Bachelor of Applied Science in Technology and Management
Oregon Tech Assessment Report
2017-18

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 Assembly of Collegiate Business Education (IACBE) in 2014.

Program Highlights

Program Enrollment, Graduation and Employment Rates

Total enrollment across all campuses is approximately 55 students; two at the Klamath Falls campus, 15 in Wilsonville, and 38 online. The program graduated eight students for 2018. The three-year annual starting salaries averaged $52,000. The program has a 90% 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, from culinary arts to diesel mechanics, from computer information systems to building construction so we do not have any single industry aligned with this degree. Recent graduates are employed by organizations including the City of Hillsboro, Stream Global Services, United Health Group, University of Oregon, Micro Systems Engineering, Asante, Oregon Department of Transportation, Lincoln County, and New Horizon. 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.

Success Stories

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

Jill Cuadros: AAS Culinary Arts; BAS 2017; MBA: 2018. Dining Services Manager and Chef at University of Oregon

Maryam Abadi: AAS: Business Information Systems; BAS 2016; MBA: 2017: Business Instructor

Vidhi Chokshi: AS; BAS 2015; MS Engineering and Technology 2017. Scrum Master, Intel

Randy Mendez: AAS: Computer Information Systems; BAS 2014. Programmer Analyst, Lane County Government

Rossella Mariotti-Jones: AAS: Network Technology; BAS 2017. Cyber Risk Specialist, Bonneville Power Administration

Gavin Curtis: AAS: Electronics; BAS: 2018. Distribution Specialist, KeHE Distributors

Quotes from the senior exit survey include:

"My experience with the Business Management department has been excellent throughout my education at Oregon Tech."

"Some of the highlights include conducting class projects as real-world activities with real clients. These bring an applicability of class material to the real world."

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.	• Case Study • Senior Project	• Senior Exit Survey
Describe the legal, social, ethical, and economic environments of business in a global context.	• Case Study • Senior Project	• Senior Exit Survey
Solve organization problems, individually and/or in teams, using quantitative, qualitative, and technology-enhanced approaches.	• Case Study • Senior Project	• Senior Exit Survey
Demonstrate professional communication and behavior.	• Case Study • Senior Project	• Senior Exit Survey
Apply knowledge of business concepts and functions in an integrated manner.	• Case Study • Senior Project	• 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.	• Senior Project	• Senior Exit Survey

Evidence of Improvement in Student Learning

Department Level Student Learning Outcomes, Activities and Results

Management Department			
Program Outcomes	**Minimal Acceptable Performance**	**Assessment**	**Results**
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%

- **How did past results compare with this year's results?**
  Senior Project: The department has seen ongoing improvement over the last several years with this assessment. During the 2014-15 assessment cycle, the department did not meet any of our learning objectives. Each year this has been slowly improved. This was the first year we have met all the minimal acceptable performance levels for all outcomes.

  Case Study: The results from the case study assignment have improved over prior years as well. Similar to senior project, during prior years many areas did not meet the targeted performance levels. This year, all student learning objectives were met at 80% and above.

  Senior Exit Survey: The results of this year are similar to past years. Areas of concern for student learning are accounting, marketing, finance and information technology. All other areas connected to the student learning outcomes continue to perform well meeting minimal acceptable performance levels.

- **Can you say the data supports improvements based on the action plan? (i.e. closing the loop).**
  Senior Project: The data supports the strategies that we have been employing. Strategies that have been used over the last years have been for faculty teaching senior project to communicate best practices and standards on a regular basis. Faculty have also shared and developed materials that have been shared across the department. Moreover, all faculty, apart from those teaching senior project, are actively working with students to mentor them through the process. For example, Professor Schaeffer mentors students through the greenbelt process while Professor Yates offers feedback on writing.

  Case Study: This past year a more unified approach was planned and implemented by faculty teaching the course related to this assignment. Specifically, two years ago we developed a case study assignment that was related to the business simulation used in the Strategic Management course. This assignment not only requires students to apply the knowledge within the business simulation, but also incorporates prior knowledge from their other program course work. This past year the professors utilized this same approach rather than

creating assignments individually. Like senior project, the interactions of faculty helped to develop a more cohesive approach that focused on the student learning outcomes.

Senior Exit Survey: In the prior year the department adjusted the survey questions to focus on student learning rather than a series of questions focused on the student's perception of faculty. After making this change, there were no significant changes. Discussion among the faculty showed a concern that the correct wording in the question was still not quite right. Specifically, the question asked students to rate their proficiency in the various student outcomes (i.e. accounting, marketing). Advice from an IACBE representative is that our results are unusual so we want to get to the root of this issue.

- **Data-driven Action Plans: Changes Resulting from Assessment**
  Senior Project: The faculty would like to find a way to have more than one senior project professor assess the student work. This will allow all faculty to review senior projects and provide feedback for improvement. This will likely be done using a small sample of the projects to discover areas of improvement as well as feedback for faculty teaching senior project courses. These discussions will be conducted in the winter or spring terms within small groups or during a department retreat.

  Case Study: The plan for this next year is 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 pinpoint areas of improvement.

  Senior Exit Survey: Following discussion, the group determined we will make another adjustment to the senior exit survey. Specifically, the word "proficiency" should be replaced with the word "understanding" since this will more accurately focus on the question's intent. The goal of this plan is for at least 80% of students to be able to rate their understanding of each of the functional areas of business at a high level (4-6). If this does not work this year, the department will need to drill into these courses to determine specific student concerns.

Program Student Learning Outcomes, Activities and Results

Technology and Management			
Program Outcomes	**Minimal Acceptable Performance**	**Assessment**	**Results**
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%

- **How did past results compare with this year's results?**
  This year's 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 for both the direct (senior project) and indirect (senior exit survey) assessments.

- **Can you say the data supports improvements based on the action plan? (i.e. closing the loop).**
  As stated in the department level assessment section, the senior project instructors have continued to communicate and share experiences and tools to improve the 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.

- **Data-driven Action Plans: Changes Resulting from Assessment**
  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.