STUDENT OUTCOMES ASSESSMENT PLAN

Mechanical Engineering Program

Department of Mechanical Engineering

College of Engineering

California State University, Fresno

April 2008

Student Outcomes Assessment Plan

Introduction

The Student Outcomes Assessment Plan (SOAP) for the Department of Mechanical Engineering (ME) is based on the requirements of the Accreditation Board for Engineering and Technology (ABET) that stipulate a statement of the educational objectives of the program and how it is ensured that the objectives are achieved. Key program data and assessment information are included in the self-study document submitted to ABET in June 2006. The SOAP document repeats much of the data in the ABET report with a focus on educational objectives, assessment activities, the relation between objectives and assessment activities, and a timeline for implementing the activities.

Program Educational Objectives

To achieve the mission of the program, student learning objectives were developed to enable the graduates of the Mechanical Engineering program to be able to:

1. Apply skills and understanding of engineering sciences with a foundation in mathematics, chemistry and physics, necessary for engineering practice.
2. Design and develop components, systems and products that meet specified requirements, make prudent use of resources, and are of a complexity encountered in professional practice.
3. Test, evaluate and execute engineering solutions to problems and projects that are practical and of a complexity encountered in professional practice.
4. Design and conduct experiments; analyze results.
5. Communicate and perform as effective engineering professionals in both individual and team-based project environments.
6. Practice professional and ethical responsibilities, including the societal impact of engineering solutions.
7. Recognize and understand contemporary issues and the role of professionals in global society.
8. Develop intellectually and technically through continued learning.

Program Outcomes and Relation to Educational Objectives

The Mechanical Engineering program requires that students completing a BSME degree to acquire the skills necessary to succeed in the engineering profession. The necessary skills were identified and approved by the faculty, students, and the Advisory Council. These requirements also meet the standards established by ABET for Mechanical Engineering programs.

To make sure that the skills are delivered to the students, Program Outcomes were established and related to the program's Educational Objectives. Surveys were conducted to determine if the Educational Outcomes were achieved. The surveys were conducted at intervals established by the College of Engineering and the Department.

The following list of program outcomes was chosen by the ME faculty members on the basis of the outcome requirements stipulated by ABET.

a. Apply fundamental concepts of mathematics to problems in engineering applications

b. Apply fundamental concepts of science to solve problems in engineering applications

c. Apply analytical skills to solve engineering problems

d. Conduct experiments, analyze data, and present results

e. Apply the knowledge gained to design a component or a system that meets the specific criteria

f. Work on multi-disciplinary group projects to enhance interpersonal and leadership skills

g. Understand the importance of ethical and professional responsibility

h. Make effective oral presentations of ideas on engineering design solutions

i. Prepare and present technical information effectively in a report/document form

j. Communicate effectively in team/group settings

k. Incorporate economic, environmental, and safety consideration in design processes

l. Conduct independent research for information required in engineering problem solving

m. Participate in technical and professional societies for professional growth

n. Understand the need for life-long learning experience via advanced studies and/or professional registration

o. Gain understanding of global issues related to engineering

Table 1 illustrates how the Mechanical Engineering program objectives are related to the program outcomes.

Table 1 - Program Outcomes in Relation to Educational Objectives

D = Outcomes have direct or significant relation to the educational objectives.
I = Outcomes have indirect or moderate relation to the educational objectives.

PROGRAM OUTCOMES	Educational Objectives									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**		
a. Apply fundamental concepts of mathematics to solve problems in engineering applications.	D	I	I							
b. Apply fundamental concepts of science to solve problems in engineering applications.	D	I	I							
c. Apply analytical skills to solve engineering problems.	D	I	D							
d. Conduct experiments, analyze data, and present results.	I	I	D	D						
e. Apply the knowledge gained to design a component or a system that meet the specific criteria	D	D			I	I	I			
f. Work on class/multi-disciplinary group projects to enhance interpersonal and leadership skills.	I	D	I		D					
g. Understand the importance of ethical and professional responsibility					I	D				
h. Make an effective oral presentation of ideas on engineering design solutions.	I	I		I	D					
i. Prepare and present technical information effectively in a report/document form.		I	I		D					
j. Communicate with others effectively in a team/group setting.	I	I	I		D					
k. Incorporate economic, environmental, and safety consideration in a design process.		I		I		D				
l. Conduct independent research for information required in engineering problem solving.	D				D					
m. Be aware of the need for participation in technical and professional societies for professional growth.		I				I		D		
n. Understand the need for lifelong learning experience via advanced studies and/or professional registration.		I				I		D		
o. Gain an understanding of global issues related to engineering		I			I		D			

Assessment Activities

The process of assessing the outcomes achieved by our students covers the period of study by the students at the University and their professional careers as alumni. The process includes the assessment of outcomes for every engineering course the student takes, junior year assessment, senior year (exit) assessment, alumni assessment, and employer assessment. The process is implemented using five-assessment instruments: Course Survey, Junior Survey, Senior Survey, Alumni Survey and Employer Survey. These are shown in Table B.2. Student and faculty perspectives were analyzed and where there were concerns, these concerns were addressed as quickly as was possible in order to facilitate program improvement. The alumni and industry concerns were considered primarily for long-term changes in the program of study.

Table 2 - ME Program Assessment Activities Relative to Objectives

Constituency	Assessment Tool	Frequency	Time	Target	Outcomes Assessed
Alumni	Survey	Every third year	Fall semester	Graduates of past eight years	a thru o; ability to work as team and independently
Employer	Survey	Every third year	Fall semester	All employers	a thru o; organizing skills, and overall performance
Advisory Council	Meetings	Annual	Fall and Spring semesters	Department advisory group	objectives and outcomes; strategic plan
Students	Sr. Survey (exit)	Every semester	Fall and Spring semesters	All graduating Seniors	a thru o
	Junior Survey	Annual	Fall semester	Students in ME core	a thru o
	Course Survey	Every semester	Fall/Spring semesters	All courses	a thru o; comparison of faculty expectations with student achievements
	Co-op Survey	Annual	Fall or Spring semester	Active companies	Assessment of student competencies
Students and Faculty	Forum	Annual/Semi-annual	Fall and/or Spring semester	All students in the program	Assessment of learning outcomes

Parameters for Measuring Outcomes Achievement

The parameters used to measure the level of outcome achievement, necessary to produce graduates who will ultimately achieve educational objectives, were the following:

1. Level of student agreement with faculty on expected outcomes of specific courses
2. Degree of satisfaction of alumni with their education on a scale of 1 through 5 (1= least, 5=most satisfied)
3. Degree of satisfaction of companies with our graduates (1=least, 5= most)
4. Success of students in internship program
5. Success of graduating students obtaining jobs in mechanical engineering
6. How successful alumni feel they are
7. Success of ME students/alumni in EIT examination relative to rest of state

Survey Data

Alumni Survey: The last alumni survey was completed in April 2006. The results of 13 responses have been summarized in Table 3.

Table 3 - Alumni Survey (1-Weak → 5-Strong)
a. Rate following items relative to your education at College of Engineering

Parameter	Rating
Overall quality of your education	3.6
Overall quality of your laboratory coursework	3.2
Support, assistance and general help from College of Engineering	3.7
How prepared were you in handling professional tasks after graduation	3.8
If you participated in VIP Coop program, rate quality of your experience	3.5

b. Indicate the degree to which your education provided you with ability to:

Apply knowledge of math, science and engineering	3.9
Design and conduct experiments	3.5
Design a system, component or process to meet desired needs	3.8
Function on multidisciplinary teams	4.0
Identify, formulate and solve technical problems	4.0
Understand professional and ethical responsibility	4.0
Communicate effectively (written and oral)	4.1
Work independently	4.2

Additional information from the survey was as follows:

- 85% of the respondents graduated in the last seven years, and 15% before 1999. Breakdown by the nature of the work is: Industry (65%), Consulting (8%), Government (8%), and Education (8%).

- 15% consider themselves very successful with another 62% considering themselves to be successful. Only 23% consider themselves to be average.

Employer Survey: The employer survey provides valuable feedback information on the quality of education received by our graduates and their performance on the job. The Employer Survey form is given in Table 4, together with compositeevaluations. Nine local companies employing ME graduates responded. These responses are very significant since these are small companies and the quality of each of their employees, especially engineers, is critical to their success.

Table 4 - Employer survey (5-Far above average, 1-Far below average)

Parameter	Rating
Ability to formulate and solve problems	3.7
Ability to conduct experiments	3.5
Ability to work on multi-disciplinary teams or projects	3.6
Ability to work independently	3.7
Ability to communicate effectively (written and oral)	3.2
Ability/desire for self-learning/continuing education	3.6
Ability to use modern technologies and tools necessary for practice	3.7
Leadership and supervisory skills	2.9
Self-confidence and initiative	3.2
Ethical behavior	3.9
Planning and organizing skills	3.4
Understanding of global and contemporary issues	2.8
Overall performance	3.7

In evaluating the results of employer response, the following stand out:

- The graduate were rated the highest (3.7-3.9) in the following categories:
    a. Ethical behavior
    b. Ability to formulate and solve technical problems
    c. Ability to work independently
    d. Ability to use modern technologies
    e. Self-confidence and initiative
    f. Overall performance
- The graduate performed well above average (3.4-3.6) in the following categories:
    a. Ability to function on multi-disciplinary teams or projects
    b. Ability/desire for self learning/continuing education
    c. Planning and organizing skills
    d. Ability to conduct experiments
- The employers gave the lowest scores (2.8-2.9) in the following categories:
    a. Understanding of global and contemporary issues
    b. Leadership and supervisory skills

The overall results from the employer survey indicates that the ME curriculum is providing the necessary skills expected of a graduate in mechanical engineering in most areas. The communication skills are about average and have shown improvement when compared to previous ABET report. The changes necessary to improve the communication skills were discussed within the faculty, with the Advisory Council and with VIP board members. The result was the introduction of ENGR 105W (Engineering and Entrepreneurship), a technical writing course for engineering students that has just been approved by the University writing committee. The course will be offered as an elective to the College of Engineering students, as an alternative to passing the University Writing Exam requirement, but will be strongly recommended by the ME faculty advisors to the ME students. Categories with the lowest rating (*Understanding of global and contemporary issues* and *Leadership and supervisory skills*) should improve, first with focus on the capstone course, ME 155, and on the Political Science courses, and second, with greater emphasis on leadership positions in student professional societies and on team projects.

Junior Survey: The last Junior survey was administered in the Spring 2006 semester. The results of the survey have been summarized in Table 5.

Table 5 - Junior survey (5=Very important/satisfied → 1=Not important/very dissatisfied)

Program Outcome	How important to BSME degree	How satisfied with education at CSUF
a. Apply math concepts to engineering problems	4.23	3.56
b. Apply science to engineering problems	4.23	3.56
c. Apply analytical skills to engineering problems	4.19	3.40
d. Conduct experiments; analyze and present	4.00	3.62
e. Apply knowledge to design component/system	4.23	3.31
f. Work on multi-discip. projects; leadership skills	3.96	3.24
g. Understand ethical & profess. responsibility	3.62	3.52
h. Make effective oral presentations	3.54	3.12
i. Present tech info effectively in document/report	3.70	3.37
j. Communicate with others in team effectively	3.85	3.50
k. Incorporate economics, safety & environment	3.75	2.94
l. Conduct independent research req. for problem	3.80	3.11
m. Participate in tech. and professional societies	3.65	3.06
n. Know need for life-long learning	3.65	3.24
o. Understand global issues related to engineering	3.35	2.88

The results of the Junior survey indicate that there is room for improving student satisfaction in a majority of the outcomes. Improvement in these outcomes is expected as the student takes more of the upper division courses. The assessment of Senior and Exit Surveys should indicate the improvement in the performance of the students. The results of the Junior Survey are shared with the faculty and the measures to improve the performance have been discussed on a regular basis since 2000.

Senior Survey: The senior survey of graduating class was administered in Spring 2006 in ME 166, the Energy Systems Design course. A summary is given in Table 6.

Table 6 - Senior survey (5=Very important/satisfied → 1=Not important/very dissatisfied)

Program Outcome	How important to BSME degree	How satisfied with education at CSUF
a. Apply math concepts to engineering problems	4.15	3.75
b. Apply science to engineering problems	4.26	3.50
c. Apply analytical skills to engineering problems	4.45	3.55
d. Conduct experiments; analyze and present results	4.25	4.11
e. Apply knowledge to design component/system	4.42	3.79
f. Work on multi-discip. projects; leadership skills	4.30	4.26
g. Understand ethical & profess. responsibility	3.65	3.37
h. Make effective oral presentations	3.70	3.55
i. Present tech info effectively in document/report	4.11	3.90
j. Communicate with others in team effectively	4.35	3.79
k. Incorporate economics, safety & environment	3.90	3.11
l. Conduct indep. research required for problem	3.85	3.45
m. Participate in tech. and professional societies	3.65	3.00
n. Know need for life-long learning	3.61	3.33
o. Understand global issues related to engineering	3.44	3.22

Table 7 shows how satisfied each group is with the education that they received from CSUF, as applied to each outcome.

Table 7 - Junior and Senior Survey Comparisons (5=Satisfied 1 → 1=Very dissatisfied)

Program Outcomes	How satisfied with education at CSUF (Junior)	How satisfied with education at CSUF (Senior)
d. Conduct experiments; analyze and present results	3.62	4.11
e. Apply knowledge to design component/system	3.31	3.79
f. Work on multi-discip. projects; on leadership skills	3.24	4.26
h. Make effective oral presentation	3.12	3.55
i. Present technical info effectively in document/report	3.37	3.90
j. Communicate with others effectively in a team/group	3.50	3.79
k. Incorporate economics, safety and environmental	2.94	3.11
o. Gain an understanding of global issues in engr.	2.88	3.22

The primary inference that may be drawn from the comparison of Junior and Senior surveys is that students are learning (improving) in all expected program outcomes. These trends indicate that there is a progressive development in the preparation of our students to become successful engineers. This also indicates the ME program of study is successful in its mission.

Senior Exit Interview: The exit interview was a meeting of the department faculty with the graduating seniors where comments on their education experience at the University were solicited were solicited from the students. A summary of comments is presented in Table 8.

Table 8 - Summary of exit interview of graduating Seniors

Topic	Response
a. Curriculum	Basic courses not perfect but give enough understanding to succeed in real world; need more fundamentals
b. Instruction received	Some professors are great; need better access to laboratories; best courses are in fluids and thermo; lacking in machine design
c. Lab/Project experience	Project and labs provided real-world experience; equipment must be updated; having three projects in one semester is a serious problem
d. Availability of courses	Occasional time conflicts a problem; need to teach engineering project management; need intro to PLCs; need engine design in course
e. Accessibility of faculty	Most members of the faculty are available beyond regular office hours for consulting
f. Participation in professional activities	Most students are members of ASME and/or SAE; high success rate among those who took FE/EIT exam
g. Overall experience	Well-prepared for interview; feel like could step into a job and do it; working as part of a team on a project is great experience
h. Plans after graduation	Obtain employment in industry; some considering graduate studies

Comments by the graduating students are important to faculty and provide valuable input on how well the program outcomes are attained. They also pointed out some shortcoming in the program that will be addressed. These inputs have been a factor in the changes made in the ME program of study.

Course Surveys: Course outcome surveys have been administered to all ME courses since Fall 2000 semester. These surveys were instituted in order to have the faculty define which outcomes a course should satisfy and obtain feedback from the students on how well they feel

that these outcomes have been achieved. The results of the course outcomes survey are summarized in Table 9. This table was obtained by a survey of the faculty, who were asked to list what outcomes were desired and whether each was Very Strong (VS) or Strong (S). The same survey was given to the students, who were asked to use a 5 (Strong) to 1 (Weak) rating. Table 9 shows a summary of students' assessment of achieved outcomes *by course*, as compared to outcomes desired by the faculty. Most of the student results are for period dating back to the last ABET visit. The surveys show how well the outcomes are achieved and the trends in cases where the achievement by the students is below ME faculty expectations.

The results of the survey show that ME students feel that all of the educational outcomes are achieved. The weakest outcomes were **m, n** and **o,** awareness of need for participation in professional societies for professional growth, in understanding need for life-long learning, and in understanding global issues related to engineering. With the introduction of the courses ME 135 and ME 2, and with greater emphasis on outcomes, the results should improve in future assessments.

Some observations can be made from the learning outcomes assessment data tabulated in Table 9:

- Expected learning outcomes for some of the courses should be re-evaluated as they appear to be inconsistent with course content.
- Negative trends in some course outcomes are based on only two semesters of data; these will be followed closely in the future.
- Students' assessments in most courses were consistent with desired outcomes with ratings of S (Strong) or V (Very Strong). Some courses have faculty expectations of V (Very Strong) but received primarily S (Strong) ratings by the students. This is not a negative result since the ratings are highly subjective and are strongly dependent on the individual ME faculty members and their teaching styles.

Table B.3.9 Student assessment summary by course

Course	Outcomes	Comments	Trend
ME 1: Intro. To Mechanical Engr.	e, f, g, j, m, n	Student assessment consistent with faculty for all outcomes	Stable
ME 26: Engineering graphics	b, e, g, n	Student assessment below expectation for outcomes b, g, n	Stable: b, e, n Positive: g
ME 31: Engineering Materials	a, b, c	Student assessment below expectation for outcomes a, b, c	Positive
ME 32: Engineering Materials Lab	b, d, f, i, j, l	Student assessment consistent with faculty for all outcomes	Stable
ME 95/191T: Product Develop.	b, e, f, i, j, k, l	Student assessment consistent with faculty for all outcomes	Not enough data
ME 112: Dynamics	a, b, c, e, i, l	Student assessment below expectation for outcomes e, i, l	Stable: a, b, c, i Positive: l
ME 115: Instr. and Meas. Lab	a, b, c, d, e, l	Student assessment below expectation for outcome a	Stable: a, b, c, e, l Positive: d
ME 116: Fluid Mechanics	a, b, c, e	Student assessment consistent with faculty for all outcomes	Stable
ME 118: Fluid Mechanics Lab	b, c, d, f, i, j	Student assessment consistent with faculty for all outcomes	Stable
ME 125/191T: Engr. Stat. and Exp.	a, d	Student assessment consistent with faculty for all outcomes	Not enough data
ME 134: Dyn. in Machine Design	a, b, c, d, e, m	Student assessment below expectation for outcomes a, b, d, m	Negative: a, b, d, m Stable c, e
ME 135/191T: Product Design	a, b, c, e, f, g, i, j, k, o	Student assessment consistent with faculty for all outcomes	Not enough data
ME 136: Thermodynamics	a, b, c	Student assessment consistent with faculty for all outcomes	Stable
ME 137: Turbomachinery	a, b, c, e, l, m, n	Student assessment below expectation for outcomes l, m, n	Not enough data
ME 140: Advanced Engr. Analysis	a, c	Student assessment consistent with faculty for all outcomes	Stable
ME 142: Mechanical Vibrations	a, b, c, e	Student assessment below expectation for outcomes b, c, e	Stable: a, Negative: b, c, e
ME 144: Adv. Mech. of Materials	a, b, c, e	Student assessment consistent with faculty for all outcomes	Stable
ME 145: Heat and Mass Transfer	a, b, c, e, f	Student assessment consistent with faculty for all outcomes	Stable
ME 146: Air Conditioning	a, b, c, e, k, l, m, n, o	Student assessment below expectation for outcomes k, l, m, n, o	Not enough data
ME 154: Design of Mach. Element	a, b, c, e, f, h, i, j, l, n	Student assessment below expectation for outcomes f, h, i, j, l, n	Stable: a, b, c, e, f, n Positive: h, i, j, l
ME 155: Elements Systems Design	c, e, f, h, i, j, k, l	Student assessment consistent with faculty for all outcomes	Not enough data
ME 156: Advanced Thermo-Fluids	a, b, c, e	Student assessment consistent with faculty for all outcomes	Stable
ME 159: Mechanical Engr. Lab	a, b, c, d, f, i, j	Student assessment consistent with faculty for all outcomes	Not enough data
ME 162: Computer-Aided Design	c, e	Student assessment consistent with faculty for all outcomes	Not enough data
ME 164: Machine Design	a, b, c, d, e, f, g, h, i, j, l	Student assessment below expectation for outcomes a, b, c, d, g, h	Stable: a, b, c, d, e, f, j Positive: g, i, l
ME 166: Energy Systems Design	a, b, c, e, f, h, i, j, k	Student assessment consistent with faculty for all outcomes	Stable

Co-op Survey: A formal co-op/internship program was initiated beginning in Spring 2000. Currently, there are 16 students from the College of Engineering are participating at eight companies. There are eight mechanical engineering majors in the program. As the program matures, it is the intent of the College to provide this opportunity to as many students as possible. Eleven students completed an appraisal of their experience after completing an internship with a company. The general response was that the students found the internship to be a very valuable experience. Results of the co-op survey are shown in Table 10.

Table 10 -Co-op survey; VIP Program performance appraisal (4=Excellent→ 1= Poor)

Program Attributes	Rating
Your academic preparation	3.0
Your preparation for work environment	3.3
Executive Director's involvement with your internship	3.5
VIP program support of internship and company	3.3
University/College support of internship and/or VIP program	2.7
VIP program communications (verbal, written)	3.5
VIP program cooperation (attitude, willingness)	3.4
VIP program organization and structure	3.1
Mentor involvement with your internship	3.7
Would you recommend VIP program to other students	Yes (all)
Company internship assignments	3.0
Company work environment	3.7
Your attitude about working for the *Company*	3.1
Would you recommend this *Company* to another VIP student	Yes (all)

Student/Faculty Forum: The student/faculty forum is a semi-annual event in the ME Department that gives the students and faculty an opportunity to discuss education issues and suggest improvements. The forum is chaired by the student ASME president. A summary of the results of the Spring 2006 forum is presented in Table11.

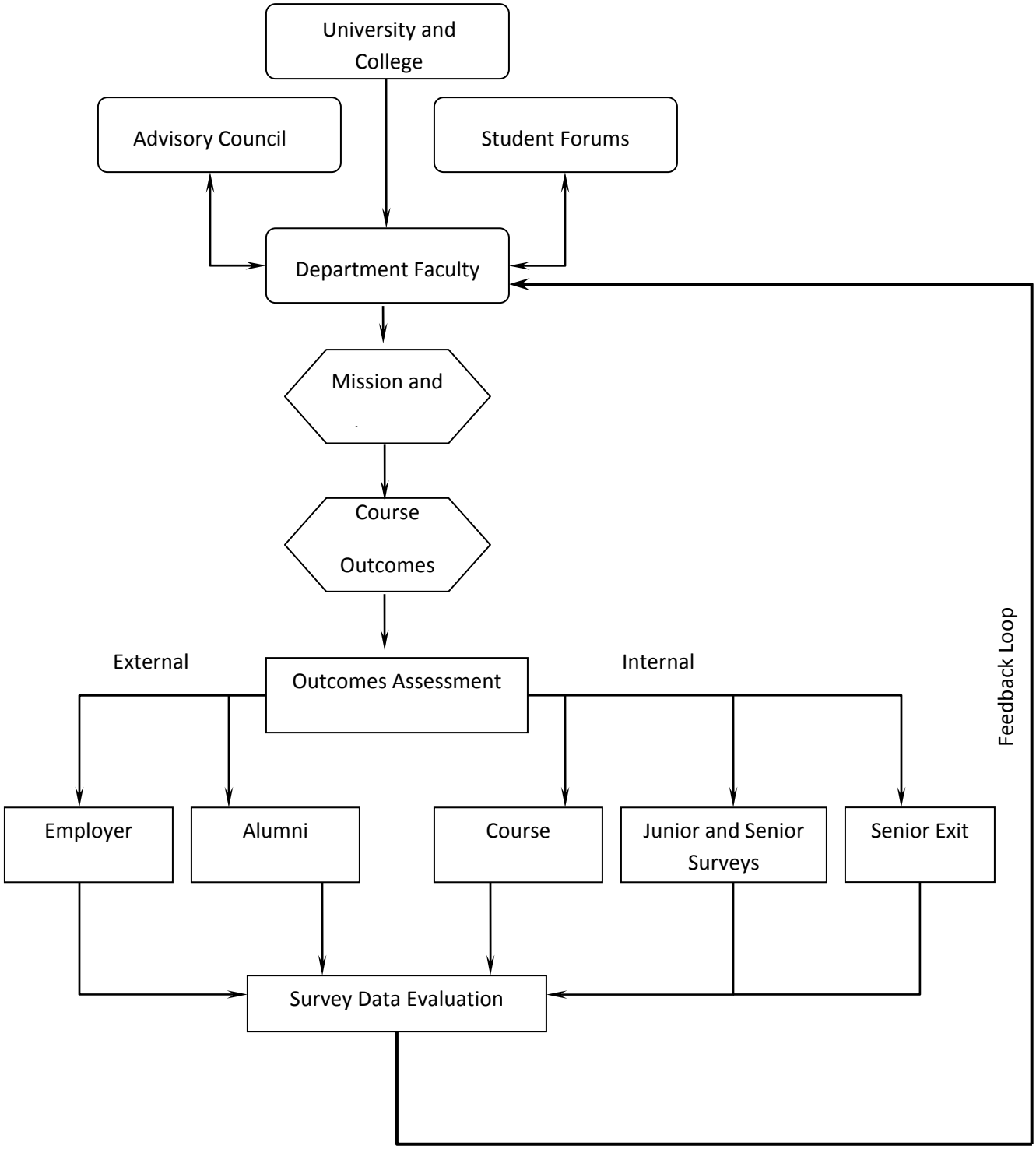
Table 11 - Results of student-faculty forum

Issue	Student Input/Resolution
Loss of IE courses	A package of ME courses, totaling 8 units and satisfying ABET recommendations, was created to replace the IE courses, total of 8 units, that were no longer offered
GE courses	GE courses are a university requirement and cannot be avoided; excess and/or irrelevant GE courses; GE courses taught at high school level
Course conflicts	Department chairs and administrative assistants are working to minimize conflicts; students must adhere to plan of study to avoid conflicts
Invest time in writing course	Course in *Engineering and Entrepreneurship* converted to a writing course
Retention	Tutoring available from many departments; PATHWAYS tutorial program established
Credit for student projects	Make HPV a 1-unit course to get greater participation
Machining skills	More experience with machining and welding needed
ASME study room	Need more space and more comfortable accommodations; department to look into finding more space
Recruitment	Student participation in events such as Engineer-at-the-Mall is important; ME brochure prepared
Scholarships	Many scholarships available to ME students go unclaimed; students must check with department office to see what is available
Machine shop	Need CNC mills; students need more access to machine shops
Advising	Mandatory advising is good idea to keep students on the right track

Process to Ensure Achievement of Objectives

The foregoing described the objectives and how they are achieved through required courses in the ME curriculum. The process is summarized in this section. To ensure that the objectives of the program are achieved through the courses offered in the program**,** the Department of Mechanical Engineering in conjunction with the University and College mission prepared its own mission statement based on the input from its constituencies. Next, program objectives that would fulfill the mission statement were developed by the department faculty. The mission statement and program objectives were presented at the Department Advisory Council meetings and at student forums, held annually. The final version of the mission statement and program objectives, accepted by the faculty, became an official document that was published. The department then prepared a set of outcomes (**a** through **o**) that must be achieved by the courses in the curriculum, each course covering specific outcomes. For each course, the outcomes were identified in the course outline distributed to the students. Survey instruments were constructed for assessment and serve two purposes: 1) to verify that the courses in the curriculum are providing the necessary knowledge base to meet the program objectives and mission (internal surveys), and 2) to verify that the knowledge provided to our graduates is appropriate to the changing needs of industry based on input from alumni and the employers hiring our graduates (external surveys). Internal surveys are given semi-annually and/or annually; the external surveys are given every 3 to 6 years. Addressing the changing needs of the mechanical engineering profession and making the necessary changes to our curriculum in a timely manner creates a continuous process of improvement of the program. The next step in the process is the evaluation of program outcome surveys. The survey results are tallied and compared with the norms established by the department faculty. The discrepancies are discussed and changes are made to comply with program objectives and program outcomes. In addition to the changes based on the surveys, the University and/or College may impose mandatory restrictions, such as a reduction in units required for graduation. Any changes that affect the ME program are discussed at the Advisory Council meetings and Student Forums. Thus a feedback loop, that provides a corrective mechanism to the changing needs of the program, is established. This feedback process is illustrated in Figure 1.

Figure 1 - Program improvement and assessment process



Timeline for Implementation of Assessment Activities

The process of assessment begins almost immediately after the receipt of the ABET Engineering Accreditation Commission final report and the recommendations. The last ABET visit was in October 2006. Preliminary evaluations and recommendations were received shortly thereafter. The Department assessment activities are based on preparation for the next ABET visit in 2012, a six-year cycle. Thus the timeline is a six year period and the assessment activities are on the following timeline.

Year		**Assessment Activities**
2006-07	-	Course surveys, Junior & Senior surveys, Senior exit interviews
2007-08	-	" " " & " " " " "
2008-09	-	All of the above plus Employer & Alumni surveys
2009-10	-	Course surveys, Junior & Senior surveys, Senior exit interviews
2010-11	-	" " " & " " " " "
2011-12	-	All of the above plus Employer & Alumni surveys
Fall 2012	-	ABET visit

Assessment activities include analysis and evaluation of all surveys and interviews as they are completed. The results are evaluated by the faculty and, when relevant, presented to the Advisory Council. A comprehensive evaluation is done and a self-study is prepared for the subsequent ABET visit, which in this case will be during Fall 2012.