Mission / Purpose

The mission of the Department of Aerospace Engineering and Mechanics is to provide high-quality undergraduate, graduate, and continuing education that supports the aerospace, and other, industries; to attract and retain high-quality students; to conduct high-quality research on critical problems in the aerospace, and other, industries that will advance the body of scientific knowledge and support the department's education programs; and serve constituencies (e.g. individual practicing engineers and computer scientists, industry, government, educational entities, and technical societies) through professional expertise, active involvement, and availability of facilities.

Student Learning Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 4: Advanced Knowledge
Graduate will demonstrate a thorough knowledge of the theory and practice of modern engineering techniques in a general area of aerospace engineering and/or engineering mechanics (content knowledge).

Connected Documents
- MSAE-MSEM Curriculum Map 1
- MSAE-MSEM Curriculum Map 2

Related Measures

M 6: Coursework Requirements
Number of exceptions and overrides granted to during the course of study for students graduating with MS degrees.
Source of Evidence: Academic direct measure of learning - other

Connected Documents
- MSAE-MSEM Curriculum Map 1
- MSAE-MSEM Curriculum Map 2

M 7: Coursework GPA
Average GPA of students graduating with MS degree.
Source of Evidence: Academic direct measure of learning - other

Connected Documents
- MSAE-MSEM Curriculum Map 1
- MSAE-MSEM Curriculum Map 2

SLO 5: Independent Critical Thinking
Graduates will demonstrate independent critical thinking in a specialized area of either aerospace engineering or engineering mechanics (skills/ability).

Connected Documents
- MSAE-MSEM Curriculum Map 1
- MSAE-MSEM Curriculum Map 2

Related Measures

M 8: Publications/Presentations
Number of publications and presentations by students awarded MS degree.
Source of Evidence: Exit interviews with grads/program completers

Target:
- No target set.

M 9: Quality of Culminating Experience
Average quality of culminating experience (thesis and defense for MS Plan I option; examinations or project for MS Plan II option) completed. The evaluation will be made by a student’s thesis committee for MS Plan I students and by faculty associated with student's culminating experience for MSAEM Plan II students.
Source of Evidence: Senior thesis or culminating major project

Target:
- No Target

Other Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

OthOcM 1: Program Quality
The program will improve and sustain a high level of recognized quality.

Related Measures

M 1: GRE Scores: Admitted Students
Average composite GRE scores for students admitted to the MS degree program.
Source of Evidence: Standardized test of subject matter knowledge
M 5: Average SOI Graduate Courses
Average of Student Opinion of Instruction (SOI) for 500-level and above courses.
Source of Evidence: Existing data
Target:
Target not set.

M 10: (RETIRE) (Co)authorship of scholarly work
(Co)authorship of scholarly work (journal and conference papers, reports, etc.)
Source of Evidence: Academic indirect indicator of learning - other
Target:
No Target

M 11: (RETIRE) Peer Reviewed Publications Accepted
(Co)authorship of scholarly work (journal and conference papers, reports, etc.)
Source of Evidence: Academic direct measure of learning - other
Target:
No Target

M 12: (RETIRE) Alumnae feedback
Alumnae feedback
Source of Evidence: Alumni survey or tracking of alumni achievements

OthOtm 2: Program Optimal Enrollment
The program will build and sustain an optimal level of annual program enrollments and degree completion

Connected Document
AEM Graduate Program Enrollments

Related Measures

M 2: Enrollment
Number of students enrolled in the MS program.
Source of Evidence: Existing data
Target:
Sufficient to sustain required graduation rates.

M 3: Degrees Confired
Number of MS degrees completed.
Source of Evidence: Existing data
Target:
ACHÉ requires a 5 year average of 3.75 graduates for Masters degree programs.

OthOtm 3: Program Highly Valued
The program will be highly valued by its program graduates and other key constituencies it serves.

Connected Documents
MSAE-MSESM Curriculum Map 1
MSAE-MSESM Curriculum Map 2

Related Measures

M 4: Career Placement
Placement demographics for students graduating with a MS degrees.
Source of Evidence: Academic indirect indicator of learning - other

M 5: Average SOI Graduate Courses
Average of Student Opinion of Instruction (SOI) for 500-level and above courses.
Source of Evidence: Existing data
Target:
No Target

Details of Action Plans for This Cycle (by Established cycle, then alpha)

Assess Quality of Culminating Experience
A new assessment survey will be developed to quantify the quality of the culminating experience. The survey will query the MS thesis committee (for MS Plan I Thesis students) or the culminating experience advisory/culminating exam committee (for MS Plan II Non-thesis students) for input as to the quality of the culminating experience.

Established in Cycle: 2012-2013
Implementation Status: Planned
Priority: High
Implementation Description: The survey will be completed by the thesis committee (MS Plan I) immediately after the oral defense of the written thesis or to the advisor/culminating exam committee after the completion of the culminating experience/exam.
Responsible Person/Group: AEM Graduate Program Coordinator
Mission / Purpose

The mission of the Department of Aerospace Engineering and Mechanics is to provide high-quality undergraduate, graduate, and continuing education that supports the aerospace, and other, industries; to attract and retain high-quality students; to conduct high-quality research on critical problems in the aerospace, and other, industries that will advance the body of scientific knowledge and support the department's education programs; and serve constituencies (e.g. individual practicing engineers and computer scientists, industry, government, educational entities, and technical societies) through professional expertise, active involvement, and availability of facilities.

Student Learning Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 4: Advanced Knowledge
Graduate will demonstrate a thorough knowledge of the theory and practice of modern engineering techniques in a general area of aerospace engineering and/or engineering mechanics (content knowledge).

Connected Documents
- MSAE-MSESM Curriculum Map 1
- MSAE-MSESM Curriculum Map 2

Related Measures

M 6: Coursework Requirements
Number of exceptions and overrides granted to during the course of study for students graduating with MS degrees.

Source of Evidence: Academic direct measure of learning - other

Connected Documents
- MSAE-MSESM Curriculum Map 1
- MSAE-MSESM Curriculum Map 2

Target:
No Target

Finding (2012-2013) - Target: Met
0: No exceptions/overrides to published MS degree requirements for students graduating with MS degrees during this reporting period.

M 7: GPA Requirements
Average GPA of students graduating with MS degree.

Source of Evidence: Academic direct measure of learning - other

Target:
No target set.

Finding (2012-2013) - Target: Met
3.53: Average GPA for students graduating with a master of science degree for the reporting period.

SLO 5: Independent Critical Thinking
Graduates will demonstrate independent critical thinking in a specialized area of either aerospace engineering or engineering mechanics (skills/ability).

Connected Documents
- MSAE-MSESM Curriculum Map 1
- MSAE-MSESM Curriculum Map 2

Related Measures

M 8: Publications/Presentations
Number of publications and presentations by students awarded MS degree.

Source of Evidence: Exit interviews with grads/program completers

Target:
No target set.

Finding (2012-2013) - Target: Not Reported This Cycle
Data not collected this assessment cycle.

M 9: Quality of Culminating Experience
Average quality of culminating experience (thesis and defense for MS Plan I option; examinations or project for MS Plan II option) completed. The evaluation will be made by a student's thesis committee for MS Plan I students and by faculty associated with student’s culminating experience for MSAEM Plan II students.

Source of Evidence: Senior thesis or culminating major project

Connected Documents
- MSAE-MSESM Curriculum Map 1
- MSAE-MSESM Curriculum Map 2

Target:
Finding (2012-2013) - Target: Not Reported This Cycle
Data not tracked this assessment cycle.

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Assess Quality of Culminating Experience
Established in Cycle: 2012-2013
A new assessment survey will be developed to quantify the quality of the culminating experience. The survey will query the MS th...

M 10: RETIRE Increased number of courses
Increased number of courses available through the anticipated Aerospace Consortium of Alabama
Source of Evidence: Academic direct measure of learning - other

Connected Documents
MSAE-MSSEM Curriculum Map 1
MSAE-MSSEM Curriculum Map 2

Target:
No Target

Other Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

OthOtm 1: Program Quality
The program will improve and sustain a high level of recognized quality.

Related Measures

M 1: GRE Scores: Admitted Students
Average composite GRE scores of students admitted to the MSAEM program during the reporting period.
Source of Evidence: Standardized test of subject matter knowledge

Target:
Target not set.

Finding (2012-2013) - Target: Met
42 MS students accepted into program. Average GRE (new scaling): 312.96. The minimum requirement for admission to the UA Graduate School is 300.

M 5: Average SOI Graduate Course Score
Average Student Opinion of Instruction (SOI) for 500-level and above courses.
Source of Evidence: Existing data

Target:
No target set.

Finding (2012-2013) - Target: Met
4.07 Weighted average of SOI rating of graduate courses. Maximum possible rating of 5.00. Weighting factor - standard semester credit hours.

M 11: (RETIRE) Coauthorship of scholarly work
(Co)authorship of scholarly work (journal and conference papers, reports, etc.) 2
Source of Evidence: Academic indirect indicator of learning - other

Target:
No Target

M 12: (RETIRE) Alumnae feedback
Alumnae feedback
Source of Evidence: Alumni survey or tracking of alumni achievements

OthOtm 2: Program Optimal Enrollment
The program will build and sustain an optimal level of annual program enrollments and degree completion

Connected Document
AEM Graduate Program Enrollments

Related Measures

M 2: Enrollment
Number of students enrolled in the MS program.
Source of Evidence: Existing data

Target:
No target set.

Finding (2012-2013) - Target: Met
Fall 2012: 58 MSAEM students

M 3: Degrees Confired
Number of MSAEM degrees awarded during the reporting period.
Source of Evidence: Existing data

Target:
3.75 MS graduates per year (5-year average). Alabama Commission on Higher Education (ACHE) requirement.
Finding (2012-2013) - Target: Met
2012-2013: 13 MSAEM Graduates. 5-year average: 9.17 MSAEM graduates per year.

OthOtm 3: Program Highly Valued
The program will be highly valued by its program graduates and other key constituencies it serves.

Connected Documents
MSAE-MSES M Curriculum Map 1
MSAE-MSES M Curriculum Map 2

Related Measures
M 4: Career Placement
Placement demographics for students graduating with a MS degrees.
Source of Evidence: Academic indirect indicator of learning - other
Target:
No target set.
Finding (2012-2013) - Target: Not Reported This Cycle
Data not tracked this assessment cycle.

M 5: Average SOI Graduate Course Score
Average Student Opinion of Instruction (SOI) for 500-level and above courses.
Source of Evidence: Existing data
Target:
No Target
Finding (2012-2013) - Target: Met
4.07 Weighted average of SOI rating of graduate courses. Maximum possible rating of 5.00. Weighting factor - standard semester credit hours.

Details of Action Plans for This Cycle (by Established cycle, then alpha)

Assess Quality of Culminating Experience
A new assessment survey will be developed to quantify the quality of the culminating experience. The survey will query the MS thesis committee (for MS Plan I Thesis students) or the culminating experience advisory/culminating exam committee (for MS Plan II Non-thesis students) for input as to the quality of the culminating experience.

Established in Cycle: 2012-2013
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
 Measure: Quality of Culminating Experience | Outcome/Objective: Independent Critical Thinking

Implementation Description: The survey will be completed by the thesis committee (MS Plan I) immediately after the oral defense of the written thesis or to the advisor/culminating exam committee after the completion of the culminating experience/exam.

Responsible Person/Group: AEM Graduate Program Coordinator
Mission / Purpose
The mission of the Department of Aerospace Engineering and Mechanics is: to provide high-quality undergraduate, graduate, and continuing education that supports the aerospace, and other, industries; to attract and retain high-quality students; to conduct high-quality research on critical problems in the aerospace, and other, industries that will advance the body of scientific knowledge and support the department's education programs; and serve constituencies (e.g. individual practicing engineers and computer scientists, industry, government, educational entities, and technical societies) through professional expertise, active involvement, and availability of facilities.

Student Learning Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 1: Discipline Knowledge in Specialty
(Discipline Knowledge) MSESM graduates should demonstrate competence in their chosen area of specialty

Connected Documents
MSAE - MSESM Curriculum Map 1
MSAE - MSESM Curriculum Map 2

Related Measures

M 1: Evaluation of Culminating Experience
Evaluation of Culminating Experience (thesis and defense for Thesis Option; examinations or project for Coursework Option)
Source of Evidence: Senior thesis or culminating major project

Connected Documents
MSAE - MSESM Curriculum Map 1
MSAE - MSESM Curriculum Map 2

Target:
No Target

Finding (2011-2012) - Target: Met
MSESM culminating experiences:

<table>
<thead>
<tr>
<th></th>
<th>Plan I (defenses)</th>
<th>Plan II (exams)</th>
<th>Plan II (projects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011-2012</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Adequate

M 2: (Co)authorship of Scholarly Work
(Co)authorship of scholarly work (journal and conference papers, reports, etc.)
Source of Evidence: Academic direct measure of learning - other

Target:
No Target

Finding (2011-2012) - Target: Met
(Co)authorship of scholarly work:

<table>
<thead>
<tr>
<th></th>
<th>2010-2011</th>
<th>2011-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Adequate (co)authorship, given the number of students enrolled in MS ESM.

SLO 2: Breadth of Discipline Knowledge
(Discipline Knowledge) MSESM graduates should be able to demonstrate breadth of knowledge in the general field of aerospace engineering and mechanics.

Connected Documents
MSAE - MSESM Curriculum Map 1
MSAE - MSESM Curriculum Map 2

Related Measures

M 1: Evaluation of Culminating Experience
Evaluation of Culminating Experience (thesis and defense for Thesis Option; examinations or project for Coursework Option)
Source of Evidence: Senior thesis or culminating major project

Connected Documents
MSAE - MSESM Curriculum Map 1
MSAE - MSESM Curriculum Map 2

Target:
No Target
**Finding (2011-2012) - Target: Met**

**MSEMS culminating experiences:**

<table>
<thead>
<tr>
<th></th>
<th>Plan I (defenses)</th>
<th>Plan II (exams)</th>
<th>Plan II (projects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011-2012</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Adequate

**M 2: (Co)authorship of Scholarly Work**

(Co)authorship of scholarly work (journal and conference papers, reports, etc.)

Source of Evidence: Academic direct measure of learning - other

**Target:**

No Target

**Finding (2011-2012) - Target: Met**

**MSEMS culminating experiences:**

<table>
<thead>
<tr>
<th></th>
<th>Plan I (defenses)</th>
<th>Plan II (exams)</th>
<th>Plan II (projects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011-2012</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Adequate (co)authorship

**SLO 3: Apply Knowledge to Novel Problems/Situations**

(Skills/Abilities) MSEMS graduates should be able to apply knowledge gained to novel problems and situations and move into new situations.

**Connected Documents**

- MSAE - MSEMS Curriculum Map 1
- MSAE - MSEMS Curriculum Map 2

**Related Measures**

**M 1: Evaluation of Culminating Experience**

Evaluation of Culminating Experience (thesis and defense for Thesis Option; examinations or project for Coursework Option)

Source of Evidence: Senior thesis or culminating major project

**Connected Documents**

- MSAE - MSEMS Curriculum Map 1
- MSAE - MSEMS Curriculum Map 2

**Target:**

No Target

**Finding (2011-2012) - Target: Met**

**MSEMS culminating experiences:**

<table>
<thead>
<tr>
<th></th>
<th>Plan I (defenses)</th>
<th>Plan II (exams)</th>
<th>Plan II (projects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011-2012</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Adequate

**M 2: (Co)authorship of Scholarly Work**

(Co)authorship of scholarly work (journal and conference papers, reports, etc.)

Source of Evidence: Academic direct measure of learning - other

**Target:**

No Target

**Finding (2011-2012) - Target: Met**

**MSEMS culminating experiences:**

<table>
<thead>
<tr>
<th></th>
<th>Plan I (defenses)</th>
<th>Plan II (exams)</th>
<th>Plan II (projects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011-2012</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Adequate (co)authorship

**SLO 4: Scholarly Works and Course Options**

(An Improvement Outcome Derived From their 2010-11 Assessment Findings) Increase number of scholarly works and course options

**Connected Documents**

- MSAE - MSEMS Curriculum Map 1
- MSAE - MSEMS Curriculum Map 2

**Related Measures**

**M 2: (Co)authorship of Scholarly Work**

(Co)authorship of scholarly work (journal and conference papers, reports, etc.)

Source of Evidence: Academic direct measure of learning - other

**Target:**

No Target

**Finding (2011-2012) - Target: Met**

**MSEMS culminating experiences:**

<table>
<thead>
<tr>
<th></th>
<th>Plan I (defenses)</th>
<th>Plan II (exams)</th>
<th>Plan II (projects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

2011-2012: 2

Adequate (co)authorship

Course Options:
Planned Alabama Aerospace Consortium (which would open up course options) has not yet been approved.

M 3: Number of scholarly works
Number of scholarly works
Source of Evidence: Academic indirect indicator of learning - other

Target:
No Target

Finding (2011-2012) - Target: Met
(Co)authorship of scholarly work:

2010-2011: 0
2011-2012: 2

Adequate, given the number of students enrolled in MS ESM.

M 4: Increased Number of Courses
Increased number of courses available through the newly formed Aerospace Consortium of Alabama
Source of Evidence: Academic direct measure of learning - other

Connected Documents
MSAE - MSSESM Curriculum Map 1
MSAE - MSSESM Curriculum Map 2

Target:
No Target

Finding (2011-2012) - Target: Met
Alabama Aerospace Consortium not yet approved. No interpretation yet possible.

Other Outcomes, with Any Associations and Related Measures, Targets, Findings, and Action Plans

OthOtcn 5: Recognized Quality
The program will improve and sustain a high level of recognized quality.

Related Measures

M 2: (Co)authorship of Scholarly Work
(Co)authorship of scholarly work (journal and conference papers, reports, etc.)
Source of Evidence: Academic direct measure of learning - other

Target:
No Target

Finding (2011-2012) - Target: Met
(Co)authorship of scholarly work:

2010-2011: 0
2011-2012: 2

Adequate (co)authorship

M 5: Career Placement of Graduates
Career placement of graduates
Source of Evidence: Academic indirect indicator of learning - other

Target:
No Target

Finding (2011-2012) - Target: Met
Career Placement after graduation:

<table>
<thead>
<tr>
<th>Year</th>
<th>Grad. School or Job</th>
<th>Industry, Government, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Adequate placement, given the number of students graduating from the MS ESM program.

OthOtcn 6: Optimal Level
The program will build and sustain an optimal level of annual program enrollments and degree completion

Connected Document
AEM Graduate Program Enrollments

Related Measures

M 8: Enrollment Trends
Enrollment trends
Source of Evidence: Academic direct measure of learning - other

Connected Document
AEM Graduate Program Enrollments
Target:
Sufficient to sustain required graduation rates.

**Finding (2011-2012) - Target: Not Met**
Enrollment trends tracked. MS ESM enrollment is not strong.

**Related Action Plans (by Established cycle, then alpha):**

**Merger of MSAE and MSES M into MSAEM**

*Established in Cycle: 2011-2012*
A proposal has been submitted to the President to merge the MSAE and the MSES M degrees into a single MSAEM degree. There has been...

For full information, see the Details of Action Plans section of this report.

**OthOtcm 7: Program Value**
The program will be highly valued by its program graduates and other key constituencies it serves.

**Related Measures**

**M 5: Career Placement of Graduates**
Career placement of graduates

Source of Evidence: Academic indirect indicator of learning - other

**Target:**
No Target

*Finding (2011-2012) - Target: Met*

**Career Placement after graduation:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Academic (grad. school or job)</th>
<th>Industry, Government, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Adequate placement, given the number of students graduating from the MS ESM program.

**M 7: Alumnae Feedback**
Alumnae Feedback

Source of Evidence: Academic indirect indicator of learning - other

**Target:**
No Target

*Finding (2011-2012) - Target: Met*
No Alumnae feedback, other than career placement, has been received.

**Details of Action Plans for This Cycle (by Established cycle, then alpha)**

**Merger of MSAE and MSES M into MSAEM**
A proposal has been submitted to the President to merge the MSAE and the MSES M degrees into a single MSAEM degree. There has been no response to-date.

*Established in Cycle: 2011-2012*
*Implementation Status: Planned*
*Priority: High*

**Relationships (Measure | Outcome/Objective):**
- **Measure:** Annual Graduation Rates | **Outcome/Objective:** Optimal Level
- **Measure:** Enrollment Trends | **Outcome/Objective:** Optimal Level

**Additional Resources:** none
Curriculum Maps #1 (In which courses or in what activities or assignments are Student Learning Outcomes Addressed)

<table>
<thead>
<tr>
<th></th>
<th>Student Learning Outcome 1</th>
<th>Student Learning Outcome 2</th>
<th>Student Learning Outcome 3</th>
<th>Student Learning Outcome 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course 1</strong> AEM 500</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td><strong>Course 2</strong> AEM 562 or 668</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td><strong>Course 3</strong> AEM 635 or 637</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td><strong>Course 4</strong> GES 554</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td><strong>Required Experience</strong> Culmin. Exp.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>-</td>
</tr>
<tr>
<td><strong>Activity 1</strong> (Co)author</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Curriculum Map II  (What assessment measures will be employed in which courses/activities/assignments for each Student learning Outcome)

<table>
<thead>
<tr>
<th>Course</th>
<th>Student Learning Outcome 1</th>
<th>Student Learning Outcome 2</th>
<th>Student Learning Outcome 3</th>
<th>Student Learning Outcome 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course 1</td>
<td>AEM 500</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Course 2</td>
<td>AEM 562 or 668</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Course 3</td>
<td>AEM 635 or 637</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Course 4</td>
<td>GES 554</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Required Experience Culmin. Exp.</td>
<td>1.1</td>
<td>2.1</td>
<td>3.1</td>
<td>-</td>
</tr>
<tr>
<td>Activity 1 (Co)author</td>
<td>1.2</td>
<td>2.2</td>
<td>3.2</td>
<td>4.1</td>
</tr>
</tbody>
</table>

Optional Additional Narrative:  Use this space to provide any additional detail concerning the 2011-12 Department Assessment Plan  None
Request to Combine Degree Programs Into One Single Annual Assessment Plan

1. Date: October 1, 2012
   Month Day Year

2. Academic Department: Aerospace Engineering and Mechanics

3. College: Engineering

4. Name of Person Preparing This Form: Thomas A. Zeiler

5. What are you combining into one annual assessment plan?

   ____ a. two or more undergraduate degree programs
   
   Identify the names of the undergraduate degree programs here:

   ____ b. two or more graduate degree programs
   
   Identify the names of the graduate degree programs here:
   1. Master of Science in Aerospace Engineering
   2. Master of Science in Aerospace Engineering (Online)
   3. Master of Science in Engineering Science and Mechanics
   4. Master of Science in Aerospace Engineering and Mechanics (Newly approved, consolidated degree encompassing all of the above ... see option d below)

   ____ c. a single degree program that is offered on-campus, and/or online, and/or at an off-campus site

   Identify the name of the degree program and how it is offered:
   Degree Program Name,  
   ____ offered on campus
   ____ offered online
   ____ offered off-campus

   ____ d. multiple tracks or concentrations within a single degree program

   Identify the name of the degree program and the names of the tracks or concentrations here:
   Master of Science in Aerospace Engineering and Mechanics (Newly approved consolidation degree. See also option b, above)
   a. Aerospace Engineering Track
   b. Engineering Science and Mechanics Track

   ____ e. some other combinations into a single assessment plan (explain below)

   Explanation:
6. List the program outcomes and student learning outcomes for the first program to be combined:

Name of Degree Program: **MS in Aerospace Engineering**

Program Outcome 1  
*The program will improve and sustain a high level of recognized quality, including national accreditation, if available.*

Program Outcome 2  
*The program will build and sustain an optimal level of annual program enrollments and degree completions.*

Program Outcome 3  
*The program will be highly valued by its program graduates and other key constituencies it serves.*

Student Learning Outcome 1 **Discipline Knowledge in Specialty**

Student Learning Outcome 2 **Breadth of Discipline Knowledge**

Student Learning Outcome 3 **Apply Knowledge to Novel Problems/Situations**

Student Learning Outcome 4 **Scholarly Works and Course Options**

7. List the program outcomes and student learning outcomes for the second program/delivery method to be combined:

Name of Degree Program/Delivery Method: **MS in Aerospace Engineering (Online)**

Program Outcome 1  
*The program will improve and sustain a high level of recognized quality, including national accreditation, if available.*

Program Outcome 2  
*The program will build and sustain an optimal level of annual program enrollments and degree completions.*

Program Outcome 3  
*The program will be highly valued by its program graduates and other key constituencies it serves.*

Student Learning Outcome 1 **Discipline Knowledge in Specialty**

Student Learning Outcome 2 **Breadth of Discipline Knowledge**

Student Learning Outcome 3 **Apply Knowledge to Novel Problems/Situations**

Student Learning Outcome 4 **Scholarly Works and Course Options**
8. List the program outcomes and student learning outcomes for the third program to be combined:

Name of Degree Program: MS in Engineering Science and Mechanics

Program Outcome 1  The program will improve and sustain a high level of recognized quality, including national accreditation, if available.

Program Outcome 2  The program will build and sustain an optimal level of annual program enrollments and degree completions.

Program Outcome 3  The program will be highly valued by its program graduates and other key constituencies it serves.

Student Learning Outcome 1 Discipline Knowledge in Specialty

Student Learning Outcome 2 Breadth of Discipline Knowledge

Student Learning Outcome 3 Apply Knowledge to Novel Problems/Situations

Student Learning Outcome 4 Scholarly Works and Course Options

9a. List the program outcomes and student learning outcomes for the 4th program/track to be combined:

Name of Degree Program/track: MS in Aerospace Engineering and Mechanics (AE track)

Program Outcome 1  The program will improve and sustain a high level of recognized quality, including national accreditation, if available.

Program Outcome 2  The program will build and sustain an optimal level of annual program enrollments and degree completions.

Program Outcome 3  The program will be highly valued by its program graduates and other key constituencies it serves.

Student Learning Outcome 1 Discipline Knowledge in Specialty

Student Learning Outcome 2 Breadth of Discipline Knowledge

Student Learning Outcome 3 Apply Knowledge to Novel Problems/Situations

Student Learning Outcome 4 Scholarly Works and Course Options
9b. List the program outcomes and student learning outcomes for the 5th program/track to be combined:

Name of Degree Program/track: MS in Aerospace Engineering and Mechanics (ESM track)

Program Outcome 1: The program will improve and sustain a high level of recognized quality, including national accreditation, if available.

Program Outcome 2: The program will build and sustain an optimal level of annual program enrollments and degree completions.

Program Outcome 3: The program will be highly valued by its program graduates and other key constituencies it serves.

Student Learning Outcome 1: Discipline Knowledge in Specialty

Student Learning Outcome 2: Breadth of Discipline Knowledge

Student Learning Outcome 3: Apply Knowledge to Novel Problems/Situations

Student Learning Outcome 4: Scholarly Works and Course Options

10. List the program outcomes and student learning outcomes for the Combined Annual Assessment Plan

Name of Combined Degree Program Assessment Plan: Master of Science in Aerospace Engineering and Mechanics

Program Outcome 1: The program will improve and sustain a high level of recognized quality, including national accreditation, if available.

Program Outcome 2: The program will build and sustain an optimal level of annual program enrollments and degree completions.

Program Outcome 3: The program will be highly valued by its program graduates and other key constituencies it serves.

Student Learning Outcome 1: Discipline Knowledge in Specialty

Student Learning Outcome 2: Breadth of Discipline Knowledge

Student Learning Outcome 3: Apply Knowledge to Novel Problems/Situations

Student Learning Outcome 4: Scholarly Works and Course Options
11. Indicate how you intend to ensure that the assessment of the achievement of each outcome in the combined assessment plan will include a representative sample of respondents from each of the entities that have been combined (i.e., a representative sample of on-campus vs. off-campus vs. online students; a representative sample of students from each track/concentration; etc.) or if you plan to administer the same assessment instruments to each student constituency in your combined assessment plan and compare and contrast performance (outcome achievement) across the constituent groups.

As of June 2012, the consolidation of the MSAE and MSESM degrees into a single MSAEM degree was approved. The new degree will have AE and ESM tracks that essentially mimic the two previously separate degree programs (MSAE and MSESM). In fact, the new MSAEM structure parallels the structure of the recently approved PhDAEM degree (previously PhDES M). The MSAE and MSAE-Online programs were never separate programs even though they were listed in WEAVE as such. As should be obvious from the above description of program and student outcomes, the old programs (MSAE and MSESM) and the newly approved MSAEM program/tracks have always been, and will be, held to the same general program and student outcomes. There remain several MS students in the two old MS degree programs (MSAE and MSESM), and these students will be included in with the new MSAEM students by simply including their outcome data in with student data in the corresponding disciplinary tracks. The same assessment instruments (discipline knowledge in specialty, breadth of discipline knowledge, ability to apply knowledge, and scholarly work) have always been used for the separate degree programs, and will be applied in the same ways for the new tracks.

Department Chair Approval:

I support and recommend combining the degree programs, degree tracks/concentrations, and/or the delivery methods into a single outcomes assessment plan  
Chair Name (printed): STANLEY E. JONES  
Chair Signature

Dean Approval:

I approve combining the degree programs, degree tracks/concentrations, and/or the delivery methods into a single outcomes assessment plan  
Dean Name (printed): CHARLES L. KAY  
Dean Signature