Approved Course Substitutions for ENGR 102a,b

Students who, prior to entering the College of Engineering, have advanced past the introductory stage of an engineering curriculum, should NOT enroll in the introductory engineering courses ENGR 102a *Introduction to Engineering Lecture Series* (1 unit) and ENGR 102b *Introduction to Engineering Design* (2 units). To satisfy the ENGR 102a + ENGR 102b requirement, such students should instead choose from one of the options listed below. Students should consult with their academic advisor BEFORE deciding on an option. General Education credits (Tier I/Tier II) may NOT be used to satisfy any part of the ENGR 102a + ENGR 102b requirement.

Option 1. An **engineering** elective that is appropriate for the student's engineering major.

Option 2. A course or courses from TABLE O2 on the following page; a student may NOT choose a course that duplicates subject matter covered in the student's required or elective course work. For example, an ECE major may not take ECE 207 to satisfy the ENGR 102a + ENGR 102b requirement. Neither can a student take a **second** graphics/CAD course—such as AME 211, BE 220, BE 221, CE 210—and use that course work to satisfy any part of the ENGR 102a + ENGR 102b requirement. Please note a total of three units is required to satisfy the ENGR 102a + ENGR 102b requirement.

Option 3. In the case where a student can identify no satisfactory substitute under Option 1 or Option2, a student may propose an alternative substitution for the ENGR 102a + ENGR 102b requirement. A student proposing to proceed under Option 3 MUST have PRIOR approval of the department faculty for their degree program and approval of the Associate Dean for Academic Affairs. Tier I general education courses will not be approved as a substitution for the ENGR 102a + ENGR 102b requirement.

TABLE O2. Courses that MAY be used to satisfy all or part of the three-unit ENGR 102a + ENGR 102b requirement, under Option 2 (refer to first page of this document).

AME 211:	Computer-Aided Drafting and Manufacturing
AME 220:	Introduction to Aerospace Engineering
ARCE 295:	Introduction to Architectural Engineering
BE 201:	Introduction to Biosystems Engineering
BE 220:	Introduction to Computer AutoCAD
BE 221:	Introduction to Computer Aided Design
BME 214:	Introduction to Biomechanics
BME 210:	Intermediate BME Design
CHEE 201:	Elements of Chemical Engineering
CHEE 270:	Introduction to Environmental Engineering
ECE 175:	Computer Programming for Engineering Applications
ECE 207:	Elements of Electrical Engineering
ECE 220:	Basic Circuits
ENGR 195:	Engineering Design Thinking
ENGR 196A:	Survey of Engineering Professions
ENGR 211C:	Engineering Science Modules - Statics
ENGR 211E:	Engineering Science Modules – Mechanics of Solids
ENGR 211F:	Engineering Science Modules – Fluid Mechanics
ENGR 211I:	Engineering Science Modules - Dynamics
ENGR 211K:	Engineering Science Modules - Thermodynamics
ENGR 211M:	Engineering Science Modules - Circuits
ENGR 211P	Engineering Science Modules – Engineering Economics
ENGR 211R:	Engineering Science Modules – Materials Science for Engineers
ENGR 297:	Intro to Experiential Learning: Applied Professional Skills in Engineering
ENGR 495:	Topics in Engineering Leadership
ENTR 296	Special Topics: Fundamentals of Engineering Entrepreneurship

MNE 205:	Introduction to Mining Engineering
MSE 222:	Introduction to Materials Science I
SIE 250:	Introduction to Systems and Industrial Engineering
SIE 265:	Engineering Management I
SIE 270:	Mathematical Foundations of Systems and Industrial Engineering
SIE 277:	Object Oriented Modeling and Design
SFWE 101:	Introduction to Software Engineering