2022 – 2023 Electrical Engineering Course Flow Chart
Engineering Physics Focus Area – Model 4 Year Program

Year 1
- Fall Term
  - ENG 1440 Introduction to Statics (3)
  - MATH 1510 Calculus 1 (3)
  - MATH 1210 Linear Algebra (3)
  - COMP 1012 Computer Programming for Scientists and Engineers (3)
- Winter Term
  - PHYS 1050 Physics 1: Mechanics (3)
  - MATH 1710 Calculus 2 (3)
  - MATH 2130 Mathematical Analysis 1 (3)
  - ENG 1450 Introduction to Electrical and Computer Engineering (3)

Year 2
- Fall Term
  - MATH 2132 Mathematical Analysis 2 (3)
  - MATH 2133 Engineering Electromagnetics (3)
  - STAT 2220 Probability and Statistics (3)
- Winter Term
  - ECE 2220 Digital Logic (4)
  - ECE 2160 Electronics (4)
  - ECE 3670 Electronics 3E (4)
  - ENG 2030 Engineering Communication: Strategies for the Profession (3)
  - ENG 2040 Engineering Communication: Strategies, Practice, and Design (3)

Year 3
- Fall Term
  - ECE 2262 Electric Circuits (4)
  - ECE 2220 Digital Logic (5)
  - ECE 3720 Micromachining Systems (4)
- Winter Term
  - ECE 3610 Microwave Systems (4)
  - ECE 3730 Principles of Embedded Systems Design (4)
  - PHYS 2380 Quantum Physics 1 (3)
  - ANTH 2430 Ecology, Technology and Society (3)

Year 4
- Fall Term
  - ECE 4250 Antennas (4)
  - ECE 4270 Signal Processing 2 (4)
  - ECE 4600 Group Design Project (8)
- Winter Term
  - ECE 4150 Control Systems (4)
  - ECE 4580 Optoelectronics (4)
  - COMP 1022 Computer Programming for Scientists and Engineers (3)

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

- ENG 2030 or ENG 2040, ECE 3580, ECE 3610, ECE 3670, ECE 3730, and ECE 3780

Prerequisite → Pre- / Co-requisite

1. The 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).

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

3. Technical Electives:
   - Seven (7) technical electives are required to complete the program. Six (6) form the Engineering Physics Focus Area. The one (1) remaining elective may be selected from either the Group A or Group B electives lists of the Electrical Engineering Standard Program.
   - Technical electives may be taken at anytime, subject to prerequisites.

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. Errors may be present in this document. Students should refer to information in the Academic Calendar.
Electrical Engineering Focus Areas

Students wishing to pursue more focused studies in an Electrical 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 or all of the Technical Electives required in the Electrical Engineering program.

ENGINEERING PHYSICS FOCUS AREA

Requirements:
In the standard Electrical Engineering program, seven (7) Technical Elective courses and one (1) Natural Sciences Elective are required. To complete the Engineering Physics focus area, students are required to take a total of seven (7) courses as indicated below, including the four (4) prescribed Engineering Physics courses. Three (3) further courses must be taken from the list of Engineering Physics Elective courses. To complete the program requirements one (1) additional course must be selected from the elective courses listed in the Electrical Engineering Standard Program.

PRESCRIBED ENGINEERING PHYSICS COURSES:
ECE 4270 Antennas
ECE 4580 Optoelectronics
PHYS 2386 Introduction to Quantum Mechanics and Special Relativity
PHYS 2650 Classical Mechanics 1

ENGINEERING PHYSICS TECHNICAL ELECTIVE COURSES: (3 required)
ECE 4860 Materials Characterization
PHYS 2260 Optics
PHYS 3220 Medical Physics and Physiological Measurement
PHYS 3386 Quantum Mechanics 2
PHYS 3430 Honours Physics Laboratory
PHYS 3570 Physics of Materials 1
PHYS 3650 Classical Mechanics 2
PHYS 3670 Classical Thermodynamics
PHYS 3680 Statistical Mechanics
PHYS 4520 Introduction to Solid State Physics
PHYS 4590 Advanced Optics
PHYS 4646 Electro- and Magnetodynamics and Special Relativity
PHYS 4680 Statistical Mechanics