2023 – 2024 Electrical Engineering Course Flow Chart
Power and Energy Systems Focus Area – Model 4 Year Program

Year 1
- Winter Term
  - PHYS 1050 Physics 1: Mechanics (3)
  - MATH 1510 Applied Calculus 1 (3)
- Fall Term
  - MATH 1210 Classical and Linear Algebra (3)
  - COMP 1012 Computer Programming for Scientists and Engineers (3)

Year 2
- Winter Term
  - ENG 1460 Introduction to Thermal Sciences (3)
  - MATH 2130 Engineering Mathematical Analysis 1 (3)
  - ECE 3580 Foundations of Electromagnetics (4)
  - ECE 3600 Physical Electronics (4)
- Fall Term
  - PHYS 2152 Modern Physics for Engineers (5)
  - STAT 2220 Statistics for Engineers (3)
  - ECE 2260 Electric Circuits (4)
  - ECE 3720 Electric Power and Machines (4)

Year 3
- Winter Term
  - ENG 1430 Design in Engineering (3)
  - MATH 2132 Engineering Mathematical Analysis 2 (3)
  - ECE 2240 Numerical Methods for EE’s (4)
  - ECE 3590 Electromagnetic Theory (4)
- Fall Term
  - ENG 2030 or ENG 2040, ECE 3580, ECE 3610, ECE 3670, ECE 3720, and ECE 3780
  - ECE 2220 Digital Logic Systems Design (4)
  - ECE 3650 Electric Machinery (4)
  - ECE 3730 Principles of Embedded Systems Design (4)

Year 4
- Winter Term
  - ENG 1450 Introduction to Electrical and Computer Engineering (3)
  - MATH 2133 Engineering Mathematical Analysis 3 (3)
  - ECE 2220 Digital Logic Systems Design (4)
  - ECE 3670 Electronics 3E (4)
- Fall Term
  - ANTH 2430 Ecology, Technology, and Society (3)
  - ECE 3650 Electric Machinery (4)
  - ECE 4260 Communications Systems (4)
  - ECE 4150 Control Systems (4)
  - ECE 4370 Power Electronics (4)
  - ECE 4300 Electrical Energy Systems 1 (4)
  - ECE 4600 Group Design Project (6)

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

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. Five (5) form the Power and Energy Focus Area. The two (2) remaining electives 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.

5 April 2023, v.1
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.

**POWER AND ENERGY SYSTEMS FOCUS AREA**

Requirements:

To complete the Power and Energy Systems Focus the four (4) prescribed courses must be taken. One (1) of the three Power and Energy Systems Technical Elective courses must also be taken. To complete the program requirements, two (2) additional courses must be selected from the elective courses listed in the Electrical Engineering Standard Program.

**PRESCRIBED POWER AND ENERGY SYSTEMS COURSES:** (All are required)

- ECE 3650 Electric Machines*
- ECE 4300 Electrical Energy Systems 1
- ECE 4370 Power Electronics

One (1) additional course from the list of *Group A Qualified Design Elective Courses* found in the Electrical Engineering Standard Program.

**POWER AND ENERGY SYSTEMS TECHNICAL ELECTIVE COURSES:** (1 required)

- ECE 4310 Electrical Energy Systems 2
- ECE 4360 High Voltage Engineering

*NOTE: ECE 3650 Electric Machines is a prerequisite for other courses in this Focus Area. It is recommended that students complete the course *prior to their final year.*