2022 – 2023 Computer Engineering Course Flow Chart
Biomedical Focus Area – Model 4 Year Program

PHYS 1050
Physics 1: Mechanics (3)

MATH 1510
Applied Calculus 1 (3)

MATH 1210
Classical and Linear Algebra (3)

CHEM 1100
Introduction to University Chemistry 1 (3)

CHEM 1122
Introduction to Chemical Techniques for Engineers 1 (1.5)

COMP 1012
Computer Programming for Scientists and Engineers (3)

ENG 1440
Design in Engineering (3)

ENG 1430
Written English Course for Engineering Students (3)

PHYS 2152
Modern Physics for Engineers (3)

MATH 3120
Applied Discrete Mathematics (3)

STAT 2220
Statistics for Engineers (3)

ENG 3000
Engineering Economics (3)

ECE 4610 Biomedical Instrumentation and Signal Processing (4)

PHYS 2600
Electromagnetic Field Theory (3)

Biomedical Group A or Group B Elective Course

Biomedical Group A Elective Course

Complementary Studies Elective

Complementary Studies Elective

Written English requirement is satisfied by completing three (3) credit hours from the list of approved Written English Courses for Engineering Students listed in the Academic Calendar (see Price Faculty of Engineering, Faculty Academic Regulations).

Students must take either of:
- ENG 2030 Engineering Communication: Strategies for the Profession
- ENG 2040 Engineering Communication: Strategies, Practice, and Design

Students must take either of:
- ECE 4150 Control Systems
- ECE 4260 Communication Systems

Technical and Natural Science Electives:
- Five (5) technical electives and two (2) Natural Science electives are required to complete the program. Five (5) of those seven (7) electives form the Biomedical Focus Area, with BIOL 1410 and PHYS 2600 satisfying the Natural Science elective requirement.
- The two (2) remaining electives shall be selected from the list of technical electives in the Computer Engineering Standard Program.
- At most two (2) of these electives may be selected from the list of approved Electrical Engineering courses.
- Technical electives may be taken at anytime, subject to prerequisites.

Prerequisite Pre- / Co-requisite

Additional required elective courses which may be completed in any term.

This flow chart is intended as a guide, and only applies for the current academic year. It should not be used as a guide for subsequent years. Errata may be present in this document. Students should refer to information in the Academic Calendar.
Computer Engineering Focus Areas

Students wishing to pursue more focused studies in a Computer Engineering subject/research area have the choice of doing so through a recognized Focus Area. Courses taken towards a Focus Area take the place of some of the Technical Electives required in the Computer Engineering program.

**Biomedical Focus Area**

Requirements:
To complete the Biomedical Focus the three (3) prescribed courses must be taken. In addition, one (1) of the three Biomedical Group A Elective courses must be taken, and a further course from either the Biomedical Group A or Biomedical Group B Elective courses must be taken. To complete the program requirements, two (2) additional courses must be selected from the elective courses listed in the Computer Engineering Standard Program.

**Prescribed Biomedical Courses** (All are required)
- ECE 4610 Biomedical Instrumentation and Signal Processing
- BIOL 1410 Anatomy of the Human Body *
- PHYS 2600 Electromagnetic Field Theory *
  * These two courses satisfy the Natural Science Elective requirement.

**Biomedical Group A Elective Courses** ** (1 required)
- ECE 4860 Biomedical Optics
- PHYS 3220 Medical Physics and Physiological Measurement
- PHYS 4300 Microfluidics for Biology

**Biomedical Group B Elective Courses** **
- BIOL 1412 Physiology of the Human Body
- MBIO 1220 Essentials of Microbiology
- BIOE 3320 Engineering Properties of Biological Materials
- BIOE 4610 Design of Assistive Technology Devices

** One course must be selected from Group A, with a second course selected from either Group A or Group B.