# BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

## COMBINED MAJOR - COMPUTER ENGINEERING AND COMPUTER SCIENCE

### CURRICULUM OUTLINE - CLASS OF 2021, 2022, 2023, 2024

*Sample Only – Actual Curriculum Sequence May Deviate from Sample*

| | FALL | | | SPRING | | | SUMMER 1 | | | SUMMER 2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Year 1** | MATH1341 | Calculus 1 for Engrs. | 4 | MATH1342 | Calculus 2 for Engrs. | 4 | Vacation | | | Vacation | | |
| | CHEM1151 | General Chem. for Engrs. | 4 | PHYS1151 | Physics 1 for Engrs. | 3 | | | | | | |
| | CHEM1153 | Recitation for CHEM1151 | 0 | PHYS1152 | Physics 1 Lab | 1 | | | | | | |
| | GE1000 | Intro to Eng'g | 1 | PHYS1153 | ILS for PHYS1151 | 1 | | | | | | |
| | GE1501 | Cornerstone of Engineering 1 | 4 | GE1502 | Cornerstone of Engineering 2 | 4 | | | | | | |
| | ENGW1111 | College Writing | 4 | Elective | General Elective | 4 | | | | | | |
| **Year 2 AA** | MATH2341 | Diff. Eq./Lin. Alg. | 4 | EECE2160 | Embedded Design: Enabling Robotics | 4 | Vacation | | | Co-op | | |
| | PHYS1155 | Physics 2 for Engrs. | 3 | CS2510 | Fundamentals CS 2 | 4 | | | | | | |
| | PHYS1156 | Physics 2 Lab | 1 | CS2511 | Lab for CS2510 | 1 | | | | | | |
| | PHYS1157 | ILS for PHYS1155 | 1 | CS2800 | Logic and Computation | 4 | | | | | | |
| | CS2500 | Fundamentals CS 1 | 4 | CS2801 | Lab for CS2800 | 1 | | | | | | |
| | CS2501 | Lab for CS2500 | 1 | Elective | General Elective | 4 | | | | | | |
| | CS1800 | Discrete Structures | 4 | ENCP2000 | Intro to Eng'g. Coop | 1 | | | | | | |
| | CS1802 | Recitation for CS1800 | 1 | | | | | | | | | |
| **Year 2 BB** | MATH2341 | Diff. Eq./Lin. Alg. | 4 | Co-op | | | Co-op | | | Vacation | | |
| | PHYS1155 | Physics 2 for Engrs. | 3 | | | | | | | | | |
| | PHYS1156 | Physics 2 Lab | 1 | | | | | | | | | |
| | PHYS1157 | ILS for PHYS1155 | 1 | | | | | | | | | |
| | CS2500 | Fundamentals CS 1 | 4 | | | | | | | | | |
| | CS2501 | Lab for CS 2500 | 1 | | | | | | | | | |
| | CS1800 | Discrete Structures | 4 | | | | | | | | | |
| | CS1802 | Recitation for CS1800 | 1 | | | | | | | | | |
| | ENCP2000 | Intro to Eng'g. Coop | 1 | | | | | | | | | |
| **Year 3 AA** | Co-op | | | EECE2150 | Circuits & Signals: Biomed App. | 5 | *ENGW3302 | Adv. Writing for Prof. | 4 | Co-op | | |
| | | | | CS3000 | CE Fundamentals | 4 | CS3500 | Object Oriented Des. | 4 | | | |
| | | | | EECExxxx | CE Fundamentals | 4/5 | | | | | | |
| | | | | CS3650 | Computer Systems | 4 | | | | | | |
| **Year 3 BB** | EECE2150 | Circuits & Signals: Biomed App. | 5 | Co-op | | | Co-op | | | *ENGW3302 | Adv. Writing for Prof. | 4 |
| | EECE2160 | Embedded Design: Enabling Robotics | 4 | | | | | | | MATH3081 | Probability | 4 |
| | CS2510 | Fundamentals CS 2 | 4 | | | | | | | | | |
| | CS2511 | Lab for CS2510 | 1 | | | | | | | | | |
| | CS2800 | Logic and Computation | 4 | | | | | | | | | |
| | CS2801 | Lab for CS2800 | 1 | | | | | | | | | |
| **Year 4 AA** | Co-op | | | ENCP3000 | Prof. Issues in Eng'g. | 1 | EECE4790 | Capstone Design 1 | 4 | Co-op | | |
| | | | | EECExxxx | CE Fundamentals | 4/5 | Elective | EECE Tech Elective 1 | 4 | | | |
| | | | | EECExxxx | EE Fundamentals | 4/5 | | | | | | |
| | | | | MATH3081 | Probability | 4 | | | | | | |
| | | | | Elective | CS Tech Elective 1 | 4 | | | | | | |
| **Year 4 BB** | ENCP3000 | Prof. Issues in Eng'g. | 1 | Co-op | | | Co-op | | | EECE4790 | Capstone Design 1 | 4 |
| | EECExxxx | CE Fundamentals | 4/5 | | | | | | | Elective | EECE Tech Elective 1 | 4 |
| | EECExxxx | CE Fundamentals | 4/5 | | | | | | | | | |
| | CS3500 | Object-Oriented Design | 4 | | | | | | | | | |
| | CS3000 | CE Fundamentals | 4 | | | | | | | | | |
| **Year 5 AA** | Co-op | | | EECE4792 | Capstone Design 2 | 4 | | | | | | |
| | | | | Elective | EECE Tech Elective 2 | 4 | | | | | | |
| | | | | Elective | CS Tech Elective 2 | 4 | | | | | | |
| | | | | CS4500 | Software Development | 4 | | | | | | |
| **Year 5 BB** | EECE4792 | Capstone Design 2 | 4 | Elective | General Elective | 4 | | | | | | |
| | CS3650 | Computer Systems | 4 | Elective | EECE Tech Elective 2 | 4 | | | | | | |
| | EECExxxx | EE Fundamentals | 4/5 | Elective | CS Tech Elective 2 | 4 | | | | | | |
| | Elective | CS Tech Elective 1 | 4 | CS4500 | Software Development | 4 | | | | | | |

**Revised March/2018**

**The Capstone Design Courses are taken as follows: (EECE4790 - Summer 1 and EECE4792 - Spring) OR (EECE4790 - Summer 2 and EECE4792 - Fall)**

* ENGW3315 **is an acceptable substitution for engineering majors.**

**NUpath requirements, Interpreting Culture (IC), Societies and Institutions (SI) and Differences and Diversity (DD)** are not explicitly satisfied by required engineering courses. Students are responsible for satisfying these requirements, and if these are not fulfilled in engineering courses, should use General Electives to do so. General Electives are academic, non-remedial, non-repetitive courses.

**2 Required General Electives**

**3 Required CE Fundamentals:** EECE2322/2323: Fundamentals Digital Design & Lab **AND** EECE2540 - Fundamentals Networks and * CS3000 -Algorithms Data (formerly, CS4800)

***Effective Fall 2018 CS3000 Algorithms replaces CS4800**

**1 Required EE Fundamentals:** EECE2412/2413 - Fundamentals Electronics 1 & lab **OR** EECE2520 - Fundamentals Linear Systems **OR** EECE 2530/2531 - Fundamentals Electromagnetics & lab

(EE Fundamental Courses not taken to meet the above requirements, may be taken as a technical elective.)

**Technical Elective Requirements: 2 EECE technical electives and 2 Khoury College of Computer Sciences (CS) technical electives**

**2 EECE course from the following approved list:**

(EECE2412-2530), EECE2750, EECE3154, (EECE3324-EECE3468), (EECE4512-EECE4698), (EECE4991-EECE4993), (EECE5115-EECE5698), ENGR5670, GE4608

**2 CS courses from the following approved list:**

Approved List: CY2550, CS3200, CS3540, CS3700, CY3740, CS3800, (CS4100-CS4410), (CS4520-4610), CY4740, CS4850, (IS4200-IS4700)

**Note: AP credit for MATH2280 will substitute for MATH3081 requirement.**

**Please check with your advisor when taking a general elective in overlapping disciplines:**

Find your Academic Advisor

**The registrar's website provides a listing of degree requirements and the DARS system provides a degree audit utility for students.**

**CE/CS Program Changes Effective Spring 2018**

**Prior to Spring 2018:** Students who have completed both EECE2560 and CS4800 will count EECE2560 as one of their EECE technical electives.
Students who have completed CS3700 can count this as an CS Technical elective. CS3700 will remain on the approved CS technical elective list.