



This course plan is a recommended sequence for this major. Courses designated as critical (!) may have a deadline for completion and/or affect time to graduation. Please see the Program Notes section for details regarding "critical courses" for this particular Program of Study.

!	Course Subject and Title	Credit Hours	Min. Grade <sup>1</sup>	Program GPA <sup>2</sup>	Code	Prerequisites	Notes
<b>Semester One (14-17 Credit Hours)</b>							
	ENGL 101 Critical Reading and Composition	3	C		CC-CMW		
	MATH 122 Calc. for Bus. Admin. & Soc. Sci. or MATH 141 Calculus I <sup>3</sup>	3-4	C		CC-ARP	C or better in MATH 111/111I/115 (MATH 122); C or better in MATH 112/115/116 (MATH 141); or placement through the MAP	
	BIOL 101 Biological Principles I	3	C		CC-SCI	Coreq: BIOL 101L	
	BIOL 101L Biological Principles I Lab	1	C		CC-SCI	Prereq or coreq: BIOL 101	
	BMEN 101 Intro. to Biomedical Engr. or ENCP 101 Intro. to Engineering <i>fall only</i>	1-3		*	MR		
	Specialty Course <sup>4</sup> (UNIV 101 recommended)	3			PR	See Bulletin Listing	
<b>Semester Two (15 Credit Hours)</b>							
	ENGL 102 Rhetoric and Composition	3			CC-CMW CC-INF	C or better in ENGL 101	
	BIOL 102 Biological Principles II	3			PR	Coreq: BIOL 102L	
	BIOL 102L Biological Principles II Lab	1			PR		
	CHEM 111 General Chemistry I	3	C		CC-SCI	C or higher in MATH 111 or higher (or by placement into MATH 115 or higher); Prereq or Coreq: C or higher in CHEM 111L	
	CHEM 111L General Chemistry I Lab	1	C		CC-SCI	Prereq or Coreq: C or higher in CHEM 111	
	PHYS 201 General Physics I	3			PR	C or better in MATH 111/111I/112/115/116/122/141 or by placement into MATH 122, 141 or higher	
	PHYS 201L General Physics Lab I	1			PR	Prereq or Coreq: C or better in PHYS 201	
<b>Semester Three (17 Credit Hours)</b>							
!	BMEN 240 Cellular & Molecular Biol. with Engr. Applications <i>fall only</i>	4	C	*	MR	C or better in BIOL 101	
	CSCE 106 Scientific Applications Programming	3			PR	C or better in MATH 111 or higher (or by MAP score into MATH 115 or higher)	
	CHEM 112 General Chemistry II	3			PR	C or higher in MATH 111 or higher MATH (or by placement score into MATH 115 or higher); Prereq or Coreq: C or higher in CHEM 112L	
	CHEM 112L General Chemistry II Lab	1			PR	C or higher in CHEM 111L or CHEM 141L; Prereq or Coreq: C or higher in CHEM 112	
	Specialty Course <sup>4</sup>	3			PR	See Bulletin Listing	
	Carolina Core AIU <sup>5</sup>	3			CC-AIU		
<b>Semester Four (17 Credit Hours)</b>							
	BMEN 345 Human Anat. & Phys. for BMEN <i>spring only</i>	4		*	MR	C or better in BMEN 240	
	STAT 201 Elementary Statistics or STAT 205 Elem. Stat. for the Biol. & Life Sci. or STAT 206 Elementary Statistics for Business	3	C		CC-ARP	C or better in MATH 111 or higher or in STAT 110 or 112; or placement through the MAP (STAT 201); C or better in MATH 111 or higher or placement through the MAP (STAT 205 & 206)	
	CHEM 333 Organic Chemistry I	3			PR	C or higher in CHEM 112 or 142	
	CHEM 331L Essentials of Org. Chem. Lab I or CHEM 333L Comprehensive Org. Chem. Lab I	1			PR	Coreq: CHEM 333; Prereq: C or better in CHEM 112L or CHEM 142L (CHEM 331L); Prereq: C or better in CHEM 112 or 142L; Pre/Coreq: C or higher in CHEM 333 (CHEM 333L)	
	Specialty Course <sup>4</sup>	3			PR	See Bulletin Listing	
	Carolina Core GHS <sup>5</sup>	3			CC-GHS		
<b>Semester Five (15 Credit Hours)</b>							
	BMEN 270 Materials in Medicine <i>fall only</i>	3		*	MR	C or better in BIOL 101	
	BMEN 360 Biomedical Analysis <i>fall only</i>	3		*	MR	D or better in BMEN 345 & BMEN 240	
	Specialty Course <sup>4</sup>	3			PR	See Bulletin Listing	
	Specialty Course <sup>4</sup>	3			PR	See Bulletin Listing	
	Carolina Core GSS <sup>5</sup>	3			CC-GSS		
<b>Semester Six (15 Credit Hours)</b>							
	BMEN 302 Prof. Dev. & Ethics in BMEN <i>spring only</i>	2		*	MR CC-INT	D or better in BMEN 101 or ENCP 101	
	BMEN 340 Biochem. with Engr. Applications <i>spring only</i>	4		*	MR	C or better in BMEN 240	
	BMEN 363 Biomed. Instrumentation <i>spring only</i>	3		*	MR	D or better in BMEN 321 or 360	
	Specialty Course <sup>4</sup>	3			PR	See Bulletin Listing	
	Specialty Course <sup>4</sup>	3			PR	See Bulletin Listing	

**Semester Seven (15 Credit Hours)**

Biomedical Engineering Major Elective <sup>6</sup>	3	*	MR	See Bulletin listing.	
Biomedical Engineering Major Elective <sup>6</sup>	3	*	MR	See Bulletin listing.	
Specialty Course <sup>4</sup>	3		PR	See Bulletin Listing	
Carolina Core VSR <sup>5</sup>	3		CC-VSR		
Carolina Core GFL <sup>7</sup> or Elective	3		PR		

**Semester Eight (12-15 Credit Hours)**

Biomedical Engineering Major Elective <sup>6</sup>	3	*	MR	See Bulletin listing.	
Biomedical Engineering Major Elective <sup>6</sup>	3	*	MR	See Bulletin listing.	
Specialty Course <sup>4</sup>	3		PR	See Bulletin Listing	
Carolina Core CMS or Elective	3		PR/CC		
Carolina Core GFL <sup>7</sup> or Elective (only if needed to meet CC or hours to graduate)	0-3		PR		

**Graduation Requirements Summary**

Minimum Total Hours	Minimum Major Requirements Hours	College & Program Requirements Hours	Carolina Core Hours	Minimum Institutional GPA
120	36	46-52	32-42	2.00

1. Regardless of individual course grades, students must maintain a minimum 2.00 cumulative GPA.
2. Some colleges require a minimum GPA for major courses. Courses indicated in this column are included in the BMEN program GPA of 2.00.
3. Students who place into MATH 115 will be required to successfully complete it before taking MATH 141.
4. **Specialty Courses:** Students must take 27 credit hours of specialty courses. Undergraduate courses that may be used to satisfy this requirement are: ACCT 222; ANTH 101 and above; BIOL 120 and above; CHEM (except CHEM 111/111L, 112/112L, 333/333L/331L); CLAS 220 and above; CRJU 101 and above; CYBR 390; CSCE higher than 106; ECHE 200 and above (except for ECHE 310); ECIV 200 and above; ECON 224; EDCE 210, 340, 350, 360; EDEX 205, 301, 523; EDFI 300, 361; EDLP 317; EDPY 401; EDTE 202, 218; ELCT 200 and above; EMCH 200 and above; ENCP 200 and above; ENGL 300 and above; ENHS 223 and above; ENTR 201, 301, 401, 501; ENVR 101 and above; EPID 349 and above; EXSC 191 and above (except EXSC 335 if used as Biomedical Elective); FINA 333; HGEN 400 and above; HPEB 300 and above; HSPM 401 and above; INDE 200 and above; ITEC 200 and above; MATH (except MATH 122); MGMT 371; MGSC 290; MKTG 350; MKTG 457; NSCI 300 and above; PEDU 302, 420, 520; PHIL 200 and above; PHYS 200 and above (except PHYS 101/101L, 102/102L, 151/151L, 155/155L, 201/201L); POLI 101 and above; PSYC 101 and above; PUBH 302 and above; SOCY 101 and above; SPCH 200 and above; STAT (except for STAT 201, 205, or 206); UNIV 101.
5. The [Carolina Core](#) provides the common core of knowledge, skill and academic experience for all Carolina undergraduate students.
6. **Biomedical Engineering Major Electives (12 hours):** BMEN 212, 263, 290, 342, 346, 389, 392, 499, 532, 537, 546, 547, 548, 565, 572, 575, 589; ECHE 430, ELCT 391; EMCH 580; EXSC 335.
7. Students in the College of Engineering & Computing are required to demonstrate proficiency in one foreign language equivalent to the 121 course by 1) a score of two or better on the foreign language placement test; or 2) completion of the 109 & 110 courses in FREN, GERM, LATN, or SPAN or completion of the 121 course in another foreign language. Students who do not place out of the GFL requirement may need to take additional hours to meet this requirement.

**Program Notes:**

- Courses identified as “critical” must be completed by the semester in which they are listed in order to ensure a timely graduation due to prerequisite requirements for subsequent required courses.
- All undergraduate students must take a 3-credit course or its equivalent with a passing grade that covers the founding documents. This course may fulfill any requirement in the program of study. Courses that meet this requirement are listed in the academic [bulletin](#).
- A student cannot repeat courses from the College of Engineering and Computing in which they earned a grade of C or better. In addition, a student cannot repeat any course from the College a second time. No more than four courses from the College of Engineering and Computing may be repeated in order to satisfy the requirements for any degree from the College, regardless of satisfactory work. For this purpose, withdrawal from a course with a grade of W is not regarded as enrollment in that course. A student that does not satisfactorily complete a degree-required College course within two attempts must change major or transfer out of the College of Engineering and Computing.
- The last 25% of a student’s degree must be completed in residence at the University, and at least half of the hours in the student’s major courses and in the student’s minor courses (if applicable) must be taken at the University.
- Disclaimer: Prerequisites on courses are subject to change. Please refer to Bulletin.

**University Requirements:** Bachelor’s degree-seeking students must meet Carolina Core (general education) requirements. For more information regarding these requirements, please visit the [Carolina Core](#) page on the University website.

Codes:	CC	Carolina Core	CC-INF	Carolina Core – Information Literacy
CC-AIU	Carolina Core-Aesthetic and Interpretive Understanding	CC-INT	Carolina Core – Integrative Course	
CC-ARP	Carolina Core-Analytical Reasoning and Problem-Solving	CC-SCI	Carolina Core – Scientific Literacy	
CC-CMS	Carolina Core-Effective, Engaged, and Persuasive Communication: Spoken Component	CC-VSR	Carolina Core – Values, Ethics, and Social Responsibility	
CC-CMW	Effective, Engaged, and Persuasive Communication: Written Component	CR	College Requirement	
CC-GFL	Carolina Core-Global Citizenship and Multicultural Understanding: Foreign Language	MR	Major Requirement	
CC-GHS	Carolina Core – Historical Thinking	PR	Program Requirement	
CC-GSS	Carolina Core – Social Sciences			

Disclaimer: Major maps are only a suggested or recommended sequence of courses required in a program of study. Please contact your academic advisor for assistance in the application of specific coursework to a program of study and course selection and planning for upcoming semesters.