

Department: Mechanical Materials, & Aerospace Engr.  
 Chair: L.C. Chow  
 Participating faculty: All

**Program Name & CIP Code: Aerospace Engineering 14.0201**

**Level: BSAE Undergraduate**

Example of linkage between Expanded Statement of Institutional Purpose,  
 Departmental/Program Intended Outcomes/Objectives, Assessment Criteria and Procedures,  
 Results, and Use of Results at our University

Expanded Statement of Institutional Purpose	Departmental/Program Intended Outcomes/Objectives	Assessment Criteria & Procedures	Assessment Results	Use of Results
Offer the best undergraduate education in Florida	1. Students completing the undergraduate program in Aerospace Engineering will be competent in the application of engineering principles.	1a. Surveys* of graduating seniors and employers will be conducted, with the goal of at least 75% of the respondents expressing satisfaction with the program in providing competency in the application of engineering principles.	1a. 100% of Spring 1997 graduating seniors responded to survey; 96.77% expressed satisfaction with the program in providing competency in the application of mathematics, science, and engineering principles (3.23% - not satisfied; 58.06% - very satisfied; 38.71% - satisfied). Local employers and the MMAE Industrial Advisory Committee expressed an overwhelming satisfaction with the program.	1a. Criteria met. Minor curricular improvements measures (as suggested by the students) are under review by the faculty for possible adoption.
	2. Graduates will be able to apply the principles of engineering design, formulating requirements and constraints, following an open-ended decision process involving tradeoffs, completing a design addressing an aerospace engineering need.	2a. AE and ME interdisciplinary senior capstone design projects* will be reviewed by the Undergraduate Student Performance Assessment Committee to assess whether or not at least 80% of the students have acceptable design competency. 2b. AE and ME interdisciplinary senior capstone design projects* will be reviewed by the Undergraduate Student Performance Assessment Committee to assess whether or not at least 80% of the students demonstrate effective written and oral communication competency.	1b. USPAC conducted a total of 64 independent evaluations of all senior capstone design projects. 96.88% of all evaluations indicate that the students have acceptable competency in the application of mathematics, science, and engineering principles (96.88% - yes; 3.12% - no). 2a. USPAC evaluations of all senior capstone design projects show that 92.19% of the students have acceptable design competency and are judged to be able to identify, formulate, and solve real-world engineering problems. (92.19% - yes; 7.81% - no).	1b. Criteria met. Minor curricular improvement measures and adjustments are under review by the faculty for possible adoption. 2a. Criteria met. Effective Fall 1997 a group of faculty will be involved in the senior capstone design projects. Faculty mentors and advisors will have been assigned to all projects. 2b. Criteria met. The faculty will continue to monitor this area.

\*See attached forms and analysis data collected.

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3. Graduates will be competent in the use of computer methods.	<p>3a. AE and ME interdisciplinary senior capstone design reports* will be reviewed by the Undergraduate Student Performance Assessment Committee to assess whether or not at least 80% of the students demonstrate satisfactory use of computer technology.</p> <p>3b. Students' satisfaction with their computer competency in preparing them for their careers will be surveyed* with the goal of 80% expressing satisfaction.</p>	<p>3a. USPAC evaluations of all senior capstone design projects show that 95.31% of the students demonstrated satisfactory use of in-house computer software and/or hardware. (95.31% - yes; 4.69% - no).</p>	<p>3a. Even though the criteria was met and no weaknesses were noted, the Department has increased the quality and quantity of the computer hardware and software resources (and laboratory equipment) and has established procedures to insure this equipment is updated continuously.</p> <p>3b. Even though the criteria was met and no weaknesses were noted, the Department has increased the quality and quantity of the computer hardware and software resources (and laboratory equipment) and has established procedures to insure this equipment is updated continuously. The faculty have implemented curriculum revisions to insure more computer and laboratory hands-on-experience projects.</p>	

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 7/30/97

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<p>4. Students completing the undergraduate program in Aerospace Engineering will compare favorably with students who complete a similar program nationally</p>	<p>4a. At least one student team will enter one major aerospace engineering competition, with the goal of placing in the top 25%.</p>	<p>4a. Surveys* of graduating seniors and employers will be conducted, with the goal of at least 75% of the respondents expressing satisfaction with the program in providing ABET competencies.</p>	<p>4a. MAAE Aerospace Engineering students placed 3rd in the AUVS VTOL Competition (EPCOT; July 1997) and 2nd in AIAA Student Conference (Atlanta; April 1997). MAAE Mini Baja Club placed 3rd (overall and 1st (in design) in the East Competition (Montreal; May 1997) that included over 40 student teams: AIAA, SAE, ASME, ASHRAE, and SAE student chapters participated in regional and national design competitions and placed in the top 20%.</p>	<p>4a. This criteria was met. The faculty has emphasized its continued encouragement, recognition, and support of all MAAE professional student chapters and club activities relating to regional and national engineering competitions.</p>
			<p>4b. 100% of Spring 1997 graduating seniors responded to survey. 83.8% expressed satisfaction with the program in providing ABET competencies and quality of education received in "core" and "major" engineering courses offered at UCF. Local employers and the MAAE Industrial Advisory Committee expressed an overwhelming satisfaction with the program ABET competencies.</p>	<p>4b. The criteria has been met. The faculty will review the curriculum to adequately address ABET 2000 criteria.</p>

\*See attached forms and analysis of data collected  
7/30/97