

B.S. Operations Management Oregon Tech Assessment Report 2020-21

Program Description and History

The Operations Management degree at Oregon Tech has undergone several iterations in recent decades. Oregon Tech originally offered an Industrial Management degree; this degree evolved in the mid-1990s into an Industrial Engineering degree which was accredited by ABET. Oregon Tech hoped to increase enrollment with these changes. Enrollment, however, dropped dramatically as students were not interested in an engineering emphasis. In 2002 the curriculum was revised, the ABET accreditation was dropped, and the degree name was changed to Operations Management. Today, the Operations Management program is transfer-friendly, preparing students for leadership positions in the production and service industries. Curriculum enhancements developed in 2014-2015 were rolled out in 2015-2016 and include a new course sequence that offers courses in Materials Management, Logistics Management and Quality Management. This sequence brings additional depth to the Operations Management degree program. This degree option is offered in Klamath Falls and Wilsonville as well as online. The Operations Management degree program was awarded accreditation by the International Accreditation Council for Business Education (IACBE) in 2008 and reaffirmation of accreditation in 2015.

Program Highlights

Program Enrollment, Graduation and Employment Rates

Total enrollment across all campuses is approximately 60 students; 21 at the Klamath Falls campus, 12 in Portland-Metro, and 27 online. The program graduated 14 students for 2021. The three-year annual starting salaries averaged \$55,000. The program has a 91% success rate (within six months of graduation students are employed or in graduate school).

Industry Relationships

Building relationships with industry continues to be a priority for the Operations Management degree program and somewhat of a challenge given the Klamath Falls campus location and the number of potentially meaningful industry relationships in the immediate area. Despite that, students are finding internships and senior projects with industry sponsors including Interfor, Parr Lumber, Cascade Health Alliance, Sky Lakes Medical Center, Columbia Forest Products, Dutch Bros, Boise-Cascade and Jeld-Wen to name a few. The continuing trend toward industry diversity for student opportunities and graduates is a positive one.

Student Learning Experiences

This past year four Operations Management students were awarded the Lean Six Sigma Green Belt certificate which is an industry-recognized certification for competency in business problem solving. Certification projects from this assessment period include:

1. *Design Improvement for 500 Crayon Class Pack*, Binney & Smith, 2021
2. *Staff Onboarding Process Improvement*, Oregon Institute of Technology, 2021
3. *Forklift Driver Pick Time Reduction*, Parr Lumber, 2021
4. *Water Tender Maintenance Efficiency*, Oregon Department of Forestry, 2021

Additionally, the senior project symposium will continue to be a showcase to the institution and community that clearly and demonstrably highlights student learning experiences and successes. The Operations Management program continues to focus on creating additional hands-on learning

experiences within the classroom including industry simulations, analysis of research data taken from industry projects and products, and working directly with industry sponsors on projects.

Success Stories

Over this past assessment period, Oregon Tech's Operations / Supply Chain Management online degree program ranks as a top (#4) online degree program for 10-year ROI by OnlineU. OnlineU focuses on providing prospective students with data highly relevant to them — proven outcomes of real alumni. To provide this, they rank colleges by their 10-year return on investment, using salary and debt data that is specific to the program and degree level at each school. Oregon Tech's Operations and Supply Chain Management alumni had an impressive 10-year ROI, resulting in placement among the nation's top online schools. The 2021 Best Online College rankings, based on median post-graduate salary data of over 450,000 alumni, are sourced from the U.S. Department of Education's College Scorecard.

Once again graduates from the Operations Management degree program enjoyed near 100% job placement or continuation to graduate programs. Operations Management students continue to be sought after by a number of companies in manufacturing and industry. In particular, the Six Sigma certification has become an increasingly popular certification among students that helps them successfully secure professional positions after graduation. Four Lean Six Sigma Green Belt certifications were awarded during this assessment period.

Program Purpose

Bachelor of Science in Operations Management Mission

The Operations Management degree prepares students for leadership positions in the production and service industries.

Educational Objectives

1. The Operations Management degree program prepares students for graduate school programs such as the MBA or the MIM.
2. The Operations Management degree program prepares students for supervisory positions in organizations, including for-profit organizations, non-profit organizations, and government organizations.
3. The Operations Management degree program prepares students for M.A.T. programs and future careers in high school education.
4. The Operations Management degree program develops skills in problem solving, project management, communication, and managing effectively in team-based work environments, and prepares students for employment within a wide variety of service and product industries.

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, Operations Management graduates will be able to:

1. Apply knowledge of fundamental concepts of operations management.
2. 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		
		Direct Measures of Student Learning		Indirect Measures of Student Learning
Department ISLOs		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 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 scored lower, which includes

evidence of a summary with specific recommendations. Also, 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		Operational Assessment Measures					
Department IOOs		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 professional 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 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 in the department. 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 plan 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 reimaged 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.