

- Systems Engineering & Technical Management -  
2016-17 Assessment Report

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Contents

1 Introduction..... 3  
1.1 Program Goals and Design.....

# 1 Introduction

## 1.1 Program Goals and Design

The Systems Engineering & Technical Management (SEM) program is designed as a dual major option for students with an ABET accredited primary major in an engineering discipline offered at Oregon Tech. Students first choose a primary ABET accredited major (e.g., Electrical Engineering, Renewable Energy Engineering, Mechanical Engineering), and complete additional specialized coursework to earn a second major in Systems Engineering & Technology

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## 2 Program Mission, Educational Objectives, and Outcomes

### 2.1 Program Mission

The mission of the DMSEM is to equip graduates with the knowledge and skills to address complex multidisciplinary problems involving the design, modeling, analysis, and

### 3 Cycle of Assessment

### 3.3 Summary of Assessment Activities & Evidence of Student Learning

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met on all performance criteria for this program outcome, that is, 80% of students were able to apply systems engineering methods to practical problems involving one or more engineering disciplines.

Table (a)1: Targeted Assessment for Outcome (a)

Outcome (a): an ability to apply systems engineering methods to practical problems involving one or more engineering disciplines				
Performance Criteria	1-Developing	2-Accomplished	3-Exemplary	%Students $\geq$ 2
1 - Knowledge	3	10	5	83%
2 - Application	3	10	5	83%

3.3.5 Targeted Assessment for Outcome b: knowledge and understanding of project management techniques and frameworks

This outcome was assessed in SEM422 – Advanced Systems Engineering in Winter 2016 by means of:

Homework #7 involved demonstration of project management knowledge and tools. Students



## 4 Changes Resulting from Assessment

This section describes the changes resulting from the assessment activities carried out during the assessment year 2015-2016. It includes any changes that have been implemented based on assessment in previous assessment cycles, from this or last year, as well as considerations for the next assessment cycle.

The SEM faculty reviewed the assessment results to determine whether any changes are needed to the SEM curriculum or assessment methodology based on the results presented in this document. The objective set by the SEM faculty is to have at least 80% of the students perform at the level of accomplished or exemplary in all performance criteria of the assessed outcomes. Table 2 provides a summary of the 2015-16 assessment results for the outcomes which were directly assessed.

Table 2: Summary of SEM direct assessment for AY2015-16

	Total	Student	% Students
<b>a - Systems Engineering</b>			
1 - Knowledge	18	15	83%
2 - Application	18	15	83%
<b>b - Project Management</b>			
1 - Techniques	15	13	87%
2 - Frameworks	15	13	87%

The results show that the threshold of attainment of this outcome was met in all performance criteria. The faculty identified no issues and therefore recommended no changes at this time.