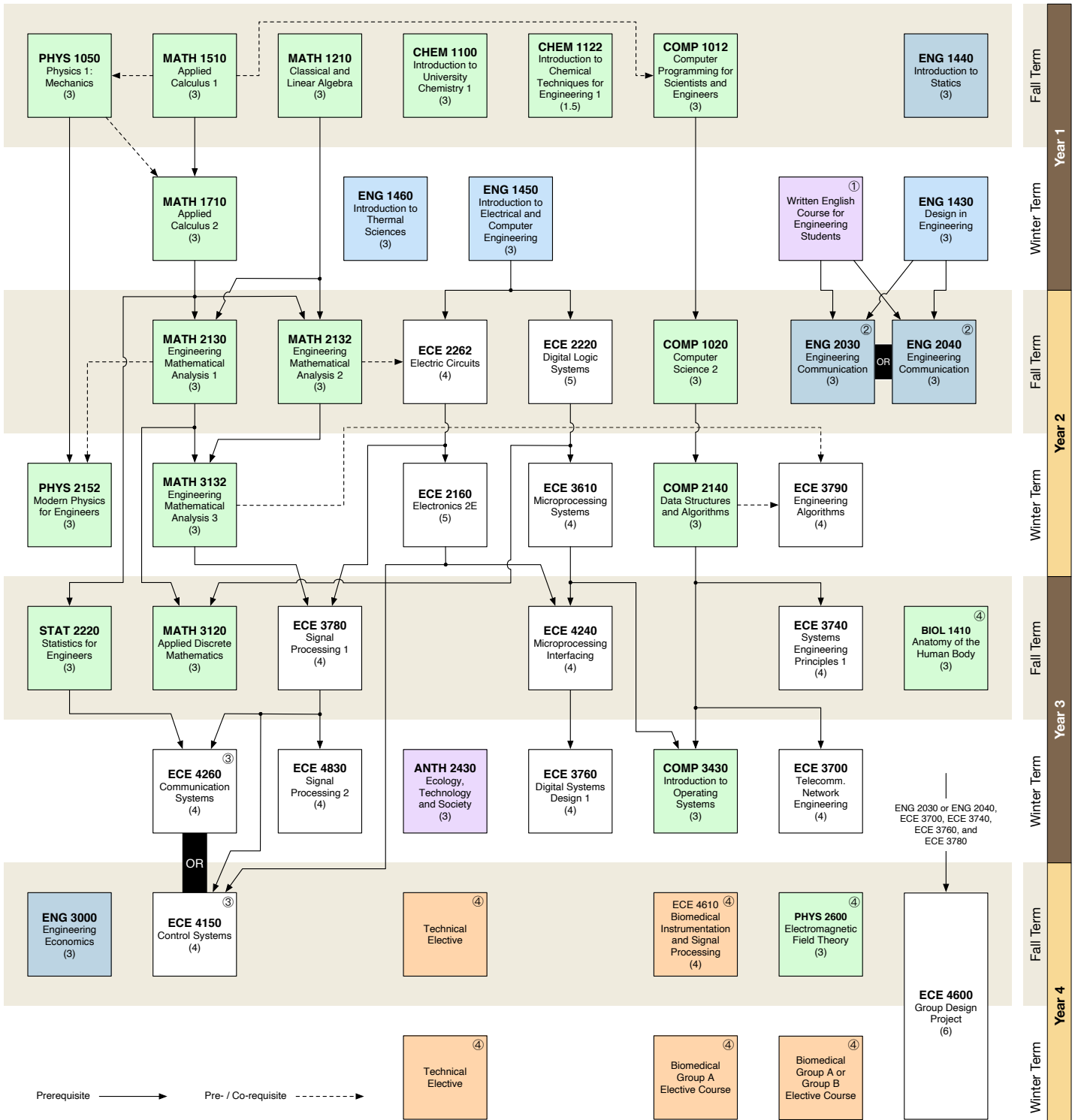


## 2021 – 2022 Computer Engineering Course Flow Chart Biomedical Focus Area – Model 4 Year Program



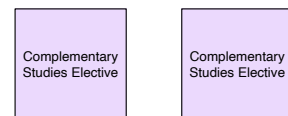
① The written English requirement is satisfied by completing three (3) credit hours from the list of approved *Written English Courses for Engineers* listed in the *University Calendar* (see Faculty of Engineering, Section 4.2).

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

③ Students must take either of:  
 – ECE 4150 *Control Systems*  
 – ECE 4260 *Communication Systems*

④ 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.

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



## 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*.