Southern Utah University
Department of Integrated Engineering and Technology
Academic Outcomes Assessment Plan
2005-2006

Expanded Statement of Institutional Purpose:

Technology Mission statement:

The Applied Technology Department supports the mission of the university by providing a high quality undergraduate education to students with in-depth skill development in the program discipline areas of criminal justice, construction technology/construction management, electronics engineering technology, CAD/CAM engineering technology, CAD/GIS engineering technology, automotive technology, CNC machining, and cabinetmaking and millwork, through professional, credentialed faculty using state of the art facilities and equipment. In addition, this department offers Technology Education teacher certification with a secondary endorsement. Furthermore, we aim to provide meaningful service to industry, government, and all communities served by the university.

Goal Statements:

I. The Applied Technology Department at SUU will prepare students with the technical knowledge and

Program Intended Educational Outcomes:

Technology:

I. Students will demonstrate their knowledge and mastery of their degree program (i.e., electronic technology, cabinetmaking and millwork, etc.)

II. Business/industry representatives will have an opportunity to provide curricular input.

III. Students will be satisfied with learning opportunities afforded to them by the Applied Technology department.

IV. Students will be prepared for post-graduation plans in their respective fields.

V. Students will find employment in their field and/or continue their educational pursuits.

Integrated Engineering:

The standards and competencies that the student will have met and achieved at the time of graduation are expressed in terms of the characteristics of the program's graduates, which are the educational outcomes required for

Means of Program Assessment and Criteria for Success:

Technology:

I. 95% of Applied Technology majors will pass their Applied Technology courses with a minimum grade of "C-" (a minimum grade of "C" is required in Technology Education courses), as evaluated by assessment measures within each course. Applied Technology courses will contain activities that will enable students to demonstrate a reasonable level of proficiency in their learned skills.

II. Each Applied Technology program area will form an advisory committee that will meet bi-annually to review curriculum and provide guidance and direction for the program. (The Utah State Technology Education Planning Council will serve as the Technology Education program "industry advisory committee".)

III. (A) 80% of graduating students will agree with the statement, "The quality, availability, and diversity of course offerings, and lab experiences in my degree program were appropriate."
OR

Summary of Data Collected:

Use of Results:

Expanded Statement of Institutional Purpose: (cont.)

skills necessary to succeed in their respective disciplines.

II. The Applied Technology Department will provide service to related industries/ organizations at the local, regional, state, and national levels, and work in close cooperation with industry to train students to meet employers' needs as well as provide training for their employees.
III. The curriculum in the Applied Technology department will consist of a blending of classroom courses in theory, methodologies and histories of the program disciplines as well as lab/field experiences incorporating hands-on application of these principles.
IV. The intent of the Applied Technology faculty and curriculum is to produce well-rounded graduates who are conversant with the content in their program discipline and who can proficiently apply that content in the employment and/or continuing education endeavors.
V. The Applied Technology department will achieve a high level (80%) of placement in employment and/or continuing education.

Program Intended Educational Outcomes: (cont.)

accreditation by the Accreditation Board for Engineering and Technology (ABET). Each graduate will have:
A. an ability to apply knowledge of mathematics, science, and engineering;
B. an ability to design a system, component, or process to meet desired needs;
C. an ability to function on multidisciplinary teams;
D. an ability to identify, formulate, and solve engineering problems;
E. an understanding of professional and ethical responsibility;
F. an ability to communicate effectively;
G. the broad education necessary to understand the impact of engineering solutions in a global and societal context;
H. a recognition of the need for, and an ability to engage in life-long learning
I. a knowledge of contemporary issues;
J. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Means of Program Assessment and Criteria for Success: (Cont.)

80% of Applied Technology majors enrolled in TECH 3000 will agree with the statement, "The quality, availability, and diversity of course offerings, and lab experiences in my degree program are appropriate."
OR
80% of Automotive majors enrolled in AUTO 1510 or AUTO 2560 will agree with the statement, "The quality, availability, and diversity of course offerings, and lab experiences in my degree program are appropriate."

(B) 80% of graduating students will give a rating of "Above Average" or "Excellent" to an overall rating of their degree program.
OR
80% of Applied Technology majors enrolled in TECH 3000 will give a rating of "Above Average" or "Excellent" to an overall rating of their degree program.
OR
80% of Automotive majors enrolled in AUTO 1510 or AUTO 2560 will give a rating of "Above Average" or "Excellent" to an overall rating of their degree program.

IV. 80% of graduating students will agree with the statement, "I feel that my program has prepared me well for my future

Summary of Data Collected: (cont.)

Use of Results: (cont.)

Expanded Statement of Institutional Purpose: (cont.)

Integrated Engineering Mission Statement:

The mission of the Integrated Engineering program is to support and realize with excellence the overall mission and vision of the University and to provide a broadly based, cross disciplinary engineering education founded upon a design-oriented curriculum with integrates several disciplines into a whole, enabling graduates to undertake the wide variety of design and manufacturing challenges that modern industry faces.

Objectives:
The objectives for the Integrated Engineering program are:

A. a solid understanding of the fundamentals of mathematics, physical science, and engineering science, which re-occur in diverse technical applications and form the foundation for work in all fields of engineering;
B. the ability to practice engineering design and analysis and to integrate several engineering concepts into a system or process;
C. the ability to pursue professional careers in multidisciplinary fields by

Program Intended Educational Outcomes: (cont.)

Means of Program Assessment and Criteria for Success: (Cont.)

employment or educational plans."

V. 80% of graduates will accept employment within their field of study and/or be accepted for continuing education programs within one year following graduation.

Integrated Engineering:

The Integrated Engineering program has recently been reviewed by a team from ABET. The visit was positive and the team made a few recommendations. These include reconsideration of course pre-requisites, re-designing the curriculum to ensure that the courses support the design projects, and developing assessment tools for the Program Educational Objectives.
As stated in the program self-study, the Program Educational Objectives and the Program Outcomes and their achievements will be assessed using the following tools:

- Course Survey: every offering of the course;
- Course Assessment: performed by the faculty every offering of the course;
- Review of Design Projects: performed by the instructor and other faculty and

Summary of Data Collected: (cont.)

Use of Results: (cont.)

Expanded Statement of Institutional Purpose: (cont.)

the development of effective teaming abilities and communication skills;
D. the ability to pursue advanced studies and/or assume leadership roles along diverse career paths;
E. a strong appreciation for and commitment to ethical responsibilities, professionalism, lifelong learning, and a concern for society and the environment.

Special Note: The objectives, educational outcomes, and assessment criteria for the Integrated Engineering Program are stated in a format consistent with ABET's guidelines for accreditation.

Program Intended Educational Outcomes: (cont.)

Means of Program Assessment and Criteria for Success: (Cont.)

representatives from the industry every offering of the course;
- Student Exit Survey: conducted at graduation;
- Fundamentals of Engineering (FE) exam: results will be reviewed at the end of the academic year;
- Alumni Survey: conducted every two years;
- Employers Survey: conducted every two years.

A two-loop process (discussed in detail in the program self-study) will be used to assess the Program Educational Objectives and the Program Outcomes. Assessment of the Program Outcomes will be performed on a two-year cycle, whereas the assessment of the Program Educational Objectives will be performed on a four-year cycle, benefiting from two full iterations on the Program Outcomes. The Assessment is greatly facilitated by various mappings that have been developed as part of the preparation of the program for accreditation. These mappings are discussed in great detail in the program self-study.

Summary of Data Collected: (cont.)

Use of Results: (cont.)