Programs and Objectives

Computer Engineering is concerned with Computer Systems design and information processing. It is a rapidly changing discipline encompassing computational systems and massive communications networks, such as those used in the information superhighway.

Graduates in this field can enter high technology workforce, and make significant

Contributions to computer engineering through the research, design and development of a wide range of embedded systems and system-on-chip applications. They can further the country's economic growth by developing innovative ideas, and translating them into products that benefit society. They can also function as team members and leaders in multidisciplinary environments.

Computer Engineering department encourages students with solid preparation in mathematics and the sciences. To prepare its graduates to compete in a fast-changing technological environment, the department has prepared a curriculum with a strong core of required courses in mathematics physical sciences, and engineering science. In addition, students have considerable freedom to choose electives in these and other areas of study.

The school has well equipped laboratory where students reinforce what is learned in the lecture halls with hands-on practical training. Hence, our graduates are industry ready and are prepared to face the challenges in industry.

Four – Year Engineering Curricula

First – Year Program

Pre-Engineering Courses

Biology 90 Introduction to Biology (0 cr.)

The strategy of life: The basic properties of living Systems with emphasis on human beings as functioning Biological entities. Prereq. Math 80

English University Skills 1 (0 cr.)

This course is designed to prepare the students for successful performance in university courses. Assignment to this course is based on the level of competence indicated by the student's high school English record.

English University Skills 2 (0 cr.)

Evaluation of individual reading and study skills in English. Instruction and practice is based on individual basic reading Comprehension, vocabulary, and study skills to university Content areas.

Chemistry 90 Introduction to Chemistry (0 cr.)

The fundamental principles of chemistry and their applications to social issues. Problem solving in chemistry. Prereq. Math 80, Coreq. Math 90

Math 70 Elementary Algebra (0 cr)

Review of arithmetic, algebraic expressions, Linear equations, monomial fractions, graphing lines, polynomials, verbal problems.

Math 80 Fundamentals of Algebra and Geometry (0 cr.)

Linear equations and graphs, functions, the point-slope equation, linear in qualities, polynomial functions, rational expressions, radicals, quadratic equations, sequences, series, and the binomial theorem. Prereq. Math70

Math 90 Intermediate Algebra and Trigonometry (0 cr.)

Rational expressions, rational exponents and radicals, conic sections and systems of equations, binomial

Math 100 Pre-calculus (3 cr.)

Intervals, inequalities, introduction to functions, polynomial and rational functions, exponential and logarithmic functions, trigonometric functions and formulas Prereq. Math 90

Physics 100 Introductory Physics (0 cr.)

This course is with two themes:

1. How nature works the interplay of space, time, matter, and energy;

2. Structures are born, live out their life cycles, and die. These include us, the stars, and perhaps the universe. This theme may be called scientific story of genesis. Prereq. Math 80, Coreq. Math 90

Computer Engineering concentrations has two tracks as shown below:

Track 1 (Networks)	**Credits**
EE212: Circuits and systems Analysis	(4 cr.)

EE312 :Communications engineering	(3 cr.)
EE 421 : Local Area network Lab	(1 cr.)
EE 425: Computer Engineering Lab.	(1 cr.)
EE 460: Computer Communications Sys.	(3 cr.)
EE 525: Data Network Design	(3 cr.)
Track 2 (Circuits /Electronics)	
EE212 : Circuits and Systems Analysis	(4 cr.)
EE221: Engineering Lab 1	(1 cr.)
EE241: electronics 1	(3 cr.)
EE323: Engineering Lab III	(1 cr.)
EE457: Digital Integrated Circuits	(3 cr.)
EE464: VLSI Design	(3 cr.)
First- Year (Freshman year)	
First-Term	
Csc 100 Introduction to Programming and Computer Science	(3 cr.)
Math 101 Analytic Geometry and Calculus I	(3 cr.)
Chem 103 General Chemistry for Engineers	(3 cr.)
Engl 101 Freshman Composition	(3 cr.)
Phys 107 General Physics 1	(4 cr.)
Engr 101 Engineering Graphics (Design)	(1 cr.)
Total	**(17 cr.)**
Second –Term	
Math 102 Analytic Geometry and Calculus II	(3 cr.)
Chem 104 General chemistry for Engineers II	(3 cr.)
Phys 108 General Physics II	(3 cr.)
CSc 102 Introduction to Computing	(3 cr.)
Econ 101 Engineering Economics	(3 cr.)
Engl 102 Freshman Composition II	(3 cr.)
Total	**(18 cr.)**
Second-Year Program (Sophomore Year)	
First Semester	
Math 203 Analytic Geometry and Calculus III	(4 cr.)
CSc 210 Computers and Assembly Language Programming	(3 cr.)
CSc 212 Data Structures	(3 cr.)
CSc 217 Stochastic Models for Computers Science	(3 cr.)

Elective: African History	(3 cr.)
Total	**(16 cr.)**
Second Semester	
Math 346 Elements of Linear Algebra	(3 cr.)
CSc 204 Discrete Mathematical Structures	(3 cr.)
CSc 221 Algorithms	(3 cr.)
CSc 221 Software Design Laboratory	(3 cr.)
Engl 210.7 Technical Communication	(3 cr.)
Total	**(15 cr.)**
Junior Year	
First Semester	
Phys 207 General Physics I	(4 cr.)
CSc 301 Numerical Methods in Scientific Programming	(3 cr.)
CSc 304 Introduction to Theoretical Computer Science	(3 cr.)
CSc 322 Software Engineering	(3 cr.)
Liberal Arts Course	(3 cr.)
Total	**(16 cr.)**
Second Semester	
Phys 208 General Physics II	(4 cr.)
CSc 332 Software engineering	(3 cr.)
CSc 335 Programming Language Paradigms	(3 cr.)
CSc 340 Logic Design and Switching Theory	(3 cr.)
Liberal Arts Course	(4 cr.)
Total	**(17 cr.)**
Senior Year	
First Semester	
Eco 104 Introduction to Quantitative Economics	(3 cr.)
CSc Theory Elective	(3 cr.)
CSc Algorithms Elective	(3 cr.)
Technical Elective	(3 cr.)
Liberal Arts Course	(3 cr.)
Total	**(15 cr.)**
Second Semester	
CSc Computer Engineering Elective	(3 cr.)

Technical Elective	(3 cr.)
CSc Computation Elective	(3 cr.)
Free Elective	(3 cr.)
Liberal Arts Course	(3 cr.)
Total	**(15 cr.)**