## Institutional Effectiveness Achievement Report

### Engineering Technology: BS Engineering Technology Concentration in Mechanical ET 2014-2015 Institutional Effectiveness Achievements Report

**Unit Head:** Walter Boles  
**Reports to:** College of Basic & Applied Sciences

### Mission:
The mission of the Mechanical Engineering Technology program is to prepare graduates:
For careers in design, development, analysis, implementation, integration, maintenance, and operation of mechanical components and/or systems
To lead teams as required, engage in self-directed continuing professional development, and join a professional society such as ASME, SAE, SME, ASEE, IEEE, etc.

### Use of Prior Results:
ABET Criterion a. In 2014 fall we analyzed the 2013-14 results and found the courses ET 3830/ENGR 2110 and 3810 related to this criterion met the benchmark scores in the categories MFT, MFT survey questions, Course/Lab scores and Exit Interview. Therefore, we did not make any changes for the year 2014-15.

### Student Learning Outcome:
ABET Criterion A: An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities

<table>
<thead>
<tr>
<th>Measure 1:</th>
<th>Person(s) Responsible:</th>
<th>Analysis of Results for Measure 1. (include strengths &amp; weaknesses):</th>
<th>Supporting Document(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Field Test All ET majors are assessed by the major field test (MFT), which measures knowledge and application in the students’ major/concentration. The MFT consists of 100 conceptual and engineering calculations questions with multiple choice answers. The benchmark score is 50%</td>
<td>Concentration coordinator and department chair</td>
<td>ABET outcome a: This criterion has been met with the scores MFT-81.</td>
<td>Future Actions: Describe Program Changes (adding a course, assignment, project, etc.): We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question. We will continue to provide our graduating seniors study guides</td>
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<tr>
<td>Completion Date: 10/31/2015</td>
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**Future Actions:**
- Describe Program Changes (adding a course, assignment, project, etc.): We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question. We will continue to provide our graduating seniors study guides.
Future Actions: Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.):

We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

Future Actions: Describe any additional resources needed (Leave blank if no additional resources are needed.):

| Measure 2: | Person(s) | Analysis of Results for Measure 2: |
Course Exercises: Include tests, final exam, homework, projects, and lab reports. The benchmark score is 50%.

Measure 1:
Major Field Test (MFT) Survey Questions:
These questions are designed to measure the graduating seniors' confidence level in solving engineering problems after the completion of the program. The benchmark score is 60%.

Measure 3:
Major Field Test (MFT) Survey Questions:
These questions are designed to measure the graduating seniors' confidence level in solving engineering problems after the completion of the program. The benchmark score is 60%.

Use of Prior Results:
In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories MFT and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.

Student Learning Outcome:
ABET Criterion 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.

Measure 1:
Major Field Test (MFT):
All ET majors are assessed by the major field test (MFT), which measures knowledge and application in the students' major/concentration. The MFT consists of 100 conceptual and engineering calculations questions with multiple choice answers. The benchmark score is 50%.

Person(s) Responsible:
Concentration coordinator and department chair

Completion Date:
10/31/2015

Analysis of Results for Measure 1:
ABET outcome b: This criterion has been met with the scores MFT - 59.

Supporting Document(s):
Future Actions:
Describe Program Changes (adding a course, assignment, project, etc.):
We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question.
We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.

Future Actions:
Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.):
We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

Future Actions:
Describe any additional resources needed (Leave blank if no
**Measure 2:** Major Field Test (MFT) Survey Questions  
These questions are designed to measure the graduating seniors’ confidence level in solving engineering problems after the completion of the program. The benchmark score is 60%.  

**Person(s) Responsible:** Concentration coordinator and department chair  
**Completion Date:** 10/31/2015  
**Analysis of Results for Measure 2:**  
(Include strengths & weaknesses):  
ABET outcome b: This criterion has been met with the scores MFT Survey Questions-84  

**Use of Prior Results:** In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories Course exercises and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.

**Student Learning Outcome:**  
ABET Criterion C: An ability to conduct standard tests and measurements to conduct, analyze, and interpret experiments and to apply experimental results to improve processes  

**Measure 1:** Course Exercises Include tests, final exam, homework, projects and lab reports. The benchmark score is 50%.  

**Person(s) Responsible:** Concentration coordinator and department chair  
**Completion Date:** 10/31/2015  
**Analysis of Results for Measure 1:**  
(Include strengths & weaknesses):  
ABET outcome c: This criterion has been met with the scores Course-83  

**Future Actions:** Describe Program Changes (adding a course, assignment, project, etc.):  
We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question. We will continue to provide our graduating seniors study guides.
including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.

Future Actions:
Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.):
We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

Future Actions:
Describe any additional resources needed (Leave blank if no additional resources are needed.):

| Measure 2: | Person(s) | Analysis of Results for Measure 2: |
Major Field Test (MFT) Survey Questions
These questions are designed to measure the graduating seniors’ confidence level in solving engineering problems after the completion of the program. The benchmark score is 60%

Responsible: Concentration coordinator and department chair
Completion Date: 10/31/2015

ABET outcome c: This criterion has been met with the scores MFT Survey Questions—84

Use of Prior Results: In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories Capstone project and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.

Student Learning Outcome:
ABET Criterion D: An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives

Measure 1: Capstone Project In consultation with their faculty advisor students complete an independent project utilizing their knowledge of the basic Mechanical ET courses and submit a formal report. The benchmark score is 50%

Person(s) Responsible: Concentration coordinator and department chair
Completion Date: 10/31/2015

Analysis of Results for Measure 1. (include strengths & weaknesses): ABET outcome d: This criterion has been met with the scores Capstone—90

Supporting Document(s):

Future Actions: Describe Program Changes (adding a course, assignment, project, etc.):
We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question. We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them
better prepare for the 2015-16 fall and spring tests.

Future Actions: Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.): We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

Future Actions: Describe any additional resources needed (Leave blank if no additional resources are needed):

Measure 2: Major Field Test (MFT) Survey Questions
These questions are designed to measure the graduating seniors confidence level in solving engineering problems after the completion of the program. The benchmark score is 60%.

Person(s) Responsible: Concentration coordinator and department chair

Analysis of Results for Measure 2: Include strengths & weaknesses: ABET outcome d: This criterion has been met with the scores MFT Survey Questions - 82
| Student Learning Outcome: ABET Criterion E: An ability to function effectively as a member or leader on a technical team | Measure 1: Course Exercises Include tests, final exam, homework, projects and lab reports. The benchmark score is 50% | Person(s) Responsible: Concentration coordinator and department chair | Analysis of Results for Measure 1. (include strengths & weaknesses): ABET outcome e: This criterion has been met with the scores Course-91 | Supporting Document(s): | Future Actions: Describe Program Changes (adding a course, assignment, project, etc.): We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question. We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests. |
**Future Actions**: Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.):

We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

**Future Actions**: Describe any additional resources needed (Leave blank if no additional resources are needed.):

<table>
<thead>
<tr>
<th>Measure 2: Major Field Test (MFT) Survey Questions</th>
<th>Person(s) Responsible: Concentration coordinator and department chair</th>
<th>Analysis of Results for Measure 2: (include strengths &amp; weaknesses): ABET outcome e: This criterion has been met with the scores MFT Survey Questions-90</th>
</tr>
</thead>
<tbody>
<tr>
<td>These questions are designed to measure the graduating seniors’ confidence level in solving engineering problems after the completion of the program. The benchmark score is 60%</td>
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</tbody>
</table>
**Use of Prior Results:** In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories Capstone project and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.

<table>
<thead>
<tr>
<th>Student Learning Outcome: ABET Criterion F: An ability to identify, analyze, and solve broadly-defined engineering technology problems</th>
<th>Measure 1: Capstone Project</th>
<th>Person(s) Responsible: Concentration coordinator and department chair</th>
<th>Analysis of Results for Measure 1. (include strengths &amp; weaknesses): ABET outcome f: This criterion has been met with the scores Course-90</th>
<th>Supporting Document(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>In consultation with their faculty advisor students complete an independent project utilizing their knowledge of the basic Mechanical ET courses and submit a formal report. The benchmark score is 50%</td>
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<tr>
<td><strong>Completion Date:</strong> 10/31/2015</td>
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</tbody>
</table>

**Future Actions:**
- **Describe Program Changes (adding a course, assignment, project, etc.):**
  - We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question.
  - We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.
<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
<th>Person(s) Responsible</th>
<th>Analysis of Results for Measure</th>
<th>Supporting Document(s)</th>
<th>Future Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure 2:</td>
<td>Major Field Test (MFT) Survey Questions</td>
<td>Concentration coordinator and department chair</td>
<td>ABET outcome f: This criterion has been met with the scores MFT Survey Questions - 88</td>
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<tr>
<td>Measure 1:</td>
<td>Course Exercies Include tests, final exam,</td>
<td></td>
<td>Analysis of Results for Measure 1. (include strengths &amp; weaknesses):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Learning Outcome:</td>
<td>ABET Criterion G: An ability to apply written,</td>
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</table>

Use of Prior Results: In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories Course exercises, Capstone project and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.
oral, and graphical communication in both technical and nontechnical environments and an ability to identify and use appropriate technical literature

The benchmark score is 50%

Concentration coordinator and department chair

Completion Date: 10/31/2015

ABET outcome g: This criterion has been met with the scores Course-92

We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question.

We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.

Future Actions: Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.):
We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

Future Actions:

Describe any additional resources needed (Leave blank if no additional resources are needed.):

| Measure 2: | Capstone Project | In consultation with their faculty advisor students complete an independent project utilizing their knowledge of the basic Mechanical ET courses and submit a formal report. The benchmark score is 50% |
| Person(s) Responsible: | Concentration coordinator and department chair |
| Analysis of Results for Measure 2: | (include strengths & weaknesses): ABET outcome g: This criterion has been met with the scores Capstone-90 |
| Completion Date: | 10/31/2015 |

| Measure 3: | Major Field Test (MFT) Survey Questions | These questions are designed to measure the graduating seniors’ confidence level in solving engineering problems after the completion of the program. The benchmark score is 60% |
| Person(s) Responsible: | Concentration coordinator and department chair |
| Analysis of Results for Measure 3: | (include strengths & weaknesses) ABET outcome g: This criterion has been met with the scores MFT Survey Questions-89 |
| Completion Date: | 10/31/2015 |
**Use of Prior Results**: In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories Capstone project and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.

<table>
<thead>
<tr>
<th><strong>Measure 1</strong>: Capstone project:</th>
<th><strong>Person(s) Responsible</strong>: Concentration coordinator and department chair</th>
<th><strong>Analysis of Results for Measure 1</strong>: ABET outcome a: This criterion has been met with the scores MFT-87.</th>
<th><strong>Supporting Document(s):</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>In consultation with their faculty advisor students complete an independent project utilizing their knowledge of the basic Mechanical ET courses and submit a formal report. The benchmark score is 50%</td>
<td>Completion Date: 10/31/2015</td>
<td>ABET outcome h: This criterion has been met with the scores Capstone-90</td>
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**Future Actions**

Describe Program Changes (adding a course, assignment, project, etc.): We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question. We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.

**Future Actions**

Describe Assessment Changes
**Measure 2:**
Major Field Test (MFT) Survey Questions
These questions are designed to measure the graduating seniors’ confidence level in solving engineering problems after the completion of the program. The benchmark score is 60%

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<tr>
<th>Person(s) Responsible</th>
<th>Analysis of Results for Measure 2: (include strengths &amp; weaknesses):</th>
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<tbody>
<tr>
<td>Concentration coordinator and department chair</td>
<td>ABET outcome h: This criterion has been met with the scores MFT Survey Questions - 90</td>
</tr>
</tbody>
</table>

**Use of Prior Results:** In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories MFT, Course exercise, Capstone project and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.
commitment to address professional and ethical responsibilities including a respect for diversity

by the major field test (MFT), which measures knowledge and application in the students' major/concentration. The MFT consists of 100 conceptual and engineering calculations questions with multiple choice answers. The benchmark score is 50% completion date: 10/31/2015

ABET outcome i: This criterion has been met with the scores MFT-84.

Concentration coordinator and department chair

We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question.

We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.

Future Actions:

Future Actions:

Describe Program Changes (adding a course, assignment, project, etc.): We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question.

We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.

Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.): We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question.

We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.
We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

**Future Actions:** Describe any additional resources needed (Leave blank if no additional resources are needed.):

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
<th>Person(s) Responsible</th>
<th>Completion Date</th>
<th>Analysis of Results for Measure 2: (include strengths &amp; weaknesses): ABET outcome i: This criterion has been met with the scores Course-90.</th>
<th>Analysis of Results for Measure 3: (include strengths &amp; weaknesses): ABET outcome i: This criterion has been met with the scores Capstone-90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure 2:</td>
<td>Course Exercises Include tests, final exam, homework, projects and lab reports The benchmark score is 50%</td>
<td>Concentration coordinator and department chair</td>
<td>10/31/2015</td>
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<tr>
<td>Measure 3:</td>
<td>Capstone Project In consultation with their faculty advisor students complete an independent project utilizing their knowledge of the basic Mechanical ET courses and submit a formal report. The benchmark score is 50%</td>
<td>Concentration coordinator and department chair</td>
<td>10/31/2015</td>
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</table>
Use of Prior Results: In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories Capstone project and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.

<table>
<thead>
<tr>
<th>Student Learning Outcome: ABET Criterion J: A knowledge of the impact of engineering technology solutions in a societal and global context</th>
<th>Measure 1: Capstone Project In consultation with their faculty advisor students complete an independent project utilizing their knowledge of the basic Mechanical ET courses and submit a formal report. The benchmark score is 50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person(s) Responsible: Concentration coordinator and department chair</td>
<td>Analysis of Results for Measure 1. (include strengths &amp; weaknesses): ABET outcome J: This criterion has been met with the scores Capstone-90</td>
</tr>
<tr>
<td>Completion Date: 10/31/2015</td>
<td>Supporting Document(s):</td>
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<tr>
<td>Future Actions: Describe Program Changes (adding a course, assignment, project, etc.): We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question. We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.</td>
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</table>

Future Actions: Describe Assessment Changes
Use of Prior Results: In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories Course exercises and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.

<table>
<thead>
<tr>
<th>Measure 1: Course Exercises</th>
<th>Person(s) Responsible:</th>
<th>Analysis of Results for Measure 1. (include strengths &amp; weaknesses):</th>
<th>Supporting Document(s):</th>
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<tbody>
<tr>
<td>Include tests, final exam,</td>
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<table>
<thead>
<tr>
<th>Measure 2: Major Field Test (MFT) Survey Questions</th>
<th>Person(s) Responsible:</th>
<th>Analysis of Results for Measure 2: (include strengths &amp; weaknesses):</th>
<th>Supporting Document(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>These questions are designed to measure the</td>
<td>Concentration</td>
<td>ABET outcome j: This criterion has been met with the scores MFT</td>
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<tr>
<td>graduating seniors’ confidence level in solving</td>
<td>coordinator and</td>
<td>Survey Questions-90</td>
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<tr>
<td>engineering problems after the completion of the</td>
<td>department chair</td>
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<tr>
<td>program</td>
<td>The benchmark score is 60%</td>
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<tr>
<td>Completion Date: 10/31/2015</td>
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<tr>
<td>Timeliness, and continuous improvement</td>
<td>Homework, projects, and lab reports. The benchmark score is 50%</td>
<td>Concentration coordinator and department chair</td>
<td>ABET outcome k: This criterion has been met with the scores Course-90</td>
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<td></td>
<td></td>
<td>Completion Date: 10/31/2015</td>
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**Future Actions: Describe Program Changes** (adding a course, assignment, project, etc.): We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question. We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.
**Student Learning Outcome:**
MET-Specific Criterion 1: The necessary skills to calculate forces, moments, stresses and strains developed in structural members and machine elements considering different theories of failure

**Use of Prior Results:** In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories MFT and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.

<table>
<thead>
<tr>
<th>Measure 1:</th>
<th>Measure 2:</th>
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<tbody>
<tr>
<td><strong>Major Field Test</strong> All ET majors are assessed by the major field test (MFT), which measures knowledge and application in the students’ major/concentration. The MFT consists of 100 conceptual and engineering calculations questions with multiple choice answers. The benchmark score is 50%.</td>
<td><strong>Capstone Project</strong> In consultation with their faculty advisor students complete an independent project utilizing their knowledge of the basic Mechanical ET courses and submit a formal report. The benchmark score is 50%</td>
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<tr>
<th>Person(s) Responsible:</th>
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<tbody>
<tr>
<td>Concentration coordinator and department chair</td>
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<table>
<thead>
<tr>
<th>Analysis of Results for Measure 1:</th>
<th>Analysis of Results for Measure 2:</th>
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</thead>
<tbody>
<tr>
<td><strong>(include strengths &amp; weaknesses):</strong></td>
<td><strong>(include strengths &amp; weaknesses):</strong></td>
</tr>
<tr>
<td>MET-specific outcome 1: This criterion has been met with the scores MFT-75.</td>
<td>ABET outcome k: This criterion has been met with the scores Capstone-90</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Supporting Document(s):</th>
<th>Future Actions:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Describe Program Changes (adding a course, assignment, etc.):</td>
</tr>
</tbody>
</table>

**Future Actions:**
We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

**Person(s) Responsible:**
Concentration coordinator and department chair

**Completion Date:**
10/31/2015
Completion Date: 10/31/2015

We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question. We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.

Future Actions: Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.):
We will decide these in our 2015 fall meeting of all ET.
### Measure 2:
Course Exercises
- Include tests, final exams, homework, projects, and lab reports
- The benchmark score is 50%

<table>
<thead>
<tr>
<th>Person(s) Responsible</th>
<th>Analysis of Results for Measure 2: (include strengths &amp; weaknesses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration coordinator and department chair</td>
<td>MET-specific outcome 1: This criterion has been met with the scores Course-84</td>
</tr>
</tbody>
</table>

**Completion Date:** 10/31/2015

### Measure 3:
Major Field Test (MFT) Survey Questions
- These questions are designed to measure the graduating seniors' confidence level in solving engineering problems after the completion of the program
- The benchmark score is 60%

<table>
<thead>
<tr>
<th>Person(s) Responsible</th>
<th>Analysis of Results for Measure 3: (include strengths &amp; weaknesses)</th>
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</thead>
<tbody>
<tr>
<td>Concentration coordinator and department chair</td>
<td>MET-specific outcome 1: This criterion has been met with the scores MFT Survey Questions-80</td>
</tr>
</tbody>
</table>

**Completion Date:** 10/31/2015

### Use of Prior Results:
In 2014 fall we analyzed the 2013-14 results and found the Course exercises scores related to this criterion met the benchmark value but the MFT scores were below the benchmark value. Therefore, in 2014 fall we emphasized certain relevant topics in ET 3840-Dynamics and 4830-Vibration so that the students can do well in the major field test.

### Student Learning Outcome:
**MET-Specific Criterion 2:** The essential tools to analyze systems in motion, and calculate
the velocity, acceleration, inertial forces, torque, power, and mechanical efficiency as required to solving engineering problems and application in the students’ major/concentration. The MFT consists of 100 conceptual and engineering calculations questions with multiple choice answers. The benchmark score is 50%

<table>
<thead>
<tr>
<th>Completion Date</th>
<th>10/31/2015</th>
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</thead>
</table>

Criterion has not been met with the scores MFT-40. One of the reasons could be that the course, ET 4830-Vibration corresponding to this criterion is mathematically intensive. Sometimes students take the MFT one or two semesters after taking this course.

Program Changes (adding a course, assignment, project, etc.):
We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question.

We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.

Future Actions: Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.):
We intend to emphasize certain ET 4830-Vibration topics so that the graduating MET seniors can fare better in the major field test (MFT). We will decide this and other relevant issues in our 2015 fall meeting of all ET program coordinators with the ET chair.

**Future Actions:**
Describe any additional resources needed (Leave blank if no additional resources are needed.):

---

**Measure 2:**
Course Exercises Include tests, final exam, homework, projects and lab reports The benchmark score is 50%

**Person(s) Responsible:**
Concentration coordinator and department chair

**Completion Date:**
10/31/2015

**Analysis of Results for Measure 2:**
(MET-specific outcome 2: This criterion has been met with the scores Course-72.)

**Analysis of Results for Measure 2:**
(MET-specific outcome 2: This criterion has been met with the scores Course-72.)
### Measure 3: Major Field Test (MFT) Survey Questions
- **These questions are designed to measure the graduating seniors' confidence level in solving engineering problems after the completion of the program.**
- **The benchmark score is 60%**

**Person(s) Responsible:** Concentration coordinator and department chair

**Completion Date:** 10/31/2015

**Analysis of Results for Measure 3: (include strengths & weaknesses)**
- **MET-specific outcome 2:** This criterion has been met with the scores MFT Survey Questions-78.

**Future Actions:**
- **Describe Program Changes (adding a course, assignment, project, etc.):**
  - We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question.
  - We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to

### Use of Prior Results:
- In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories MFT and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.

### Measure 1: Major Field Test
- **All ET majors are assessed by the major field test (MFT), which measures knowledge and application in the students’ major/concentration.**
- **The MFT consists of 100 conceptual and engineering calculations questions with multiple choice answers.**
- **The benchmark score is 50%**

**Person(s) Responsible:** Concentration coordinator and department chair

**Completion Date:** 10/31/2015

**Analysis of Results for Measure 1: (include strengths & weaknesses):**
- **MET-specific outcome 3:** This criterion has been met with the scores MFT-69.

**Student Learning Outcome:**
- **MET-Specific Criterion 3:** The ability to understand the working principles of thermal and fluid power systems, and solve problems using their knowledge of thermodynamics, heat transfer, and fluid power

**Supporting Document(s):**

**Future Actions:**
- **Describe Program Changes (adding a course, assignment, project, etc.):**
  - We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question.
  - We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to
help them better prepare for the 2015-16 fall and spring tests.

Future Actions: Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.):
We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

Future Actions: Describe any additional resources needed (Leave blank if no additional resources are needed.):

| Measure 2: Course Exercises Include tests, final exam, homework, projects and lab reports The benchmark score is 50% | Person(s) Responsible: Concentration coordinator and department | Analysis of Results for Measure 2: (include strengths & weaknesses): MET outcome 3: This criterion has been met with the scores Course-80 |
Measure 3: Major Field Test (MFT) Survey Questions
These questions are designed to measure the graduating seniors’ confidence level in solving engineering problems after the completion of the program. The benchmark score is 60%.

Person(s) Responsible: Concentration coordinator and department chair
Completion Date: 10/31/2015

Analysis of Results for Measure 3: (include strengths & weaknesses)
MET outcome 3: This criterion has been met with the scores MFT Survey Questions - 69.

Use of Prior Results: In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories MFT and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.

Measure 1: Major Field Test All ET majors are assessed by the major field test (MFT), which measures knowledge and application in the students’ major/concentration. The MFT consists of 100 conceptual and engineering calculations questions with multiple choice answers. The benchmark score is 50%.

Person(s) Responsible: Concentration coordinator and department chair
Completion Date: 10/31/2015

Analysis of Results for Measure 1: (include strengths & weaknesses): MET-specific outcome 4: This criterion has been met with the scores MFT - 71.

Student Learning Outcome:
MET-Specific Criterion 4: The understanding of the electrical, electronics, and instrumentation and controls aspects of mechanical systems

Future Actions: Describe Program Changes (adding a course, assignment, project, etc.): We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand the question. We will continue to provide our graduating seniors study.
Future Actions:
Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.):
We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

Future Actions:
Describe any additional resources needed (Leave blank if no additional resources are needed):
<table>
<thead>
<tr>
<th>Measure 1: Major Field Test (MFT)</th>
<th>Person(s) Responsible: Concentration coordinator and department chair</th>
<th>Analysis of Results for Measure 1: (include strengths &amp; weaknesses): MET-specific outcome 5: This criterion has been met with the scores MFT-81</th>
<th>Supporting Document(s): Future Actions: Describe Program Changes (adding a course, assignment, project, etc.): We will continue to reword some Major Field Test (MFT) questions to help our graduating seniors better understand</th>
</tr>
</thead>
<tbody>
<tr>
<td>All ET majors are assessed by the major field test (MFT), which measures knowledge and application in the students’ major/concentration. The MFT consists of 100 conceptual and engineering calculations questions with multiple choice answers. The benchmark score is 50%</td>
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<tr>
<td>Completion Date: 10/31/2015</td>
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</tbody>
</table>

**Use of Prior Results:** In 2014 fall we analyzed the 2013-14 results and found the measures related to this criterion met the benchmark scores in the categories MFT and MFT survey questions. Therefore, we did not make any changes for the year 2014-15.
We will continue to provide our graduating seniors study guides including course/topic outline relevant to the MFT to help them better prepare for the 2015-16 fall and spring tests.

**Future Actions**
- Describe Assessment Changes (measures such as rubrics, exams, diagnostic instruments, etc.):
  - We will decide these in our 2015 fall meeting of all ET program coordinators with the ET chair.

**Future Actions**
- Describe any additional resources needed (Leave blank)
<table>
<thead>
<tr>
<th>Measure 2:</th>
<th>Person(s) Responsible:</th>
<th>Analysis of Results for Measure 2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Exercises Include tests, final exam, homework, projects and lab reports The benchmark score is 50%</td>
<td>Concentration coordinator and department chair</td>
<td>(include strengths &amp; weaknesses): MET-Specific outcome 5: This criterion has been met with the scores Course-88</td>
</tr>
</tbody>
</table>

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<tr>
<th>Measure 3:</th>
<th>Person(s) Responsible:</th>
<th>Analysis of Results for Measure 3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Field Test (MFT) Survey Questions These questions are designed to measure the graduating seniors’ confidence level in solving engineering problems after the completion of the program The benchmark score is 60%</td>
<td>Concentration coordinator and department chair</td>
<td>(include strengths &amp; weaknesses) MET-Specific outcome 5: This criterion has been met with the scores MFT Survey Questions-84</td>
</tr>
</tbody>
</table>