DIVISION OF ENGINEERING & PHYSICS
Integrated Engineering Program

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

Expanded Statement of Institutional Purpose

Mission Statement:

The mission of the Integrated Engineering program is to support the overall mission of the University, provide a design-oriented, cross-disciplinary engineering education founded upon sound engineering fundamentals, principles, and ethics, prepare graduates for professional careers in industry, consulting, and governmental agencies, where cross-disciplinary professional service is commonly required, and serve as an engineering resource for the region.

Objectives:

The objectives for the Integrated Engineering program are:

A. To provide students with a sound foundation in mathematics and engineering suitable for a career in a multidisciplinary environment;
B. To provide students with education and problem-solving skills in engineering;
C. To prepare students for professional careers in interdisciplinary fields by development of teaming abilities and communication skills;
D. To provide opportunities for the development and cultivation of lifelong learning skills, professionalism, ethics and the nourishment of creative talents.

Program Intended Educational Outcomes:

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 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:

Student learning as it relates to the educational outcomes will be assessed using both formative and summative measures. Formative assessment measures include exams, quizzes, homework assignment, individual and team laboratory and project reports, and oral presentation. Summative assessment measures include capstone design projects, Fundamentals of Engineering (FE) exam, acceptance in graduate programs, focus groups, exit interviews, alumni and employers surveys.

- Students will achieve a grade of C or better in their major and a passing grade in general education.
- FE exam success rate for the Integrated Engineering program graduates will be at or above the average for the state of Utah.
- Students wishing to pursue graduate studies in a specialized discipline will be able to do so, after completing deficiency course(s) in the discipline.
- Students will graduate and leave the program with a portfolio of design projects they can show employers.