

Bachelor of Applied Science in Technology and Management

Oregon Tech Assessment Report

2020-21

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 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. During the 2019-20 academic year, the BAS in Technology and Management articulated with the United States Air Force through the Air University Associate to Baccalaureate Cooperative degree completion program and the Base-to-Bachelors partnership with Kingsley Field (Oregon Air National Guard) and Klamath Community College.

Program Highlights

Program Enrollment, Graduation and Employment Rates

Total enrollment across all campuses is approximately 42 students; 1 at the Klamath Falls campus, 9 in Wilsonville, and 32 online. The program graduated 11 students in 2021. The three-year annual starting salaries averaged \$50,000. The program has an 93% 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 including aviation, building construction management, electronics manufacturing, education, telecommunications, and software development. In addition, the program enrolls active-duty Airmen and members of the Oregon Air National Guard. Students obtain many 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, Intel, Utah Geological Survey, Stream Global Services, United Health Group, Cerritos College, Lam Research and branches of the US military. Recent graduates have obtained master's degrees at Northwest Christian University (now Bushnell University), Portland State University, and Western Governors University. One recent graduate is completing a master's degree in public administration at Idaho State University. In addition, the program has many articulation agreements with community college AAS degree programs.

Student Learning Experiences

Students often have the opportunity to showcase their learning experiences through their senior projects. Recently completed senior projects include: an analysis solder paste consumption in a microelectronics manufacturing facility; 5S reorganization of an industrial gas manufacturing facility;

5S reorganization of a high-tech training center; a training manual for seasonal employees at a private country club; a feasibility study of a cryptocurrency mining operation in Oregon; development of a plan to upgrade mobile radios at an Air National Guard base including preparation of an initial purchase request; an analysis of costs and benefits of upgrading a legacy integrated communication system; and a new product development plan for the X2 Dev Group.

Success Stories

The following represent a few of the success stories within the program:

- A 2019 graduate is a Realty/Roads/Right of Way Specialist for the Bureau of Land Management in Coos Bay, OR
- A 2019 graduate is a biomedical equipment support specialist at the US Department of Veterans Affairs, Portland, OR
- A 2019 graduate is a senior engineering technician at Microchip Technology, Gresham, OR
- A 2020 graduate is a Channel Partner Specialist at Logical Position, a social media marketing agency, in Lake Oswego, OR
- A 2020 graduate is a maintenance planner at Leatherman Tool Group, Portland, OR
- A 2020 graduate is an Electrical Designer at Allegheny Technologies, Inc., Albany, OR
- A 2021 graduate is a Systems Administrator at Ksana Health in Eugene, OR

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 Intended Student Learning Outcomes (ISLOs)

The Business - Management option consists of the six core Management Department student learning outcomes. Upon completion of this program, Business Management graduates will be able to:

1. Apply core concepts in a business environment.
2. Apply the legal, ethical, social, and economic environments of business in a global context.
3. Contribute to the development of a team-oriented and collaborative environment.
4. Solve business problems using decision-support tools and /or research skills.
5. Demonstrate professional communication and behavior using a variety of delivery methods.
6. Analyze business concepts and apply strategic planning skills to effect change 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

The Management Department assesses student learning at three levels: at the institutional level, at the department level, and at the program level. Essential student learning outcomes (ESLOs) and assessments are directed by Oregon Tech’s Assessment Executive Committee with two to three ESLOs assessed per year. At the department level, the Management Department assesses six intended student learning outcomes (ISLOs) in accordance with IACBE guidelines and KLOs. At the program level each of the Management Department’s programs assesses its established program-specific student learning outcomes (PSLOs). Program faculty review data from all these assessments, in addition to data from the department’s indirect assessments, including a senior exit survey and industry advisory board feedback, when considering changes and improvements to programs.

The Management Department’s 3-year assessment cycle (see Table 1) is designed to produce assessment results that will inform and direct change within the Management Department in a timely manner, as well as support the strategic goals and core values of the institution. The intent of a 3-year cycle is to provide faculty with the time and space needed to thoughtfully analyze student learning outcomes and operational data, identify areas of concern, engage appropriate stakeholders to inform planning and drive action, evaluate improvement activities and their impacts on student learning and operational outcomes, and reflect on both the process and the results within the context of mission fulfillment at both the departmental- and institutional-level.

Table 1: Assessment Cycle

Year	IACBE Schedule	Management Department Schedule
2020-2021	Self-Study Annual Notice	Intended Student Learning Outcomes & Intended Operational Outcomes
2021-2022	Annual Notice	Program-Specific Student Learning Outcomes
2022-2023	Annual Notice	Reflection Year: Qualitative Deep-Dive
2023-2024	Annual Notice	Intended Student Learning Outcomes & Intended Operational Outcomes
2024-2025	IQAR Interim Quality Assurance Report Annual Notice	Program-Specific Student Learning Outcomes
2025-2026	Annual Notice	Reflection Year: Qualitative Deep-Dive
2026-2027	Annual Notice	Intended Student Learning Outcomes & Intended Operational Outcomes
2027-2028	Annual Notice	Program-Specific Student Learning Outcomes
2028-2029	Self-Study Annual Notice	Reflection Year: Qualitative Deep-Dive

Summary of Achievement of Department’s Intended Student Learning Outcomes

Table 2: Department’s Intended Student Learning Outcomes

Intended Student Learning Outcomes (ISLOs)		Learning Assessment Measures		
Department ISLOs		Direct Measures of Student Learning		Indirect Measures of Student Learning
		Senior Project Experience	Strategic Capstone Essay	Senior Exit Survey
Measure		Goal: 80% Scale 1-4, 80% achieve rating of 3 or 4	Goal: 80% Scale 1-4, 80% achieve rating of 3 or 4	Goal: 80% Scale 1-6: 80% rating of 4, 5, 6
1	Apply core concepts in a business environment.	Met 82%		Met 95%
2	Apply the legal, ethical, social and economic environments of business in a global context.		Met 91%	Met 92%
3	Contribute to the development of a team-oriented and collaborative environment.	Met 86%		Met 92%
4	Solve business problems using decision-support tools and/or research skills.	Met 80%		Met 100%
5	Demonstrate professional communication and behavior using a variety of delivery methods.	Met 80%		Met 97%
6	Analyze business concepts and apply strategic planning skills to effect change in an integrated manner.		Met 85%	Met 97%

According to the results presented in Table 2, the Management department successfully met its intended student learning outcomes. The assessments represent a culmination of the student's educational experience within Oregon Tech's business programs and have been selected by the business faculty to assess the Management Department's intended student learning outcomes:

- Strategic Capstone Essay:** While student outcomes have not changed much over the years, the assessment method used by faculty has continued to evolve. The two faculty that regularly teach this course have worked together to develop more consistent delivery of course content, assignments, and evaluation rubrics. Moreover, rather than trying to evaluate all ISLOs in the strategic management class, it was determined to focus on two of the ISLOs that more naturally connect to the content of the course. The results have improved from prior years.
- Senior Project Experience:** The senior project experience is the hallmark of our programs. These are primarily individual, applied projects that require students to utilize project management tools to manage a project for an industry partner with well-defined deliverables. These projects help to launch students into careers of their choosing. The department has continued to review, reflect upon and improve the processes used to support the successful completion of these projects. While the overall results were positive, a few areas within the assessment fell short of established performance criteria. Specifically, the Summary & Conclusion area, which includes evidence of a summary with specific recommendations, scored lower as did the rubric criteria of Culminating Experience, which is identified as the student's ability to adapt and apply skills,

theories and methodologies independently in a new situation. These criteria areas provide the department with an opportunity to develop plans for improvement.

- **Senior Exit Survey:** The exit survey was designed to map to our updated ISLOs. The Management department tracks the results of the exit survey every year and has not always met established performance targets. Results from the 2020-2021 administration of the senior exit survey improved from prior years.

Summary of Achievement of Operational Outcomes

Table 3: Department’s Intended Operational Outcomes

Intended Operational Outcomes							
Department IOOs		Operational Assessment Measures					
		Faculty Qualifications	Annual Performance Evaluations	Management Department Retention Dashboard	Career Exit Survey	Management Industry Advisory Council Goal- Semi-Annual Meeting	Senior Exit Survey
Measure:		Goal 100% Academically or professionally qualified as defined by IACBE	Goal 80% Professional development and service goals tied to strategic plan	Goal 75% % of student retained after 4 th term	Goal 90% % of students to attain employment or admission to grad program	Goal- Semi-Annual Meeting minutes	Goal 80% Scale 1-6: 80% rating of 4, 5, 6
1	Faculty members will be highly qualified in their disciplines	Met 100% Academically or Professionally Qualified Faculty					Met 90%
2	Faculty engage in professional development and services activities that support the department’s mission		Not Met 50% Professional Development 71% Service				
3	Departmental processes support students throughout their program			Semi Met 67.4%			Met 84%
4	Curriculum is current and relevant.				Met 90%	Met 100%	Met 84%

According to the results in the above table, we have both met and not met areas of our intended operational goals. While the Management Department has developed a dynamic strategic plan with corresponding action plans, we have not always continuously assessed all of these areas on a regular basis. Our 2020-2021 results provide us with good opportunities for reflection and improvement during the next assessment cycle. The following summarizes these assessments:

- **Faculty Qualifications:** Maintaining faculty qualification standards is an area that the department has continued to work on over the last accreditation cycle. The academic business unit has had to grow its part-time adjunct pool to supplement our teaching staff over the last few

years due to growing enrollment in our programs. We pay close attention to qualifications of all faculty at the time of hire.

- **Annual Faculty Performance Evaluations:** This is a new area of assessment for the Management department, and represents an area where we want to increase standards across the department. Several years ago, we developed a strategic action plan and this intended operational outcome has now been incorporated into the department's annual assessment process. Moreover, the chair is working with the faculty to increase the level of active (rather than passive) engagement in professional development and service activities.
- **Management Department Retention Dashboard:** Over the last two years, the Management Department has focused on developing strategies to improve student retention. We have developed a three-pronged approach which relies on common best practices, current resources, and increased communication practices. As such, we have seen a consistent increase in 4th term student retention. However, since both our online and Portland-Metro campuses support more non-traditional students, we are challenged with improving these retention rates. Given this reality, the department is not as focused on its overall retention rate but is instead focusing on formalizing retention practices to support student success. To this end, Management faculty have developed an early alert system, implemented a strategic communication strategy, engaged with the university- and college-level retention committees, and plans to draft a retention strategy by the end of the 2021-2022 academic year.
- **Career Services Exit Survey:** We have regularly reviewed the Career Services Exit Survey for all programs. This survey focuses on graduate job placement and graduate school rates. Overall, the department has had positive results that support both the department's mission and that of the university.
- **Management Industry Advisory Council:** Over the last seven-year cycle, we disbanded and then reimagined and launched a new advisory council. Previously, our council included mostly Klamath Falls representatives with few direct connections to industries that represent career pathways of our graduates. The new advisory council was developed through a more thoughtful process that includes industry and alumni representatives that have more direct insight regarding the needs of industry.
- **Senior Exit Survey:** Similar to the Career Services Exit Survey, the Management Department annually reviews the Senior Exit Survey for all programs. Survey results have improved over time.

Summary of Changes, Actions & Outcomes

Table 4 summarizes the Management Department's action plans based on the intended student learning and operational outcomes summarized above. This action plan will be incorporated into our work over the next three year cycle.

Table 4: Summary of Changes, Actions, and Outcomes

Change or Improvement Needed	Action Required and Timeline	Desired/Realized Outcomes	Additional Action Required
<p>1. Senior Project Expectations: Continue to align Senior Project expectations and deliverables across all programs.</p> <p>Focus on student performance as related to Culminating Experience and Written and Oral Communication</p>	<p>Annual meeting of senior project faculty to discuss areas of alignment and best practices. Review rubric to create agreement on expectations. Continue to review senior exit survey questions to ensure alignment with outcomes.</p> <p>Continue to work with students to manage scope of their projects and pathways to completion. Consider incorporating student reflection to better understand student perception of their learning experience.</p>	<p>Continue to align expectations for senior project experience across department and programs.</p> <p>Improvements in minimum acceptable performance for these performance criteria. Better alignment between direct and indirect measures of assessment.</p>	<p>Share with the rest of the department to create an overall understanding of measures and outcomes</p>
<p>2. Assessment Cycle: Implement 3-year assessment cycle to promote meaningful reflection and action plans for continuous improvement.</p>	<p>Starting in the fall of 2020, the academic business unit began to implement its new assessment cycle. Ongoing action will require adhering to the new 3-year cycle and reviewing its usefulness moving forward. The academic business unit will focus on assessment of program-specific student learning outcomes in 2021-2022.</p>	<p>New assessment cycle allows for deeper and richer reflection to support continuous improvement on ISLOs, IOOs & broad-based goals to attain mission fulfillment.</p>	<p>Inform/Collaborate with the new AVP of Academic Excellence during implementation of the new assessment cycle.</p>
<p>3. Retention: Continue to develop and implement retention initiatives within the academic business unit to improve retention rates.</p>	<p>2021-2022- Pilot new communication tool which allows faculty/advisors to better monitor student activity. Pilot early alert system, enabling advisors to track student Canvas access as well as current grades.</p> <p>2022-2023-Fully implement communication tool and early alert system across the department in conjunction with university- and college-level retention committee initiatives .</p>	<p>Improve retention of Management students across all locations.</p>	<p>Work with newly hired staff within the Retention Office to determine best practices and available resources.</p>
<p>4. Faculty Resources: Build faculty resources to maintain course offerings.</p>	<p>Hire full-time faculty needed to fully support current programs.</p> <p>Continue to build pool of part-time faculty to teach in all areas, at all campuses.</p>	<p>Successfully hire requested full-time faculty that meet academic or professional standards.</p>	

		Determine how to best support part time faculty as well as maintain quality of programs.	Create a robust pool of part-time faculty. Maintain quality standards and consistent student outcomes across courses and locations.	
5.	Full-time Faculty Engagement and Expectations: Continue to develop consistent professional development and service expectations for full-time business faculty that also support disciplinary differences and individual faculty goals.	Over the next two years, the department chair will work with individual faculty to communicate expectations, in accordance with the CBA, to ensure faculty expectations are well understood. Continue the process of annually updating the department's strategic action plans and have each faculty member "sign up" to support one or more strategic initiative(s).	Consistent level of performance expectations for faculty in the area of professional development and service across the department.	
6.	Industry Advisory Council: Continue to develop a robust advisory council that can actively support the academic business unit and make connections to industry.	Build advisory council membership including defining roles and responsibilities of advisory council officers and members. Solicit quarterly input in the development of industry relevant program outcomes and curriculum alignment.	Develop robust advisory council that actively supports academic business unit.	

Program Student Learning Outcomes

Program student learning outcomes were not measured during the 2020-21 academic year.