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Manufacturing Engineering Technology
2015-16 Assessment Report

I. Introduction

The Bachelor of Science program in Manufacturing Engineering Technology is offered in three locations—Klamath Falls, Wilsonville, and at the Seattle campus located at Boeing. During the years 2004-2015, fall term full and part-time enrollment ranged from 75 to 147, with a high during 2005 of 147 students. Fall term 2015 enrollment was 84 full and part-time students. During the 2014-15 year, the program graduated a total of 11 students. Data derived from a Career Services Graduate Survey conducted approximately six months after graduation among graduates of 2013-2015 in aggregate, reported a median salary of $62,500. Seventy-seven percent of this group of graduates were employed when surveyed six months after graduation and five percent were continuing their education in graduate studies. Graduates reported employment with the following companies: FLIR Systems, Boeing, Warn Industries, ATS Automation, and Erickson Air Crane.

The Manufacturing Engineering Technology (MFG) Program at Oregon Institute of Technology was first accredited by ABET in 1985. Based on recommendations from the MMET Industry Advisory Council, curricular changes have been made over the past several years to keep the program current.

The Manufacturing and Mechanical Engineering and Technology (MMET) Department in which the MFG Program resides is the result of a merger of the Manufacturing Engineering Technology Department with the Mechanical Engineering Technology Department in 2004. This was done to increase administrative efficiency. In addition, the Mechanical Engineering program was added in 2005 and the masters program in Manufacturing Engineering Technology was approved in 2005. All four programs reside in the MMET Department under one department chair, not all programs are available at all three locations. The result of this unified department is a stronger program with more resources available and better faculty collaboration.

II. Program Mission, Objectives and Student Learning Outcomes

Following a fall 2014 ABET visit, the faculty revisited the program student learning outcomes and updated them to reflect the current ABET a-k outcomes. These were reviewed and approved by the faculty in a department meeting held February 3, 2015 (minutes in Appendix B). Most recently, at the Spring 2016 IAC meeting held on April 15th in Klamath Falls and attended by faculty and industry representatives in Klamath Falls and Wilsonville, the Program Mission Statement and the Program Educational Objectives (PEOs) for both the MET and MFG programs were reviewed, updated, and approved as shown below (minutes in Appendix C). The PEOs were then sent out to our other constituents for review. A survey of our alumni was discussed.

Mission Statement

The Manufacturing Engineering Technology Program at Oregon Institute of Technology is an applied engineering technology program. Its mission is to provide graduates the skills and knowledge for successful careers in manufacturing engineering technology.

Program Educational Objectives

Program educational objectives are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve. They are generally thought of as desired alumni achievements between three and five years after graduation.

The Program Educational Objectives of Oregon Tech's manufacturing engineering technology program are to produce graduates who:

- are able to analyze, design, implement, and maintain practical mechanical and manufacturing systems.
- communicate effectively and work well on team-based engineering projects.
- succeed in manufacturing and mechanical engineering technology positions.
- pursue continued professional development.

The faculty planned an assessment cycle for the program's educational objectives as shown in Table 1.

Program Objective Assessment Cycle	2014-15	2015-16	2016-17
Review Program Mission and Educational Objectives by the industrial advisory committee	x		
Assess Program Educational Objectives		x	

Table 1. Program Education Objectives Assessment Cycle

Student Learning Outcomes

The Manufacturing Engineering Technology Program has adopted the ABET a-k outcomes for Engineering Technology programs as listed below. This change to adopt the a-k language was made by program faculty based on input received from the October, 2014 ABET visit.

An engineering technology program must demonstrate that graduates have:

a. an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities
b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies
c. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes
d. an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives
e. an ability to function effectively as a member or leader on a technical team
f. an ability to identify, analyze, and solve broadly-defined engineering technology problems
g. an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature
h. an understanding of the need for and an ability to engage in self-directed continuing professional development
i. an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity
j. a knowledge of the impact of engineering technology solutions in a societal and global context
k. a commitment to quality, timeliness, and continuous improvement.

In addition to the eleven a-k outcomes there are two outcomes identified through the ABET Manufacturing Engineering specific criteria. These have been defined as below.

M1. Graduates must demonstrate the ability to apply the following to the solution of manufacturing problems to achieve manufacturing competitiveness: (a) materials and manufacturing processes; (b) product design process, tooling, and assembly; (c) manufacturing systems, automation, and operations; (d) statistics, quality and continuous improvement, and industrial organization and management.

M2. Graduates of baccalaureate degree programs must have a capstone or integrating experience that develops and illustrates student competencies in applying both technical and non-technical skills in successfully solving manufacturing problems.

III. Three-Year Cycle for Assessment of Student Learning Outcomes
The faculty planned a three-year assessment cycle for the program's student learning outcomes as shown in Table 2 below.

Student Learning Outcome	2015-16	2016-17	2017-18	
a. an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities		x		
b. an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies			x	
c. an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes		x		
d an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives			x	
e. an ability to function effectively as a member or leader on a technical team	x			
f. an ability to identify, analyze, and solve broadly-defined engineering technology problems			x	
g. an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature		x		
h. an understanding of the need for and an ability to engage in self-directed continuing professional development		x		
i. an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity	x			
j. a knowledge of the impact of engineering technology solutions in a societal and global context	x			
k. A commitment to quality, timeliness, and continuous improvement	x			
M1. Graduates must demonstrate the ability to apply the following to the solution of manufacturing problems to achieve manufacturing competitiveness: (a) materials and manufacturing processes; (b) product design process, tooling, and assembly; (c) manufacturing systems, automation, and operations; (d) statistics, quality and continuous improvement, and industrial organization and management.			x	
M2. Graduates of baccalaureate degree programs must have a capstone or integrating experience that develops and illustrates student competencies in applying both technical and non-technical skills in successfully solving manufacturing problems.		x		

Table 2. Assessment Cycle

IV. Summary of 2015-16 Assessment Activities

The Manufacturing Engineering Technology faculty conducted formal assessment of four student learning outcomes during 2015-16. These outcomes have been mapped to the curriculum as shown in Appendix A.

SLO e: an ability to function effectively as a member or leader on a technical team.

The performance criteria for this learning outcome are:

1. Identify and achieve goal/purpose.
2. Assume roles and responsibilities as appropriate (member and/or leader).
3. Interacts appropriately with team/group members
4. Recognize and help reconcile disagreements among team/group members.
5. Share appropriately in work of team/group.
6. Develop strategies for effective action.
7. Recognize and adapt to cultural differences.

Direct Assessment #1 Klamath Campus

The faculty assessed this outcome in MFG 343 Manufacturing Tool Design, winter term 2016, a team project, scoring each group with a rubric. There were seven teams comprised of two Manufacturing Engineering Technology students each. The results are shown in Table 3 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Identify/achieve goal/purpose	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	93%
Assume roles and responsibilities as appropriate	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Interacts appropriately with team/group members	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Recognize and help reconcile differences among team/group members	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Share appropriately in work of team/group.	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Develop strategies for effective action.	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Recognize and adapt to cultural differences	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%

Table 3. Assessment Results for SLO e, Winter 2016, Klamath Campus

Strengths: Good CAD skills: this is a welcome improvement over previous assessments.

Weaknesses: Some lack of costing capability.

Actions: Emphasize/Review costing aspect of assignment(s).

Direct Assessment #2 Klamath Campus

The faculty assessed this outcome in MFG 463 Senior Project III, spring term 2016, a team design project, scoring each group with a rubric. There were four Manufacturing Engineering Technology students involved in the assessment. The results are shown in Table 4 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Identify/achieve goal/purpose	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Assume roles and responsibilities as appropriate	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	25%
Interacts appropriately with team/group members	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	50%
Recognize and help reconcile differences among team/group members	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	67%
Share appropriately in work of team/group.	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	0%
Develop strategies for effective action.	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	33%
Recognize and adapt to cultural differences	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	67%

Table 4. Assessment Results for SLO e, Spring 2016, Klamath Campus

Strengths: The teams' ability to identify and to achieve their goals and purpose.

Weaknesses: Students had difficulties with the "Assumes roles and shares work appropriately" aspect of the assessment. Program faculty were concerned about their ability to assess the performance of individual students in a team based project.

Actions: Program faculty will redesign this assessment and create a new teamwork rubric that will better evaluate individual student performance.

Direct Assessment #3 Wilsonville Campus

The faculty assessed this outcome in MFG 343 Manufacturing Tool Design, winter term 2016, a team design project, scored with a rubric. There were three Manufacturing Engineering Technology students involved in the assessment. The results are shown in Table 5 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Identify/achieve goal/purpose	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Assume roles and responsibilities as appropriate	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%

Interacts appropriately with team/group members	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Recognize and help reconcile differences among team/group members	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Share appropriately in work of team/group.	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Develop strategies for effective action.	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Recognize and adapt to cultural differences	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%

Table 5. Assessment Results for SLO e, Winter 2016, Wilsonville Campus

Strengths: Students demonstrated a willingness to talk with each other, to discuss ideas, and to accept others' suggestions.

Weaknesses: Determining machining time caused some students difficulty. Creating production-ready drawings was challenging.

Actions: More practice on the creation of production-ready drawings.

Direct Assessment #4 Wilsonville Campus

The faculty assessed this outcome in MET 492/MFG 463, Senior Project III spring term 2016, a team design project, scored with a rubric. There was one Manufacturing Engineering Technology student involved in the assessment. The results are shown in Table 6 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Identify/achieve goal/purpose	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Assume roles and responsibilities as appropriate	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Interacts appropriately with team/group members	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Recognize and help reconcile differences among team/group members	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Share appropriately in work of team/group.	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Develop strategies for effective action.	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Recognize and adapt to cultural differences	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%

Table 6. Assessment Results for SLO e, Spring 2016, Wilsonville Campus

Strengths: Students performed well on overall teamwork.

Weaknesses: None demonstrated

Actions: None needed.

Direct Assessment #5 Seattle Campus

This outcome was scheduled for assessment in MFG 463 Senior Projects III, spring 2016. Data has not been received for this assessment.

Indirect Assessment #1 MMET Undergraduate Exit Survey

During the spring term, each graduating senior completes an exit survey. The survey includes questions on how well the program prepared the student on each SLO. This survey data is reviewed by faculty to determine any strengths or weaknesses as perceived by students on this SLO. There were a total of five responses from Klamath Falls seniors, one response from Wilsonville seniors and no responses from Seattle seniors. Student responses indicate that 100% of students felt prepared in this outcome. Details are included in Table 7 and Appendix D.

	Highly Prepared	Prepared	Inadequately Prepared
Klamath Falls	40%	60%	0%
Wilsonville	0%	100%	0%
Seattle	N/A	N/A	N/A

Table 7. Indirect Assessment for SLO e, Senior Exit Surveys 2015-16

SLO i: an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity.

The performance criteria for this learning outcome are:

1. Demonstrates knowledge of the professional code of ethics
2. Using code of ethics, describes ethical issue(s)
3. Describes parties involved and discusses their points of view.
4. Describes and analyzes possible/alternative approaches
5. Chooses an approach and explains the benefits and risks
6. Demonstrates an understanding of "ethical diversity"

Direct Assessment #1 Klamath Campus

The faculty assessed this outcome in ENGR 111 Engineering Orientation, fall term 2015, using a rubric-graded ethics assignment. There were four Manufacturing Engineering Technology students involved in the assessment. The results are shown in Table 8 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Knowledge of professional code of ethics	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	50%
Describes ethics issue(s)	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	50%
Describes parties involved and points of view	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	50%

Describes and analyzes possible/alternative approaches	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	25%
Chooses an approach and explains the benefits and risks	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	25%
Demonstrates an understanding of "ethical diversity"	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	N/A

Table 8. Assessment Results for SLO i, Fall 2015, Klamath Campus

Strengths: Successful identification of stakeholders, alternative resolution scenarios, ethical/moral principles; and assessment via an evaluation/decision matrix.

Weaknesses: Failure to read/understand instructions and follow directions specified in exercise documentation.

Actions: Reiterate importance of reading/understanding instructions and following directions provided. Include ethical diversity in assignment.

Direct Assessment #2 Klamath Campus

The faculty assessed this outcome in MFG 462, Senior Project II winter term 2016, using a rubric-graded ethics assignment. There were four Manufacturing Engineering Technology students involved in the assessment. The results are shown in Table 9 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Knowledge of professional code of ethics	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%
Describes ethics issue(s)	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	75%
Describes parties involved and points of view	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%
Describes and analyzes possible/alternative approaches	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	75%
Chooses an approach and explains the benefits and risks	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	75%
Demonstrates an understanding of "ethical diversity"	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	N/A

Table 9. Assessment Results for SLO i, Winter 2016, Klamath Campus

Strengths: The students all did a good job in showing their knowledge of the Code of Ethics.

Weaknesses: The students performed at a lower level identifying the benefits/risks of their choice.

Actions: Include ethical diversity in assignment.

Direct Assessment #3 Wilsonville Campus

The faculty assessed this outcome in ENGR 111 Engineering Orientation, fall term 2015, using a rubric-graded ethics based exam/assignment. There were three Manufacturing Engineering Technology students involved in the assessment. The results are shown in Table 10 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Knowledge of professional code of ethics	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	67%
Describes ethics issue(s)	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	67%
Describes parties involved and points of view	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%
Describes and analyzes possible/alternative approaches	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%
Chooses an approach and explains the benefits and risks	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%
Demonstrates an understanding of "ethical diversity"	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	33%

Table 10. Assessment Results for SLO i, Fall 2015, Wilsonville Campus

Strengths: Students demonstrated a high level of integrity.

Weaknesses: Demonstrating an understanding of "ethical diversity"

Actions: Emphasize/Review the attributes of "ethical diversity"

Direct Assessment #4 Wilsonville Campus

The faculty assessed this outcome in MET 491/MFG 462, Senior Project III winter term 2016, a team design project, scored with a rubric. There was one Manufacturing Engineering Technology student involved in the assessment. The results are shown in Table 11 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Identify/achieve goal/purpose	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Assume roles and responsibilities as appropriate	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Interacts appropriately with team/group members	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Recognize and help reconcile differences among team/group members	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%

Share appropriately in work of team/group.	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Develop strategies for effective action.	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%
Recognize and adapt to cultural differences	Rubric, team project	1-4 proficiency scale	80% score 3 or 4	100%

Table 11. Assessment Results for SLO i, Winter 2016, Wilsonville Campus

Strengths: The student benefited greatly from his/her internships and co-op experience in industry.

Weaknesses: None demonstrated

Actions: None needed.

Direct Assessment #5 Seattle Campus

This outcome was scheduled for assessment in MFG 463 Senior Projects III, spring 2016. Data has not been received for this assessment.

Indirect Assessment #1 MMET Undergraduate Exit Survey

During the spring term, each graduating senior completes an exit survey. The survey includes questions on how well the program prepared the student on each SLO. This survey data is reviewed by faculty to determine any strengths or weaknesses as perceived by students on this SLO. There were a total of five responses from Klamath Falls seniors, one response from Wilsonville seniors and no responses from Seattle seniors. Student responses indicate that 100% of students felt prepared in this outcome. Details are included in Table 12 and Appendix D.

	Highly Prepared	Prepared	Inadequately Prepared
Klamath Falls	40%	60%	0%
Wilsonville	0%	100%	0%
Seattle	N/A	N/A	N/A

Table 12. Indirect Assessment for SLO i, Senior Exit Surveys 2015-16

SLO j: a knowledge of the impact of engineering technology solutions in a societal and global context.

The performance criteria for this learning outcome are:

1. Understands the global impact of engineering decisions.
2. Understands the macro-economic impact of engineering solutions.
3. Understands the environmental and the social impact of engineering decisions.

Direct Assessment #1 Klamath Campus

The faculty assessed this outcome in MFG 461 Senior Project I fall term 2015, using a rubric-graded assignment. There were three Manufacturing Engineering Technology students involved in the assessment. The results are shown in Table 13 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Understands the global impact of engineering decisions.	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%
Understands the macro-economic impact of engineering solutions.	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%
Understands the environmental and the social impact of engineering decisions.	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%

Table 13. Assessment Results for SLO j, Fall 2015, Klamath Campus

Strengths: The students had a good understanding of the impact that portable energy had in all three of the rubric categories.

Weaknesses: None demonstrated

Actions: None needed.

Direct Assessment #2 Klamath Campus

The faculty assessed this outcome in MFG 344 Design of MFG Tooling, spring 2016, using a rubric-graded assignment. There were ten Manufacturing Engineering Technology students involved in the assessment. The results are shown in Table 14 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Understands the global impact of engineering decisions.	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	90%
Understands the macro-economic impact of engineering solutions.	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	90%
Understands the environmental and the social impact of engineering decisions.	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%

Table 14. Assessment Results for SLO j, Spring 2016, Klamath Campus

Strengths: The students have a fairly good understanding of the technical issues surrounding Portable Energy and how they affect society.

Weaknesses: They do not have as strong of an understanding of why there are not more governmental forces to help improve this.

Actions: We might want to reconsider what course this is assigned to and when.

Direct Assessment #3 Wilsonville Campus

The faculty assessed this outcome in MFG 344 Design of MFG Tooling, spring 2016, using a rubric-graded assignment. There were four Manufacturing Engineering Technology students involved in the assessment. The results are shown in Table 15 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Understands the global impact of engineering decisions.	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%
Understands the macro-economic impact of engineering solutions.	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%
Understands the environmental and the social impact of engineering decisions.	Rubric-graded assignment	1 to 4 proficiency scale	80% score 3 or 4	100%

Table 15. Assessment Results for SLO j, Spring 2016, Wilsonville Campus

Strengths: Reviewing their projects, providing oral communication and status updates, asking questions of each other, demonstrating critical thinking, using their fellow students to check their work.

Weaknesses: Following instructions.

Actions: Emphasize following written and oral instructions.

Direct Assessment #4 Wilsonville Campus

This outcome was scheduled for assessment in MFG 462 Senior Projects II, winter 2016. Data has not been received for this assessment.

Direct Assessment #5 Seattle Campus

This outcome was scheduled for assessment in MFG 463 Senior Projects, spring 2016. Data has not been received for this assessment.

Indirect Assessment #1 MMET Undergraduate Exit Survey

During the spring term, each graduating senior completes an exit survey. The survey includes questions on how well the program prepared the student on each SLO. This survey data is reviewed by faculty to determine any strengths or weaknesses as perceived by students on this SLO. There were a total of five responses from Klamath Falls seniors, one response from Wilsonville seniors and no responses from Seattle seniors. Student responses indicate that 100% of students felt prepared in this outcome. Details are included in Table 16 and Appendix D.

	Highly Prepared	Prepared	Inadequately Prepared
Klamath Falls	40%	60%	0%
Wilsonville	0%	100%	0%
Seattle	N/A	N/A	N/A

Table 16. Indirect Assessment for SLO j, Senior Exit Surveys 2015-16

SLO k: A commitment to quality, timeliness, and continuous improvement.

The performance criteria for this learning outcome are:

1. Demonstrates responsibility for quality & professionalism in personal work (course expectations).
2. Demonstrates responsibility for quality & professionalism in personal work (final product).
3. Meets deadlines and follows assigned and personal schedules.
4. Reevaluates work/designs with the aim to improve

Direct Assessment #1 Klamath Campus

The faculty assessed this outcome in MFG 314 Geometric dimensioning and Tolerancing, winter term 2016, using multiple rubric-graded assignments (CAD drawings). There were three Manufacturing Engineering Technology students involved in the assessment. The results are shown in Table 17 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Quality/Professionalism of work (course expectations)	Rubric-graded assignments	1 to 4 proficiency scale	80% score 3 or 4	100%
Quality/Professionalism of work (final product)	Rubric-graded assignments	1 to 4 proficiency scale	80% score 3 or 4	100%
Meets deadlines and follows schedules	Rubric-graded assignments	1 to 4 proficiency scale	80% score 3 or 4	100%
Reevaluates work/designs with the aim to improve	Rubric-graded assignments	1 to 4 proficiency scale	80% score 3 or 4	100%

Table 17. Assessment results for SLO k, Winter 2016, Klamath Campus

Strengths: Improvement in work/drawings and adherence to schedules/due dates.

Weaknesses: None demonstrated

Actions: None needed.

Direct Assessment #2 Klamath Campus

The faculty assessed this outcome in MFG 447 Lean Manufacturing, spring term 2016, using multiple rubric-graded assignments. There were eight Manufacturing Engineering Technology students involved in the assessment. The results are shown in Table 18 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Quality/Professionalism of work (course expectations)	Rubric-graded assignments/ project	1 to 4 proficiency scale	80% score 3 or 4	100%
Quality/Professionalism of work (final product)	Rubric-graded assignments/ project	1 to 4 proficiency scale	80% score 3 or 4	100%
Meets deadlines and follows schedules	Rubric-graded assignments/ project	1 to 4 proficiency scale	80% score 3 or 4	100%

Reevaluates work/designs with the aim to improve	Rubric-graded assignments/ project	1 to 4 proficiency scale	80% score 3 or 4	100%

Table 18. Assessment results for SLO k, Spring 2016, Klamath Campus

Strengths: Students enthusiastically involved lab simulations, and also gave very good suggestions for next lab process optimization and quality improvement.

Weaknesses: None demonstrated

Actions: None needed.

Direct Assessment #3 Wilsonville Campus

This outcome was scheduled for assessment in MET 426, Fluid Power Systems, fall term 2015. There were no Manufacturing Engineering Technology students involved in the assessment.

Direct Assessment #4 Wilsonville Campus

The faculty assessed this outcome in MFG 447 Lean Manufacturing, winter term 2016, using multiple rubric-graded assignments. There was one Manufacturing Engineering Technology student involved in the assessment. The results are shown in Table 19 below.

Performance Criteria	Assessment Method	Measurement Scale	Minimum Acceptable Performance	Results
Quality/Professionalism of work (course expectations)	Rubric-graded assignments	1 to 4 proficiency scale	80% score 3 or 4	100%
Quality/Professionalism of work (final product)	Rubric-graded assignments	1 to 4 proficiency scale	80% score 3 or 4	100%
Meets deadlines and follows schedules	Rubric-graded assignments	1 to 4 proficiency scale	80% score 3 or 4	100%
Reevaluates work/designs with the aim to improve	Rubric-graded assignments	1 to 4 proficiency scale	80% score 3 or 4	100%

Table 19. Assessment results for SLO k, Winter 2016, Wilsonville Campus

Strengths: Professional experience helps the students learn the course materials.

Weaknesses: None demonstrated

Actions: None needed.

Direct Assessment #5 Seattle Campus

This outcome was scheduled for assessment in MFG 463 Senior Projects III, spring 2016. Data has not been received for this assessment.

Indirect Assessment #1 MMET Undergraduate Exit Survey

During the spring term, each graduating senior completes an exit survey. The survey includes questions on how well the program prepared the student on each SLO. This survey data is reviewed by faculty to determine any strengths or weaknesses as perceived by students on this SLO. There were a total of five responses from Klamath Falls seniors, one response from Wilsonville seniors and no responses from Seattle seniors. Student responses indicate that 100% of students felt prepared in this outcome. Details are included in Table 20 and Appendix D.

	Highly Prepared	Prepared	Inadequately Prepared
Klamath Falls	40%	60%	0%
Wilsonville	0%	100%	0%
Seattle	N/A	N/A	N/A

Table 20. Indirect Assessment for SLO k, Senior Exit Surveys 2015-16

V. Summary of Student Learning

The MMET department held an assessment meeting on June 09, 2016. The program faculty met review assessment results, to determine if improvements were needed, and to decide upon future action plans. A summary of their findings is outlined below:

SLO e. an ability to function effectively as a member or leader on a technical team

Strengths

Klamath:

MFG343 – Good CAD skills: this is a welcome improvement over previous assessments.

MFG463 – The teams' ability to identify and to achieve their goals and purpose.

Wilsonville:

MFG343 – Students demonstrated a willingness to talk with each other, to discuss ideas, and to accept others' suggestions.

MET492/MFG463 – Students performed well on overall teamwork.

Weaknesses

Klamath:

MFG343 – Some lack of costing capability.

MFG463 – Students had difficulties with the "Assumes roles and shares work appropriately" aspect of the assessment. Program faculty were concerned about their ability to assess the performance of individual students in a team based project.

Wilsonville:

MFG343 – Determining machining time caused some students difficulty. Creating production-ready drawings was challenging.

MET492/MFG463 – None demonstrated

Actions

Klamath:
MFG343 – Emphasize/Review costing aspect of assignment(s).

MFG463 – Program faculty will redesign this assessment and create a new teamwork rubric that will better evaluate individual student performance.

Wilsonville:
MFG343 – More practice on the creation of production-ready drawings.

MET492/MFG463 – None needed.

SLO i. an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity

Strengths

Klamath:
ENGR111 – Successful identification of stakeholders, alternative resolution scenarios, ethical/moral principles; and assessment via an evaluation/decision matrix.

MFG462 – The students all did a good job in showing their knowledge of the Code of Ethics.

Wilsonville:
ENGR111 – Students demonstrated a high level of integrity.

MET491/MFG462 – The student benefited greatly from his/her internships and co-op experience in industry.

Weaknesses

Klamath:
ENGR111 – Failure to read/understand instructions and follow directions specified in exercise documentation.

MFG462 – The students performed at a lower level identifying the benefits/risks of their choice.

Wilsonville:

ENGR111 – Demonstrating an understanding of "ethical diversity

MET491/MFG462 – None demonstrated

Actions

Klamath:

ENGR111 – Reiterate importance of reading/understanding instructions and following directions provided. Include ethical diversity in assignment.

MFG462 – Include ethical diversity in assignment.

Wilsonville:

ENGR111 – Emphasize/Review the attributes of "ethical diversity"

MET491/MFG462 – None needed.

SLO j. a knowledge of the impact of engineering technology solutions in a societal and global context

Strengths

Klamath:
MFG344 – The students have a fairly good understanding of the technical issues surrounding Portable Energy and how they affect society.

MFG461 – The students had a good understanding of the impact that portable energy had in all three of the rubric categories.

Wilsonville:
MFG344 – Reviewing their projects, providing oral communication and status updates, asking questions of each other, demonstrating critical thinking, using their fellow students to check their work.

Weaknesses

Klamath:
MFG344 – They do not have as strong of an understanding of why there are not more governmental forces to help improve this.

MFG461 – None demonstrated

Wilsonville:
MFG344 – Following instructions.

Actions

Klamath:
MFG344 – We might want to reconsider what course this is assigned to and when.

MFG461 – None needed.

Wilsonville:
MFG344 – Emphasize following written and oral instructions.

SLO k. A commitment to quality, timeliness, and continuous improvement

Strengths

Klamath:
MFG314 – Improvement in work/drawings and adherence to schedules/due dates.

MFG447 – Students enthusiastically involved lab simulations, and also gave very good suggestions for next lab process optimization and quality improvement.

Wilsonville:
MFG447 – Professional experience helps the students learn the course materials.

Weaknesses

Klamath:
MFG314 – None demonstrated

MFG447 – None demonstrated

Wilsonville:
MFG447 - None demonstrated

Actions

Klamath:
MFG314 – None needed

MFG447 – None needed

Wilsonville:
MFG447 – None needed.

VI. Changes Resulting from Assessment

SLO e: an ability to function effectively as a member or leader on a technical team.

- Students had difficulties with the "Assumes roles and shares work appropriately" aspect of the assessment. Program faculty were concerned about their ability to assess the performance of individual students in a team based project. Program faculty will redesign this assessment and create a new teamwork rubric that will better evaluate individual student performance as well as team performance.

Additional Actions:

- Revise additional rubrics in accordance with faculty concerns noted in the assessment results.
- Organize and restructure the T-drive to make it a more efficient file system for the assessment material.

Appendix A1
SLO-Curriculum Map

Outcome e: An ability to function effectively as a member or leader on a technical team.

I = Introduced R = Reinforced E = Emphasized

	Freshman			Sophomore			Junior			Senior		
Fall	Math 111	Coll Alg		MET 160	Materials 1	I	MET 375	Solid Model		ANTH 452	Global	
	ENGR 111	MMET Orient	I	MATH 252	Integral Calc		MFG 313	Mfg An & Plan		MFG 453	Robotics	
	WRI 121	Eng Comp		MFG 314	Geo Tol		MET 315	Machine Des I		MFG 454	Thermal Systems	
		Hum/ Soc Sci		PHY 201/221	Physics		MFG 341	Num Con Pr		MFG 461	Sr Proj	E
		Hum/ Soc Sci			Hum/ Soc Sci		MET 360	Materials II		WRI 327	Adv Tech Wr	
											Mfg Elective	
Win	CHE 101/104	Chem		ENGR 211	Statics	R	MET 326	Elec Power		MFG 462	Sr Proj II	E
	Math 112	Trig		Math 361	Stats I		MFG 333	Stats for QI			Bus/ MGT	
	MFG 120	Mfg Proc I		MFG 112	Intro Mfg Proc	I	MFG 342	Comp Mach			Mfg Elective	
	WRI 122	Eng Comp		PHY 202/222	Physics		MFG 343	Tool Design	E		Mfg Elective	
	MET 241	CAD I					MET 316	Mach Design			Hum/ Soc Sci	
								Hum/ Soc Sci				
Spr	Math 251	Diff Calc		ENGR 236	Elec Circuits			Engr Sci Elect		ENGR 415	Occ Safety	
	MFG 103	Welding		Math 362	Stats II		MFG 331	Ind Controls		MGT 345	Engr Economy	
	MET 242	CAD II		WRI 227	Tech Report		MFG 344	Des Mfg Tooling	E	MFG 447	Lean Mfg	
	SPE 111	Speech		ENGR 266	Program Engr		SPE 321	Small Gr Team	E	MFG 463	Sr Proj III	E
		Hum/ Soc Sci		ENGR 213	Strengths			Proj Mgt Req.	E		Mfg Elective	

Appendix A2

SLO-Curriculum Map

Outcome i: An understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity.

I = Introduced R = Reinforced E = Emphasized

	Freshman			Sophomore			Junior			Senior		
Fall	Math 111	Coll Alg		MET 160	Materials I		MET 375	Solid Model		ANTH 452	Global	
	ENGR 111	MMET Orient	I	MATH 252	Integral Calc		MFG 313	Mfg An & Plan		MFG 453	Robotics	
	WRI 121	Eng Comp		MFG 314	Geo Tol		MET 315	Machine Des I		MFG 454	Thermal Systems	
		Hum/ Soc Sci		PHY 201/221	Physics		MFG 341	Num Con Pr		MFG 461	Sr Proj	E
		Hum/ Soc Sci			Hum/ Soc Sci		MET 360	Materials II		WRI 327	Adv Tech Wr	
											Mfg Elective	
Win	CHE 101/104	Chem		ENGR 211	Statics		MET 326	Elec Power		MFG 462	Sr Proj II	E
	Math 112	Trig		Math 361	Stats I		MFG 333	Stats for QI			Bus/ MGT	
	MFG 120	Mfg Proc I		MFG 112	Intro Mfg Proc		MFG 342	Comp Mach			Mfg Elective	
	WRI 122	Eng Comp		PHY 202/222	Physics		MFG 343	Tool Design			Mfg Elective	
	MET 241	CAD I					MET 316	Mach Design			Hum/ Soc Sci	
								Hum/ Soc Sci				
Spr	Math 251	Diff Calc		ENGR 236	Elec Circuits			Engr Sci Elect		ENGR 415	Occ Safety	
	MFG 103	Welding		Math 362	Stats II		MFG 331	Ind Controls		MGT 345	Engr Economy	
	MET 242	CAD II		WRI 227	Tech Report		MFG 344	Des Mfg Tooling		MFG 447	Lean Mfg	
	SPE 111	Speech		ENGR 266	Program Engr		SPE 321	Small Gr Team		MFG 463	Sr Proj III	E
		Hum/ Soc Sci		ENGR 213	Strengths			Proj Mgt Req.			Mfg Elective	

Appendix A3
SLO-Curriculum Map

Outcome j: a knowledge of the impact of engineering technology solutions in a societal and global context.

I = Introduced R = Reinforced E = Emphasized

	Freshman			Sophomore			Junior			Senior		
Fall	Math 111	Coll Alg		MET 160	Materials I		MET 375	Solid Model		ANTH 452	Global	E
	ENGR 111	MMET Orient		MATH 252	Integral Calc		MFG 313	Mfg An & Plan		MFG 453	Robotics	
	WRI 121	Eng Comp		MFG 314	Geo Tol		MET 315	Machine Des I		MFG 454	Thermal Systems	
		Hum/ Soc Sci		PHY 201/221	Physics		MFG 341	Num Con Pr		MFG 461	Sr Proj	E
		Hum/ Soc Sci			Hum/ Soc Sci		MET 360	Materials II		WRI 327	Adv Tech Wr	
Win	CHE 101/104	Chem		ENGR 211	Statics		MET 326	Elec Power		MFG 462	Sr Proj II	E
	Math 112	Trig		Math 361	Stats I		MFG 333	Stats for QI			Bus/ MGT	
	MFG 120	Mfg Proc I		MFG 112	Intro Mfg Proc		MFG 342	Comp Mach			Mfg Elective	
	WRI 122	Eng Comp		PHY 202/222	Physics		MFG 343	Tool Design			Mfg Elective	
	MET 241	CAD I					MET 316	Mach Design			Hum/ Soc Sci	
								Hum/ Soc Sci				
Spr	Math 251	Diff Calc		ENGR 236	Elec Circuits			Engr Sci Elect		ENGT 415	Occ Safety	
	MFG 103	Welding		Math 362	Stats II		MFG 331	Ind Controls		MGT 345	Engr Economy	
	MET 242	CAD II		WRI 227	Tech Report		MFG 344	Des Mfg Tooling	E	MFG 447	Lean Mfg	
	SPE 111	Speech		ENGR 266	Program Engr		SPE 321	Small Gr Team		MFG 463	Sr Proj III	E
		Hum/ Soc Sci		ENGR 213	Strengths			Proj Mgt Req.			Mfg Elective	

Appendix A4
SLO-Curriculum Map

Outcome k: A commitment to quality, timeliness, and continuous improvement.

I = Introduced R = Reinforced E = Emphasized

	Freshman			Sophomore			Junior			Senior		
Fall	Math 111	Coll Alg		MET 160	Materials I		MET 375	Solid Model		ANTH 452	Global	
	ENGR 111	MMET Orient	I	MATH 252	Integral Calc		MFG 313	Mfg An & Plan	R	MFG 453	Robotics	
	WRI 121	Eng Comp		MFG 314	Geo Tol	E	MET 315	Machine Des I		MFG 454	Thermal Systems	
		Hum/ Soc Sci		PHY 201/221	Physics		MFG 341	Num Con Pr		MFG 461	Sr Proj	E
		Hum/ Soc Sci			Hum/ Soc Sci		MET 360	Materials II		WRI 327	Adv Tech Wr	
											Mfg Elective	
Win	CHE 101/104	Chem		ENGR 211	Statics		MET 326	Elec Power		MFG 462	Sr Proj II	E
	Math 112	Trig		Math 361	Stats I		MFG 333	Stats for QI	E		Bus/ MGT	
	MFG 120	Mfg Proc I	I	MFG 112	Intro MfgProc	E	MFG 342	Comp Mach			Mfg Elective	
	WRI 122	Eng Comp		PHY 202/222	Physics		MFG 343	Tool Design			Mfg Elective	
	MET 241	CAD I	I				MET 316	Mach Design			Hum/ Soc Sci	
								Hum/ Soc Sci				
Spr	Math 251	Diff Calc		ENGR 236	Elec Circuits			Engr Sci Elect		ENGR 415	Occ Safety	
	MFG 103	Welding		Math 362	Stats II		MFG 331	Ind Controls		MGT 345	Engr Economy	
	MET 242	CAD II	R	WRI 227	Tech Report		MFG 344	Des Mfg Tooling		MFG 447	Lean Mfg	E
	SPE 111	Speech		ENGR 266	Program Engr		SPE 321	Small Gr Team		MFG 463	Sr Proj III	E
		Hum/ Soc Sci		ENGR 213	Strengths			Proj Mgt Req.			Mfg Elective	

Appendix B

Department Meeting Minutes
Review of ABET Accreditation results 02/03/15

Present: Jeffrey Hayen, John Glen Swanson, Joe Stuart, Sean Sloan, Irina Demeshko, Yanquin Gao, Don Lee, Brian Moravec, Steve Edgeman, David Culler, Sandra Bailey, Phone: Wahab Abrous, Nathan Mead and Wangping Sun

We need to submit a response to Charlie by 02/20 so an important part of our response is this meeting and it is being recorded and the minutes from this meeting and discussion are part of the response. Three of the items are common to MFG & MET. MFG has additional items. David passed out a handout.

Weaknesses that have been identified were for MET in particular although MFG has it mentioned. It really is about pre-req overrides and the justification and procedures and the reason that we give for the pre-req overrides and the forms we use.

Program educational objective we had a problem with our constituents. ABET says that if we list ABET and students as our constituents we need to ask for their input. So we should take them off the list as constituents or you have to ask them for their input.

SLO's are out of date EAC and ETAC over the last year they had gotten together and reworded them and words had been added in – need to include the new wording and need to incorporate them into rubric, score sheets and assessment of those items.

Do not co-mingle assessment data – separate MFG & MET into separate columns. Site specific data needs to be separated out. Over 100 pages had been combined and needs to be separated out.

Concern came from advising. People getting out of sequence, timing we offer our classes, number of times per year that we offer classes, number of students we have in the program makes it a challenge. Student progress, pre-reqs came up again. ABET talked with the MFG120 machining class who are mostly freshman. They had talked about needing quality advising, needed more help, probably not the best group for them to talk to.

They talked about teaching load and professional development came up as a concern. Had both under MFG & MET in Seattle facilities came up as a concern. Classrooms, offices, laboratories, equipment came up – Seattle has already started meeting to develop a response to include in the response to Charlie.

Students taking third or fourth year classes without having taken the pre-reqs. Students taking classes and co-requisites instead of pre-requisites. Students out of sequence or missing one to two classes for graduation and we won't give them an extension to get lined back up for graduation. Seemed reasons being listed are invalid. Maybe we should take a look at our pre-reqs to see if they should be removed or revised. ABET said these were invalid reasons on the forms. Course substitution forms where courses were listed but not found on transcripts. There are CPC forms that have been turned in but not processed. Sean brought up the idea of having a recommended list of pre-reqs instead of pre-req override forms. David suggested course waiver forms with three common reasons listed, i.e. course in process or will be taken over the summer. Brian suggested including will be challenging the course. Pre-req override forms will now require a department chair's signature. If you don't have the pre-requisite override form in, the registrar's office removes the student from the class. We need to inform all the adjunct faculty also. Seattle has 35 – 40 adjuncts. A big chunk of it goes back to the CPC revisions.

Going back to the Program Educational Objective we have MFG & MET PEOs and voted unanimously to remove students/ABET from Program Constituencies or we would have to ask them for input. The PEOs are directed more towards students five years after graduation.

We have old wording for our SLO's for ETAC – someone has added words. We have to update rubrics, score sheets and assessment. All of them have changed except SLO K. A lot of work to be done.

MFG assessment needs to be broken out by program and site. In our response we should direct them to our website where everything is broken out separately.

Final concerns: Advising, curriculum, student progress, pre-reqs, professional development and Seattle facilities – all were mentioned under concerns.

Appendix C

MMET IAC Meeting 04/15/16

In attendance: Steve Hamblin, Joe Stuart, Irina, Barb, Steve Edgeman, Brian B., Brian Moravec, John Anderson, Nathan, Sean, Randy Cox, Wangping, Scott T, Ron, Ryan Della, Randy Pico,

Minutes from previous meeting approved.

Steve Hamblin: Introduction

Ryan D. Wind power at Siemens – Solar – Here in US largest group for solar. Hands off facilities – handled for maintenance only. Renewable energy tax credit extended for 5 years. So we will see a boom. Cost of energy decreasing. Fossil fuels is increasing.

Ron – Facing retirement – 5600 or more at Livermore. 60 – 65% retiring in the next five years. Actively recruiting – there are quite a few internships.

Scott Thiel – Major slump right now – portable machines way down. It is exciting. Has a couple of positions open – Senior Level Design Engineer, Machine Engineer. Easy to find young engineers but need some with experience.

Brian Durr – 37 program – 42 – 47 planes 2017 have some downturns. Voluntary retirement. Find lean standards build jobs quite a few people diverted to task – identify plan by mid-summer. Quality important to airplane programs. Self inspection – robotics – get away from humans.` Schedule driven – engineers need ability to build project plan. Graduates need that traight.

Randy Cox – Successful year – hired 17 OIT students. New CEO hired Mark – committed to area. 2016 will be slower. Looking at MECOP. OIT has practical know how. Wants to hire OIT students for internships. 2 – 3 areas students need product design – presentation skills (kind of like presenting a thesis) ME is a quit group – they need to learn how to defend ideas behind their project. They need drafting experience – students are getting away from standard drafting skills. They need to get back to that. Area unique DFMEA's they need to defend why they did what they did.

Scott – agrees – need to defend their project or it has no value in today's fast moving report – they need to have the skill.

Steve H – KCC does not teach drafting.

Randy Cox – They need to have at least a two year degree.

Steve – are you talking CAD or real drafting?

Randy – CAD

Joe S – Comments on megatronics. Can you be more specific?

Ryan – Siemens – Less about specific process more about methods. Moving things from point A to point B – more about religion of how to do that.

Scott T – Students get on CAD and get excited but they don't know why they are doing it. In China they work 20 hours a day – it's a competition. Designing should be a requirement. Perfect example is the gas and oil application – they can't explain it.

Scott – How integrated is Lab View

Brian M – Seattle uses it more

Steve for vibrations and they use Lab View

Scott T The wind tunnel uses simulation

Goals, electives and pass

Use excel to do it – How to break down a design.

Ron Needs LEAN application

Steve H IKON aircraft – first start up experience – they are doing well and working on their 5th aircraft. Gamma Industry is steady. EPIC Aircraft in Bend is close to being certified for aircraft. Mooney developed a new process for carbon fiber which is the composite that most companies are using. Some of the projects belong in the Smithsonian. Can you build what you want efficiently? What are we trying to solve? Cross functional – Production is a different story. Why we do what we are doing? Project design is very important. Risk really looking at Lean mentality. Acoustics and vibration high RPM motors and vibration – sites using cobalt. Training skill set needed. New execs coming from the field. Making snow mobile engines equipment is so different. Pushing process up front – experience in engineering program planning.

Steve H – Need a heavy focus on program presentation

Josh 3 minute presentation

Randy Pico – Livermore Labs – Extended an invitation from the manufacturing side – would love to have visitors. They can run a program that shows what they do.

Sean – Would like to do another student tour. Fridays are a good day.

Randy – They would welcome that

Wangping would love a tour from Wilsonville also

Randy Hannah is going to Portland State for her Masters

Steve H Loves the idea of student trips

Brian M Can't add in extra stuff and still cover basics with the faculty on hand

Ron Do you have cost parameters?

Sean Open invite to Tuesday's OSHA lab – would love to have industry there FMEA course

Sean Would like to have industry present ideas

Randy Touch on ABET – offer extra credit courses – electives – hire students with 30 + more electives

Josh Mech 407 will be offered next year

Brian – MECOP still growing – over 600 units added embedded students. Has about 50 OIT students making a million dollars a year.OIT has doubled in 4 years

Joe There were never enough manufacturing students. Is that still the case?

Brian – Yes

Jeff His understanding was that Wilsonville has been offering MFG courses for years – Wilsonville has not been approved by ABET by extension.

Brian Industry has to have a need for ME students to pursue it.

Scott – Is it electrical or electronic engineers?

Brian – both ME has the largest MET only has about 10 students in MECOP

Jeff In ME in industry what percentage does that apply to?

Brian Program Educational Objectivea

Formula & Baja projects. Falls under ABET. Criteria 2 changed recently. Needs constituents to review and approve PEO's. What are students doing 4 years after graduation? We are looking at students 4 years after graduation. What are students expected to be able to do? What are the needs of our constituents?

Steve H Reaffirmed every 3 – 4 years

Brian every 3 years we review

B. Review of Program Educational Objectives – Do we need to review these every year? We may want to.

Teamwork – communication is an expectation

Does the IAB agree with the objective?

Ryan D – Is statistics required?

IAB Look at the PEO list and the five objectives

Ron Objective 3 Why don't we have global in there?

Jeff If we make that change we would be required to have courses to prepare them for global.

Brian We could remove regionally and nationally. Looking for suggestions from the IAB

Steve H Leave as is for now

IAB Industry says yes – remove words regionally and nationally.

Brian Do we have enough constituents representing us?

Steve H Thinks we have enough industry. Has good representation – focus on alumni – should we do aa survey?

Steve H What questions would we want to include?

Jeff community colleges more on the front end – with PEO's more on the back end – more to grad schools as far as PEO outcomes can't see what community colleges could provide on outcomes.

Steve H Is that all we needed to cover?

Wangping Do you have MET/MFG presentations as well?

Steve E PEO's for MET have 4 objectives

Steve read objectives one by one and requested input from IAB. Does IAB agree with MET objectives?

IAC approved Steve H Does not see MFG grads in MET positions but lots of MET in MFG positions.

Steve T Recommend PEO in manufacturing either be the same as MET or remove from both.

Jeff Recommend MET leave alone but add mechanical to MFG PEO

Randy should say technology says ME

Steve H MET PEO #3 add technology MFG add MET does the IAB agree? IAC approved

Hallie N. State of the University right now – On going faculty searches – this year 17 new faculty positions – 3 positions in MMET Wilsonville alone – CSET and MGMT positions in Wilsonville – Has a lot of transition at the executive level Dean Jones retired last year – 4 candidates interviewed non were hired – Hallie is the Interim dean – has opened a search again. Has a fabulous group of candidates then the Provost and President announced their retirements. Two top choices in the Dean Search are willing to wait for search to open again. Jay Kenton will serve as Interim President effective July 1. Presidential search will start soon. Lots of transition at OIT right now but the faculty are strong.

Hallie New long range academic planning

Ron How do you define long term?

Hallie – 5 years – In past presenting equipment needs was listed by priority – will be changing that process. Hallie on Catalyze Klamath. Why aren't graduates not staying in Klamath? 5 teams presented their projects – team that took 1st place was from MMET.

Scott T Does the City of Klamath have incubation in town? Would love to know if one is developed.

Hallie 3 teams came out of MMET last year. Prize money has gone up to 17K now. Klamath City now offering office space. Up to 7 teams this year. 3 teams are out of MMET. Final competition is May 17th in the CU. Oregon Best has offered $500.00 additional prize money. Innovation and Entrepreneurship hot this year. No space for students to just hang out in Klamath.

Big year for accreditation – submitted self study in January. ABET was on campus last week. Recognized 5 recommendations. 4 programs are under study by ABET. Brian is the author of that document. We will have a site visit late October.

Looking at building engineering space on campus. Project is approved – had asked for 68 mill and was awarded 11 mill will have to scale back on plans.

Option #1 30K sq ft engineering w/Cornett remodel

Option #2 30k sq ft w/Cornett remodel

Option #3 Cornett remodel w/o new engineering building

Option #4 Ask for additional 48 mil. Will make pitch next month – won't hear anything until July 2017. Remodel will start July 2017.

Steve H Where will new building be?

Hallie West side of Cornett by parking lot

Joe Will there be an interim Provost?

Hallie – decision not made yet – President Maples to make decision Hallie advised Nathan that she would be coming to Seattle for a visit – They have been looking for a new director for two years – Hallie to visit first week of May.

Appendix D

2015-16 Senior Exit Survey Results BSMFG

Please indicate how well the Manufacturing Engineering Technology program prepared you in the following areas (ABET SLO's).