University Mission Statement

Northern Michigan University challenges its students and employees to think independently and critically, develop lifelong learning habits, acquire career skills, embrace diversity and become productive citizens in the regional and global community.

Department Mission Statement

The Engineering Technology Department at NMU provides students with the required technical knowledge and professional skills to make an immediate impact when employed in industry and to become successful leaders and innovators throughout their careers.

Intended Objective #1

1. Students completing the B.S. program in Engineering Technology will be employed in their field of study.

Means of Assessment for Objective

1a. As part of an annual survey, employment information will be gathered from recent graduates. It is expected that 90% of the program graduates who are willing to relocate are employed in their field within 6 months of graduation.

1b. All graduating seniors have a personal exit interview to assess their experience at NMU and prospects upon graduation.

Summary of Assessment Data Collected

1a. Of the graduates of these three programs 10 of 16 are known to be working in their field. Of the other 6 graduates only one is known to still be looking – the rest of the graduates we have been unable to contact.

1b. All of the graduates interviewed expressed confidence in their job prospects and 7 already had employment at the time of the interview. The only consistent complaint (4 of 9)
was from MET graduates that noted the laptop computers were very marginal to run Solidworks.

### Intended Objective #2

Students completing the B.S. program in Engineering Technology will have an appropriate level of discipline related knowledge.

### Means of Assessment for Objective

80% of students completing the technical sequence of program courses will be able to demonstrate discipline related technical competence through answers given on a locally developed test and pass the test with an overall score of 60% or greater.

### Summary of Assessment Data Collected

Of the 14 graduates that took the test (2 did not end up taking the test for different reasons) 4 did not score at the 60% level. (EET 2/5, IT 0/1, MET 2/8, TAS 0/0)

### Use of Results to Improve Department Program(s)

Examination of the results continue to show students tend to “miss” questions from lower level courses they took several years previous. An emphasis on review of fundamentals prior to taking these exams will hopefully improve scores.

### Intended Objective #3

3.a. Graduates will be capable of applying critical thinking, both individually and in a team environment,

3.b. and will be able to effectively communicate to diverse audiences via various communication methods.

### Means of Assessment for Objective

3.a. Students in ET/MET 432 Senior Project are required to present their team’s semester’s work to an audience consisting of faculty, students and advisory board members who rate the team’s performance in the design and implementation of the project.

3.b. Project reports are given verbally with power point presentations which are evaluated by all members of the audience. Written reports are also required and are evaluated by the course instructor.

### Summary of Assessment Data Collected

3.a. A total of seven teams presented completed projects during this period. Six of the seven projects were rated very highly by faculty and all other raters. Several of the raters had suggestions for improvement in the projects (e.g. adjustable solar panel alignment to allow the weather warning system to be deployed over a larger geographic area) but no major deficiencies were noted. The seventh project was acceptable but lacked the depth (and obviously effort) shown in the other six projects – especially considering it was a team of three students versus two students in each of the other projects.

3.b. Oral presentation were all assessed by rating audience

### Use of Results to Improve Department Program(s)

3.a. All the projects evaluated were judged acceptable by department standards. One lesson learned is to limit teams to two members or define the project with sufficient content to engage additional members. The concept of allowing the students to define their own parameters didn’t work out extremely well (group of three students did not rise to effort expected). Also it was noted projects with outside sponsors seemed to excel as they had an driving sponsor with specific requirements. An increase in trying to find projects from outside sponsors is indicated.

3.b. The main problem with the oral presentations was the venue (Jacobetti Commons) should have had a public
members as good to excellent. Improvement areas were noted (not projecting well being the largest) but varied among the groups. Written presentations as evaluated by the instructor were all graded as satisfactory to excellent.  

address systems for the softer speaking students. This will be addressed in future presentations. Written reports were all acceptable but a need for more specific definition of what is required was evident in several reports.
Northern Michigan University
OUTCOMES ASSESSMENT REPORT
Academic Departments

Name of Department or Unit

Engineering Technology - Secondary Education Industrial Technology

This document is the

REPORT for July 1, 2009, to June 30, 2010

Date Submitted

19 October 2010

Submitted by (Unit Representative)

Michael Rudisill

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Department Mission Statement

The Engineering Technology Department at NMU provides students with the required technical knowledge and professional skills to make an immediate impact when employed in industry and to become successful leaders and innovators throughout their careers.

Intended Objective #1

Students completing the B.S. program in Industrial Technology Education will be employed as secondary school teachers in their field of study

Means of Assessment for Objective

As part of an annual survey and follow-up by the program advisor employment information will be gathered from recent graduates. It is expected that 90% of the program graduates who are willing to relocate are employed in their field within 6 months of graduation.

Summary of Assessment Data Collected

Only one graduate from this program in this period. He is working in his major at a high school in Minnesota.

Use of Results to Improve Department Program(s)

Graduates of this program continue to be highly recruited by K-12 school systems across the country as evidenced by placements for the last several years. We will continue to work with the Education department to insure the marketability of our graduates.
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<tr>
<th>Intended Objective #2</th>
<th>Means of Assessment for Objective</th>
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<tbody>
<tr>
<td>Students completing the B.S. program in Industrial Technology Education will have an appropriate level of discipline related knowledge.</td>
<td>As part of the Michigan teacher certification process, students completing the technical sequence of program courses will be able to demonstrate discipline related technical competence through answers given on the Michigan Test for Teacher Certification (MTTC). A passing score on this test in both the major and minor is the minimum acceptable level of achievement.</td>
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<td>The one graduate from this program passed this exam on his first try. Historically in the last three years 12 graduates have taken the test in Industrial Technology with all passing – 10 of the 12 passing on the first try.</td>
<td>This is a very strong indicator of the quality of this program as it is an independently developed and administered exam. We will continue to monitor students performance to insure continued quality of our graduates.</td>
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<td>Students completing the B.S. program in Industrial Technology Education will be prepared for success in a secondary teaching assignment related to their major and minor.</td>
<td>Feedback on graduate satisfaction with their NMU education will be monitored through the use of an alumni survey.</td>
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<td>Feedback from graduate teaching in Minnesota was that he felt very well prepared for his position and was doing well.</td>
<td>We will continue to monitor graduates to insure their preparation is adequate for all areas that they are assigned to instruct in This is a very strong indicator of the quality of this program as it is an independently developed and administered exam. We will continue to monitor students performance to insure continued quality of our graduates.</td>
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