Management Mission

The Bachelor of Applied Science in Technology and Management prepares students for advancement into supervisory and managerial positions in their technical career field and for admission to graduate study in management, education and law.

Educational Objectives

The Bachelor of Applied Science in Technology and Management degree produces graduates with a strong foundation in:

1. Fundamentals of management and supervision
2. Critical thinking necessary for managerial success
3. Communication and teamwork
4. Project management theory and applications
5. Professional ethics and social responsibility and
6. Technical skills needed to lead organizations in the digital age.

Management Department Student Learning Outcomes (SLO)

The Technology and Management degree consists of the five core Management Department student learning outcomes. Upon completion of this program, Technology and Management graduates will be able to:

1. Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology, and management.
2. Describe the legal, social, ethical, and economic environments of business in a global context.
3. Solve organization problems, individually and/or in teams, using quantitative, qualitative, and technology-enhanced approaches.
4. Demonstrate professional communication and behavior.
5. Apply knowledge of business concepts and functions in an integrated manner.

Program Student Learning Outcomes (PSLO)

Upon completion of this program, Technology and Management graduates will be able to:

1. Apply knowledge of approaches to operational performance improvement.

Assessment Cycle

Assessment Schedule

1. **Oregon Tech’s Essential Student Learning Outcomes:** ESLOs are assessed on a six-year cycle. The ESLO assessment schedule may be found on the Oregon Tech website under Essential Student Learning Outcomes.
2. **Department Level Student Learning Outcomes:** IACBE requires all accredited institutions to complete a Public Disclosure of Student Achievement on an annual basis. In addition, all outcomes are assessed annually, with the full self-study for IACBE core student learning outcomes (Core SLOs 1-5) completed every seven years.

Outcomes:	Direct	Indirect
Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology, and management.	<ul style="list-style-type: none"> Case Study Senior Project 	<ul style="list-style-type: none"> Senior Exit Survey
Describe the legal, social, ethical, and economic environments of business in a global context.	<ul style="list-style-type: none"> Case Study Senior Project 	<ul style="list-style-type: none"> Senior Exit Survey
Solve organization problems, individually and/or in teams, using quantitative, qualitative, and technology-enhanced approaches.	<ul style="list-style-type: none"> Case Study Senior Project 	<ul style="list-style-type: none"> Senior Exit Survey
Demonstrate professional communication and behavior.	<ul style="list-style-type: none"> Case Study Senior Project 	<ul style="list-style-type: none"> Senior Exit Survey
Apply knowledge of business concepts and functions in an integrated manner.	<ul style="list-style-type: none"> Case Study Senior Project 	<ul style="list-style-type: none"> Senior Exit survey

3. **Program Student Learning Outcomes:** Program Based Annual Assessment Schedule and Activity

Outcomes:	Direct	Indirect
Apply knowledge of approaches to operational performance improvement.	<ul style="list-style-type: none"> Senior Project 	<ul style="list-style-type: none"> Senior Exit Survey

Evidence of Improvement in Student Learning

1. Department Level Student Learning Outcomes, Activities and Results

Management Department			
Program Outcomes	Minimal Acceptable Performance	Assessment From 2017-18	Results From 2017-18
Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology, and management.	80% achieve a rate of 3 or 4	Senior Project N=64	86%
	80% achieve a rate of 3 or 4	Case Study N=82	86.5%
	80% score 4, 5, or 6	Senior Exit Survey N=93	75%

Describe the legal, social, ethical, and economic environments of business in a global context.	80% achieve a rate of 3 or 4.	Senior Project	86%
	80% achieve a rate of 3 or 4	Case Study	90%
	80% score 4, 5, or 6	Senior Exit Survey	90%
Solve organization problems, individually and/or in teams, using quantitative, qualitative, and technology-enhanced approaches.	80% achieve a rate of 3 or 4.	Senior Project	86%
	80% achieve a rate of 3 or 4	Case Study	81%
	80% score 4, 5, or 6	Senior Exit Survey	98%
Demonstrate professional communication and behavior.	80% achieve a rate of 3 or 4.	Senior Project	86%
	80% achieve a rate of 3 or 4	Case Study	97%
	80% score 4, 5, or 6	Senior Exit Survey	100%
Apply knowledge of business concepts and functions in an integrated manner.	80% achieve a rate of 3 or 4	Senior Project	86%
	80% achieve a rate of 3 or 4	Case Study	84%
	80% score 4, 5, or 6	Senior Exit Survey	100%

Qualitative Assessment of Senior Project during 2018-19

During 2017-18 the department assessed SLOs using two direct and one indirect method - Case Study (BUS478) and Senior Project, and Student Exit Survey. The results from the qualitative assessment had shown increasing improvements. In 2018-19, all three methods showed that we met our objectives, therefore during the 2018-19 academic year, the department focused on reviewing the senior project using a qualitative survey. The key themes that came from the assessment included:

- A need to review department outcome - *Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology, and management.*
- A need to review the senior project rubric to ensure it meets the needs of all programs and is closely tied to our learning outcomes.

Department Level Review: Results, Closing the Loop of Prior Action Plans, and Action Plans for this academic year:

- **Senior Project:** The goal for the 2018-19 academic year was to have more than one senior project professor assess student work, allowing all faculty to review senior projects and provide feedback for improvement.
 - **Closing the Loop Activities:** During the 2018-19 academic year, department faculty focused its assessment efforts on a qualitative review of senior projects. A small sample of projects from each major was compiled. Each faculty reviewed multiple projects and completed a qualitative survey tool that was tied to department outcomes and the senior project rubric. The result of this assessment uncovered two areas that need further exploration:
 - **Senior Project Rubric:** The senior project rubric was either not being utilized or was being used in an inconsistent way. For example, the rubric notes that a literature review will be assessed as part of the senior project. There was some confusion that not all majors were required to complete a literature review. As

such the department agreed that a team of faculty would review and update the senior project rubric to ensure that it was a scoring tool that could be used across the department. Moreover, all faculty teaching senior project will be trained on the rubric so that they can design their courses to meet the requirements. Lastly, the senior project rubric will be re-mapped to the department's learning outcomes.

- **Student Learning Outcomes** (Department-level): As part of the senior project review and mapping to the SLOs, the department agreed to also review the SLOs. While a full update is not needed, this is a good opportunity to ensure that the SLOs remain relevant. Since our accreditation body has updated and simplified requirements, this may be an opportunity to map SLOs to IACBE requirements.
- **Action Plans for 2019-20:** During this academic year, the department will review the department's student learning outcomes and the senior project rubric. These will be prepared to be implemented in 2020-21. A full quantitative assessment using the current rubric will be completed during the 2019-20 year.
- **Case Study:** The plan for the 2018-19 year was for the course faculty to continue to discuss their approaches and share ideas for the Strategic Management course and the assignment. As with the senior project refining the approach to this class and assessment may be able to help identify areas of improvement.
 - **Closing the Loop Activities:** The two faculty that teach the Strategic Management class did engage in discussions regarding approaches to the case study assignment. While one faculty incorporates the assessment into one assignment, the other spreads out the components of the assignment over the term. During the 2018-19 academic year, there was no formal assessment of the case study therefore there is no data relating to the effectiveness of these approaches.
 - **Action Plans for 2019-20:** In the 2019-20 academic year, a quantitative assessment will be conducted using the new assessment software. This new software may allow for multiple assessors to review the work.
- **Senior Exit Survey:** During the 2018-19 academic year, the faculty proposed an adjustment to the senior exit survey. Specifically, the faculty wished to replace the word proficiency with the word understanding as this more accurately reflects the question's intent. The goal is for a minimum of 80% of students rate their understanding of each of the functional areas of business at a high level (4-6).
 - **Closing the Loop Activities:** The results of the exit survey for the 2018-19 year did meet the 80% threshold for all SLOs with the exception of accounting and finance, which is an improvement from prior years. However, although the word change for the exit survey was reported to the assessment office it was not made in the exit survey, therefore the department was not able to test out this change.
 - **Action Plan for 2019-20:** This change will be submitted again for the 2019-20 assessment year.

2. Program Student Learning Outcomes, Activities and Results

Technology and Management			
Program Outcomes	Minimal Acceptable Performance	Assessment From 2017-18	Results From 2017-18
Apply knowledge of fundamental concepts of operations management	80% achieve a rate of 3 or 4	Senior Project N=4	100%
	80% score 4, 5, or 6	Senior Exit Survey N=9	100%

Program Level Review: Results, Closing the Loop of Prior Action Plans, and Action Plans for this academic year:

- 2018-19 Results:** The assessment results do not differ appreciably from the previous assessment period. During the last two years, 100% of the students met the minimal acceptable performance level for both the direct (senior project) and indirect (senior exit survey) assessments. This year's focus was on a qualitative assessment of senior project by the department. The result of this does not note any differences in the performance of students, however our assessment tool, the senior project rubric will be reviewed to ensure it works for all programs.
- Closing the Loop Activities:** As stated in the department level assessment section, the senior project instructors have continued to communicate and share experiences and tools to improve student results in senior project. The BAS students are often completing projects with current employers in their specific technical field. This process allows students to showcase their business management knowledge in their technical field. This application of the student project has been successful with these students and should be continued.

Although our department chose to focus on a quantitative assessment of senior project this past year, we were not able to collect quantitative assessment data due to the move to a new assessment software. This year the department will be implementing the software to collect assessment data which will require custom reporting due to the complexity of our department's needs. We are hopeful that the university understands the long-term need to support a consistent approach to assessment data collection so we can have meaningful review of results over time.

- Action Plans for 2019-20:** Assessment is not able to account for small sample sizes or for the diversity of student academic and professional backgrounds and goals. The BAS is a "plain vanilla" degree that more or less is designed to transition technicians to supervisors and managers. Given the graduates' success in finding employment (again, in a broad range of fields), the degree seems to be successful in providing the knowledge and skills that students need to be successful.

In addition, senior project faculty will work this year to review the rubric being used to ensure that it meets the needs of all programs and is closely mapped to department and program outcomes.