B.S. in Biomedical Engineering

Program Guide for **New First-Year Students** (Effective Fall 2020)

Department of Biomedical Engineering (bme@rowan.edu)

Students who entered Rowan University prior to Fall 2020 should follow the guide for their program and start year—in consultation with their advisor

Rowan University Graduation Requirements

- Students must complete at least 120 s.h. (semester hours) of coursework that applies to their Rowan University degree
- Students must have an overall/cum. G.P.A. of at least 2.0. (Only Rowan University courses count toward the G.P.A.)
- A minimum of 30 s.h. of coursework must be completed at/through Rowan University
- Only grades of "D-" or above may apply to graduation requirements (some programs may set higher minimums)
- Students must apply for graduation and should do so for the term in which they will complete all program requirements.

Program-Specific Graduation Requirements

Rowan Core Courses (General Education)

Students must satisfy the requirements for all six Rowan Core Literacies

Rowan Core Literacy	Course #	Course Name	Sem/Yr	Grade	Credits
Communicative (COML)	COMP 01111	College Composition I			3 s.h.
	ENGR 01201	Sophomore Engineering Clinic I			4 s.h.
	ENGR 01202	Sophomore Engineering Clinic II			4 s.h.
Artistic (ARTL)					3 s.h.
Global (GLBL)					3 s.h.
Humanistic (HUML)		Should be LIT as well			3 s.h.
Quantitative (QNTL)	MATH 01130	Calculus I			4 s.h.
Scientific (SCIL)	CHEM 06100	Chemistry I (with Lab)			4 s.h.
				Subtotal:	28 s.h.

Rowan Experience (RE) Courses

Courses that satisfy Rowan Experience requirements should be included in the Non-Program, Major or Rowan Core sections, and their credits are counted there. A course may satisfy more than one RE requirement.

◯ (LIT) Broad-Based Literature course

◯ (RS) Rowan Seminar course
ENGR 01101 Freshman Engineering Clinic I is the RS for BME Students

◯ (WI) Writing Intensive course
ENGR 01403 Senior Engineering Clinic is WI for BME Students

Non-Program Courses

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
CHEM 06101	Chemistry II (with Lab)				4 s.h.
CS 01104 or CS 04103	Introduction to Sci. Programming or Computer Science and Programming				3 s.h. or 4 s.h.
PHYS 00220	Introductory Mechanics (with Lab)	SCIL, Pre-req. for PHYS 02222, BME 11201, BME 11303, >= C- required			4 s.h.
PHIL 09341	Biomedical Ethics	HHL			3 s.h.
STAT 02284	Statistics for Biomedical Sciences				3 s.h.
ENT 06240	Entrepreneurship and Innovation	SBS			3 s.h.
				Subtotal:	20 s.h.

Major Courses (s.h.)

Foundational Courses

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
ENGR 01101	Freshman Engineering Clinic I	RS			2 s.h.
ENGR 01102	Freshman Engineering Clinic II				2 s.h.
MATH 01131	Calculus II	>= C- required			4 s.h.
BME 11100	Biomedical Engineering Seminar				1 s.h.
				Subtotal:	9 s.h.

Mid-Level Courses

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
MATH 01230	Calculus III	>= C- required			4 s.h.
MCB 01102	Foundations in Bio for Biomed Sci II (with Lab)	>= C- required			4 s.h.
MATH 01235	Math for Engineering Analysis	>= C- required			4 s.h.
PHYS 02222	Introduction to Electricity and Magnetism (with Lab)	>= C- required			4 s.h.
BME 11201	Chemical Foundations in BME	>= C- required			4 s.h.
				Subtotal:	20 s.h.

Upper-Level Courses

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
BME 11301	Physiological Foundations in BME				4 s.h.
BME 11302	Electrical Foundations in BME				4 s.h.
BME 11303	Mechanical Foundations in BME				4 s.h.
ENGR 01303	Junior Engineering Clinic	Must take twice			2 s.h.
ENGR 01303	Junior Engineering Clinic				2 s.h.
BME 11411	Modeling and Simulation for Analysis and Design in BME				4 s.h.
ENGR 01403	Senior Engineering Clinic	Must take twice, WI			2 s.h.
ENGR 01403	Senior Engineering Clinic	WI			2 s.h.
				Subtotal:	24 s.h.

Advanced Science Elective

Choose one courses from the following bank of upper-level Science courses

	Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
◯	CHEM 07200	Organic Chemistry I				4 s.h.
◯	BIOL 10210	Human Anatomy and Physiology I				4 s.h.
◯	BIOL 10212	Human Anatomy and Physiology II				4 s.h.
					Subtotal:	4 s.h.

Biomedical Engineering Core Competency Focus Electives

Choose 5 CCF courses. 4 must be in-discipline (BME 11.4xx, excluding BME 11.411), up to 1 may be from list of approved out-of-discipline CCF courses

Course #	Course Name	Course Attributes / Notes	Sem/Yr	Grade	Credits
				Subtotal:	15 s.h.

Total Program Credits: 120 s.h.