

**Operations Management  
Oregon Tech Assessment Report  
2015-2016**

**I. Program History**

**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 for the 2014-2015 academic year were rolled out in the 2015-2016 academic year include the 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. Total enrollment across all campuses is approximately 65 students; 14 at the Klamath Falls campus, 26 in Wilsonville, and the remainder online. Annual salaries reported for 2014 averaged \$55,700.

The Operations Management degree program was awarded accreditation by the International Assembly of Collegiate Business Educators (IACBE) in 2015.

**II. 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 Student Learning Outcomes (SLO):**

The Operations Management degree consists of the five core Management Department student learning outcomes. Upon completion of this program, Operations 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, 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

**III. Assessment Cycle**

**Assessment Schedule**

A. Oregon Tech’s 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.

B. IACBE requires all accredited institutions to complete a full assessment cycle for all IACBE core student learning outcomes (Core SLOs 1-5) on an annual basis.

<b>Outcomes:</b>	<b>Direct</b>	<b>Indirect</b>
1. Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology, and management.	<ul style="list-style-type: none"> <li>• Case Study</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Exit Survey</li> </ul>
2. Describe the legal, social, ethical, and economic environments of business in a global context.	<ul style="list-style-type: none"> <li>• Case Study</li> <li>• Simulation – International Strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Exit Survey</li> </ul>

3. Solve organization problems, individually and/or in teams, using quantitative, qualitative, technology-enhanced approaches.	<ul style="list-style-type: none"> <li>• Simulation- BSG Exam</li> <li>• Senior Project</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Exit Survey</li> </ul>
4. Demonstrate professional communication and behavior.	<ul style="list-style-type: none"> <li>• Stockholder Presentations</li> <li>• Senior Project</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Exit Survey</li> </ul>
5. Apply knowledge of business concepts and functions in an integrated manner.	<ul style="list-style-type: none"> <li>• Case Study</li> <li>• Simulation- BSG Exam</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Exit survey</li> </ul>

### C. Program Based Annual Assessment Schedule and Activity (PSLO):

<b>Outcomes:</b>	<b>Direct</b>	<b>Indirect</b>
1. Apply knowledge of fundamental concepts of operations management	<ul style="list-style-type: none"> <li>• Senior Project</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Exit Survey</li> </ul>
2. Apply knowledge of approaches to operational performance improvement	<ul style="list-style-type: none"> <li>• Senior Project</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Exit Survey</li> </ul>

## IV. 2015-2016 Assessment Activities

### A. Student Learning Outcomes (SLOs):

#### Direct Assessment

##### (1) Case Study:

The comprehensive case study analysis was assessed in BUS 478: Strategic Management.

*SLO Outcomes:*

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.*
5. *Apply knowledge of business concepts and functions in an integrated manner.*

**Assessment Outcome Goal/Minimum Acceptable Performance: 80% achieving 3 or 4 rating**

<b>Case Study: Performance Scale 1-4</b>	<b>Minimum Acceptable Performance</b>	<b>Operations Results N=16</b>	<b>Aggregate Results N=85</b>
Communicate the major concepts in the functional areas of accounting, marketing, finance, information technology and management.	80% achieve 3 or 4 rate	<b>81%</b>	<b>86%</b>
Apply knowledge of business concepts and functions in an integrated manner. Utilizes strategic management tools.	80% achieve 3 or 4 rate	<b>88%</b>	<b>85%</b>
Describe the legal, social, ethical and economic environments of business in an internal/external (global) context.	80% achieve 3 or 4 rate	<b>100%</b>	<b>79%</b>

### **Weaknesses**

The results provide evidence of a strong showing overall. However, content in subjects that only support operations management PSLO's (finance, marketing, etc.) could benefit from addition reinforcement.

### **Action Plans**

Opportunities to reinforce support topics can be evaluated and woven in the operations management course content where applicable.

## **(2) Business Strategy Game Comprehensive Exam:**

Comprehensive exam in BUS478, Strategic Management, was given following a term-long business simulation experience. Exam tests student's ability to problem solve and integrate all business functional areas.

### *SLO Outcomes:*

3. *Apply knowledge of business and functions in an integrated manner.*
5. *Solve organizational problems, individually and or in teams, using quantitative and or qualitative approaches.*

**Assessment Outcome Goal/Minimum Acceptable Performance: 80% achieving 50% or higher percentile ranking.** Percentile Rankings Are Versus All Participants in United States Completing the Comprehensive Exam Since November 17, 2014. (Population Statistics: Exams = 4413, Schools = 87, Countries = 1)

	<b>Correct</b>	<b>Percentile</b>
Interpreting/Analyzing Market Data	<b>58.6%</b>	<b>57.6%</b>
Evaluating Strategies of Rivals	<b>61.2%</b>	<b>69.1%</b>
Improving Company Performance	<b>62.2%</b>	<b>57.6%</b>
Build Competitive Advantage	<b>68.7%</b>	<b>68.4%</b>
Improving Operating Efficiency	<b>53.9%</b>	<b>58%</b>
Global Market Factors	<b>63.1%</b>	<b>68.4%</b>
Overall	<b>60.2%</b>	<b>56.1%</b>
<b>Results</b>	<b>Percentage of Scores at or above 50%</b>	<b>Percentage at or above 50<sup>th</sup> Percentile</b>
<b>Operations Students (N=14)</b>	<b>86%</b>	<b>64%</b>
<b>Aggregate Students (all management degrees)</b>	<b>66%</b>	<b>51%</b>

### **Weaknesses**

Once again operations management students exhibit better than average scores overall. The weaknesses cannot be reliably confirmed at this time since the simulation results have only been part of the assessment process for a couple of years.

### **Action Plans**

Continue to collect simulation results data in order to draw meaningful inferences about student performance in these areas in subsequent assessments.

### **(3) BSG Stockholder Presentation:**

The students are assessed on a presentation based on a business simulation in BUS 478: Strategic Management.

*SLO Outcome:*

4. Construct and present effective professional communication behaviors.

**Assessment Outcome Goal/Minimum Acceptable Performance: 80 % achieving score of 3 or 4.**

<b>Presentation: Performance Scale 1-4</b>	<b>Minimum Acceptable Performance</b>	<b>Operations Results N=14</b>	<b>Aggregate Results N=85</b>
Content	80% achieve 3 or 4 rate	<b>86%</b>	<b>90%</b>
Organization	80% achieve 3 or 4 rate	<b>100%</b>	<b>98%</b>
Style	80% achieve 3 or 4 rate	<b>86%</b>	<b>83%</b>
Delivery	80% achieve 3 or 4 rate	<b>86%</b>	<b>77%</b>
Visuals	80% achieve 3 or 4 rate	<b>43%</b>	<b>65%</b>

### **Strengths**

With respect to the BSG Stockholder Presentation, Operations Management students exhibit strength particularly in organization. Other performance areas of content, style and delivery exceed minimum acceptable performance.

### **Weaknesses**

With respect to the BSG Stockholder Presentation, “Visuals” is, by far, an area of weakness.

### **Action Plan**

Courses in the operations management degree program are frequently very quantitative in nature. These course will place emphasis on visual delivery of content in papers and presentations where applicable.

### **(4) International Business Assignment:**

The students are assessed on an international assignment based on a business simulation in BUS 478: Strategic Management.

*SLO Outcomes:*

2. Describe the legal, social, ethical, and economic environments of business in a global context.

Assessment Outcome Goal/Minimum Acceptable Performance: 80% achieving 3 or 4 rating

International Assignment: Performance Scale 1-4	Minimum Acceptable Performance	Operations Results N=14	Aggregate Results N=79
Assignment	80% achieve 3 or 4 rate	79%	62%

### Weaknesses

Performance of operations management students for the International Assignment are slightly below the minimum acceptable. Historically this has also been the case. However, the score is trending up from previous assessment cycles.

### Action Plans

Previous action plans from former assessments was to introduce more international components to course topics. Based on the upward trend in International scores, the program will continue to interject international topics where applicable. To that end, the Logistics Management course recently introduced into the program may be a good candidate course to provide further international exposure.

### (5) Senior Project:

Students complete a senior project that requires project management, research, analysis, written and oral communication. The following assessment compared to aggregate results for the following degrees- BAS, OM, HCM, SBM\*.

#### *SLO Outcomes:*

1. Apply knowledge of business and functions in an integrated manner.
4. Construct and present effective professional communication behaviors.
5. Solve organizational problems, individually and or in teams, using quantitative, qualitative, and technology-enhanced approaches.

#### *PSLO Outcome:*

3. Analyze an organization's activities to develop/implement a marketing strategy.

Assessment Outcome Goal/Minimum Acceptable Performance: 80% achieving 3 or 4 rating

Performance Criteria: Proficiency Scale- 1-4	Minimum Acceptable Performance	Operations n=11	Aggregate degrees* n=39
Project Objective - Identification	80% achieve 3 or 4 rating	73%	90%
Organization Environment - Context	80% achieve 3 or 4 rating	73%	74%
Project Plan	80% achieve 3 or 4 rating	73%	79%
Literature Review	80% achieve 3 or 4 rating	100%	90%
Analysis #1	80% achieve 3 or 4 rating	64%	62%

<b>Analysis #2</b>	80% achieve 3 or 4 rating	<b>64%</b>	56%
<b>Objectives Met</b>	80% achieve 3 or 4 rating	<b>73%</b>	62%
<b>Summary &amp; Conclusion</b>	80% achieve 3 or 4 rating	<b>73%</b>	58%
<b>Written Communication of Results</b>	80% achieve 3 or 4 rating	<b>83%</b>	77%
<b>Oral Communication of Results</b>	80% achieve 3 or 4 rating	<b>64%</b>	90%
<b>Degree Specific Outcomes</b>	80% achieve 3 or 4 rating	<b>73%</b>	62%
<b>Culminating Experience</b>	80% achieve 3 or 4 rating	<b>91%</b>	62%

**Strengths:**

Senior project topics for Operations Management seniors can vary widely. Of the business management senior project they can also be some of the more quantitative and systematic projects.

**Weaknesses:**

A weakness with the Operations Management senior projects is that there tends to be a lot of variability in the quality and approach. This may be a contributor to lower and fluctuating scores in this assessment area.

**Action Plans:**

A structured approach, using the scientific approach to problem solving, to senior projects for Operations Management students can be introduced. There currently exists such an approach for some of the Ops’ senior projects, but does not yet neatly fit the majority of projects.

**B. Program Student Learning Outcomes (PSLOs):**

**(1) PSLO HERE:**

Apply knowledge of fundamental concepts of operations management

**Strengths**

The operations management degree program has introduced more depth in current operations topics than ever in the history of the program. Verbal student feedback confirms the value of this added depth.

**Weaknesses**

In the 2015-16 assessment period, the assessment process changed enough without adequate staffing or change management that the aforementioned PSLO was not assessed.

**Actions**

The program and department must arrive at a standardized and accepted process to PSLO assessment and reporting (standard data collection, acceptable assessment tools and

artifacts, accountability, expectations, communication plan and follow up) for the 2016-17 assessment period.

**(2) PSLO HERE:**

Apply knowledge of approaches to operational performance improvement

**Strengths**

The Operations Management degree program continues to offer emphasis in business problem solving across most of its courses. The also continues to exist the sequence in Lean Six Sigma, for which a certification can be earned, which continues to provide value and marketability for students both inside and outside of the operations management degree program.

**Weaknesses**

In the 2015-16 assessment period, the assessment process changed enough without adequate staffing or change management that the aforementioned PSLO was not assessed.

**Actions**

The program and department must arrive at a standardized and accepted process to PSLO assessment and reporting (standard data collection, acceptable assessment tools and artifacts, accountability, expectations, communication plan and follow up) for the 2016-17 assessment period. Additionally, with little support and no recognition for the lean six sigma green belt certificate program, its viability should be reassessed.

**V. Summary**

Though the 2015-16 assessment period for the Operations Management program felt the impact of transition as the department continues to evolve its assessment approaches and learning outcomes at the institution, department and program levels. The Operations Management program continues to grow and student optimism and success have positive trajectories. Addition of an adjunct professor to the Operations Management degree program this year has offered some relief to help ensure the degree program is better-staffed and students are exposed to differing perspectives and points-of-view. The department must collectively arrive at a standardized and accepted process to PSLO assessment and reporting that continues to add value at the program level, promotes effective and efficient change, and directly involves the key program level stakeholders without adding a level of complication that inhibits effective future assessments. A closed loop approach to monitor and control could be considered for future assessment cycles.