Computing Disciplines

**Computer Engineering** is concerned with the hardware design and construction of computers and computer-based systems. It involves the design of digital hardware systems including communications systems, computers, and devices that contain computers. Computer Engineering program usually resides in the Department of Electrical Engineering. Its curriculum focuses on the theories, principles, and practices of traditional electrical engineering and mathematics and applies them to the problems of designing computers and computer-based devices.

**Computing Information Systems** involves computing in an organizational context, typically in businesses. This discipline views technology as an instrument for generating, processing, and distributing information. Computer Information Systems program is usually located in College of Business. Its curriculum focuses on combining business and computing coursework.

**Computer science** develops effective ways to solve computing problems. It primarily focus is on large-scale software systems; Computer science has strong connections to other disciplines. Computer Science programs either resides in an Engineering College or a Science College. Many problems in science, engineering, technology, health care, business, and other areas can be solved effectively with computers and finding a solution requires computer science expertise.
Computing Disciplines (Venn diagram)
IEEE, ACM, ABET

IEEE, pronounced "Eye-triple-E", stands for the Institute of Electrical and Electronics Engineers and ACM stands for Association for Computing Machinery.

Both IEEE and ACM are professional societies or umbrella organizations and are designed to serve professionals and academicians to define, enhance and advance relevant disciplines.

IEEE is involved in all aspects of the electrical, electronic and computing engineering fields and related areas of science and technology. ACM is solely dedicated to computing such as computer science, computer engineering and computer information science.

Both IEEE and ACM provide the following:
- Membership services
- Conferences and workshops
- Journal publications and magazines
- Student competitions
- Student chapters and outreach programs
- Curricular guidelines

ABET (Accreditation Board for Engineering and Technology) is a nonprofit, non-governmental organization that accredits college and university programs in the disciplines of applied science, computing, engineering, and engineering technology.

ABET provides specialized, programmatic accreditation that evaluates an individual program of study.

ABET accreditation, which is voluntary and achieved through a peer review process, provides assurance that a college or university program meets the quality standards established by the profession for which the program prepares its students.

Educational Objectives are broad statements that will describe what graduates are expected to attain within a few years of graduation.

Student Learning Outcomes are specific skills that the students will possess at the end of the degree program.