Weber State University
Annual Assessment of Evidence of Learning

Cover Page

Department/Program: Engineering Technology / Mechanical Engineering Technology
Academic Year of Report: 2012
Date Submitted: Nov. 14, 2012
Report author: Daniel J. Magda

Contact Information:
Phone: 801-626-7636
Email: dmagda@weber.edu
A. Brief Introductory Statement:
Please review the Introductory Statement and contact information for your department displayed on the assessment site: http://www.weber.edu/portfolio/departments.html - if this information is current, please indicate as much. No further information is needed. We will indicate “Last Reviewed: [current date]” on the page. 
If the information is not current, please provide an update:

The introductory statement and contact information is current.

B. Mission Statement
Please review the Mission Statement for your department displayed on the assessment site: http://www.weber.edu/portfolio/departments.html - if it is current, please indicate as much; we will mark the web page as “Last Reviewed [current date]”. No further information is needed. 
If the information is not current, please provide an update:

The mission statement is current

C. Student Learning Outcomes
Please review the Student Learning Outcomes for your department displayed on the assessment site: http://www.weber.edu/portfolio/departments.html - if they are current, please indicate as much; we will mark the web page as “Last Reviewed [current date]”. No further information is needed. 
If they are not current, please provide an update:

Learning outcomes are current

D. Curriculum
Please review the Curriculum Grid for your department displayed on the assessment site: http://www.weber.edu/portfolio/departments.html - if it is current, please indicate as much; we will mark the web page as “Last Reviewed: [current date]”. No further information is needed. 
If the curriculum grid is not current, please provide an update:

The curriculum grid is current.

E. Assessment Plan
Please review the Assessment Plan for your department displayed on the assessment site: http://www.weber.edu/portfolio/departments.html - if the plan current, please indicate as much; we will mark the web page as “Last Reviewed [current date]”. No further information is needed. 
If the plan is not current, please provide an update:

The assessment plan is current.
The site should contain an up-to-date assessment plan with planning going out a minimum of three years beyond the current year. Please review the plan displayed for your department at the above site. The plan should include a list of courses from which data will be gathered and the schedule, as well as an overview of the assessment strategy the department is using (for example, portfolios, or a combination of Chi assessment data and student survey information, or industry certification exams, etc.).

F. Report of assessment results for the most previous academic year:

There are a variety of ways in which departments can choose to show evidence of learning. This is one example. The critical pieces to include are 1) what learning outcome is being assessed, 2) what method of measurement was used, 3) what the threshold for ‘acceptable performance’ is for that measurement, 4) what the actual results of the assessment were, 5) how those findings are interpreted, and 6) what is the course of action to be taken based upon the interpretation.

G. Summary of Artifact Collection Procedure Results of Assessment

2011-2012

Outcomes Assessed

ABET outcomes (a. through k.) are addressed on an ongoing basis via program level and course level loop actions. All MET courses have been assessed which means that course-level improvements have been implemented in all MET courses. The loop action instruments are maintained by the program coordinator. In the last ABET accreditation review, all ABET outcomes a,b,c,d,e,f,g,h,j,k were evaluated and passed off. However, ABET cited that there was no evidence of evaluation, feedback or continuous improvement for outcome i for closing the loop for understanding professional, ethical and social responsibilities. Since then the MET program resolved this weakness in the MET 4990 class.

The course MET 4990 Senior Seminar has added extra emphasis on professional ethics and societal responsibilities by assigning the students an essay on engineering ethics. The students are allowed to write their essays on one of the following ethics topics:
1. What are the historical origins of ethics?
2. What are the differences between personal and professional ethics?
3. Discuss the code of ethics for one of the professional engineering societies, such as ASME.
4. Discuss the role of ethics pertaining to the safety of engineered systems and devices.
5. Discuss professional rights of engineers.
6. Discuss whistle blowing in an engineering company.
7. Discuss ethics as it pertains to computers and the internet.
Graded samples of these essays have been given to the MET Program Coordinator.

In addition to assigning an essay on professional ethics, an additional video on ethics was added to the list for MET 4990:

“Ethical Issues in Professional Life: The Case of Challenger”

The ethics issues involved in the ill-fated Challenger launch as well as ethics issues assigned in their essays are discussed in class.

- In the spring of 2012, all ABET outcomes were assessed via the graduate survey.
- The Mechanical engineering assessment exam was given to all seniors this spring 2012 semester to record benchmark data of our graduating class.
- Aleamoni Course/ Instructor Evaluation Questionnaire (CIEQ) are filled out by students each semester. These results are averaging a minimum of 3.0 on a scale of 4.0 for instructor, attitude, method, content and interest.
- The MET program continued its accreditation by ABET in 2012. The interim report submitted to ABET in 2012 addressed outcome i. This report documented evidence in closing the loop for continual improvement for ethical and social responsibilities in the MET program.
### ABET Course Level Loop Action 2011

<table>
<thead>
<tr>
<th>Course: MET 4990 Senior Seminar</th>
<th>Faculty Responsible for Action Items: K. Hagen</th>
<th>Faculty Responsible for Proposed Future Action: K. Hagen</th>
<th>Faculty Responsible for Implemented Action: K. Hagen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester: Spring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Source of Information</strong></td>
<td><strong>Item for which action is implemented or proposed</strong></td>
<td><strong>Proposed Future action on Item</strong></td>
<td><strong>Implemented Action on Item</strong></td>
</tr>
<tr>
<td><strong>1</strong></td>
<td><strong>ABET visiting team, Fall 2010</strong></td>
<td><strong>ABET visit resulted in a weakness in Criterion 3, attribute [i] (ethics, professionalism, etc.)</strong></td>
<td><strong>Strengthen course in professional ethics by having students write a report on essay or ethics. Add a second video that addresses ethics/professionalism.</strong></td>
</tr>
</tbody>
</table>

### ABET Course Level Loop Action 2012

<table>
<thead>
<tr>
<th>Course: MET 4990 Senior Seminar</th>
<th>Faculty Responsible Action Items: K. Hagen</th>
<th>Faculty Responsible for Proposed Future Action: K. Hagen</th>
<th>Faculty Responsible for Implemented Action: K. Hagen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester: Spring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Source of Information</strong></td>
<td><strong>Item for which action is implemented or proposed</strong></td>
<td><strong>Proposed Future action on Item</strong></td>
<td><strong>Implemented Action on Item</strong></td>
</tr>
<tr>
<td><strong>1</strong></td>
<td><strong>K. Hagen, Instructor of MET 4990</strong></td>
<td><strong>Essay on ethics and additional video on ethics bolstered students’ understanding and awareness of engineering ethics. As a class, students understand ethics at a 80% level or higher.</strong></td>
<td><strong>Continue current course of action unless student performance on professional ethics essay goes below a 70% level.</strong></td>
</tr>
</tbody>
</table>
Please respond to the following questions.

1) Reflecting on this year’s assessment(s), how does the evidence of student learning impact your faculty’s confidence in the program being reviewed; how does that analysis change when compared with previous assessment evidence?

   The MET program have implemented a triggering mechanism within the ABET closed loop action forms for assessment. This triggering mechanism feeds back to the professor weather future action needs to be taken in the course for improvement.

2) With whom did you share the results of the year’s assessment efforts?

   Industrial advisory committee, department chair and the dean of the college.

3) Based on your program’s assessment findings, what subsequent action will your program take?

   The MET program continued its accreditation by ABET in 2012. The interim report submitted to ABET in 2012 addressed the weakness. We are following the recommendations from ABET.