

This roadmap is a **suggested** semester-by-semester planning guide for this major. It is a model four-year plan, not a guaranteed sequence or contract. Course availability may vary from semester to semester. Roadmaps are not meant to cover every possibility. They are intended to provide guidance in planning your academic path. **Roadmaps should be reviewed in consultation with your advisor.**

KEY

Course Subject and Number:	Lists the course subject and number (ex. MATH 111; ARTH 101).		
Credit Hrs:	Lists how many credit hours the course is worth. Courses listed with a range of credit hours depend on course selection.		
Min. Grade:	Lists if the major has a minimum grade requirement for this course.		
Critical:	TIME = Timing. This course must be completed in the semester listed to ensure a timely graduation.		
GenEd	Indicates whether or not this major course can also fulfill a general education requirement.		
	ENGL: GenEd First Year Writing	HUMS: GenEd Humanities	SOSCI: GenEd Social Science
	FLANG: GenEd Foreign Language	MATH: GenEd Math	
	HIST: GenEd History	NATSCI: GenEd Natural Science	
Course Notes:	Lists important information about the course or the timing of the course.		

General Education Requirement

First-Year Writing: Complete English (ENGL) 110, Introduction to Academic Writing, or one of the approved course credit combinations satisfying the first-year writing general education requirement.	Math/Logic: Completion of MATH 120 or HONS 115 or transfer credit for any one of MATH 220, MATH 221, MATH 323 (any of which requires the comprehension of the content of MATH 120/HONS 115); or 6 credit hours from the remaining list of approved courses satisfying the math/logic general education requirement.
Foreign Language: Complete the 202-level or its equivalent or demonstrate proficiency at that level of an approved course satisfying the foreign language general education requirement.	Natural Science: Complete 8 credit hours of an introductory or higher sequence (of which 2 credit hours must be earned in the accompanying laboratories) from the list of approved course sequences satisfying the natural science general education requirement.
History: Complete one course in pre-modern history and one course in modern history from the list of approved courses satisfying the history general education requirement (6 credit hours). The two courses do not have to be taken from the same department or in sequence.	Social Sciences: Complete 6 credit hours from the list of approved courses satisfying the social science general education requirement.
Humanities: Complete 12 credit hours from the list of approved courses satisfying the humanities general education requirement with no more than 6 credit hours with the same acronym.	General Education Resources: Approved course listings for each requirement can be found in the Undergraduate Catalog (http://catalog.cofc.edu/).

Degree Requirements

Minimum GPA		Minimum Credit Hours
Major	Cumulative	122 credit hours
2.00	2.00	Additional hours are required for earning more than one degree. Consult your academic catalog

For additional information on course descriptions, pre-requisites and degree requirements for this major, please consult your [Undergraduate Catalog](#).

First Year

Semester One

Course Subject and Number	Credit Hrs.	Min. Grade	Critical	GenEd	Course Notes
MATH 101	3				College Algebra
CHEM 103	1				CHEM 111 prep course
FYE Requirement*	3-4				Take an LC that includes classes that count for Gen Ed
General Education Requirement	3-4				English 110 or foreign language recommended
BIOL 111/111L	4			NATSCI	

Semester Two

Course Subject and Number	Credit Hrs.	Min. Grade	Critical	GenEd	Course Notes
CHEM 111/111L	4			NATSCI	Gen CHEM I
MATH 111	4			MATH	Pre-calculus; Math 111 is a co-req or pre-req for Chem 111
BIOL 112/112L	4			NATSCI	
General Education Requirement	3-4				
General Education Requirement	3-4				

First Year Notes

Note 1: The General Education First-Year Writing requirement should be completed within the first or second semester.

*Note 2: First-Year Experience Requirement: All entering students with less than one year of college experience are required to complete a [First-Year Experience](#) (First-Year Seminar (FYSM), a Learning Community (LC), or an Honors College First-Year Experience course) within their first three consecutive academic terms. If you are behind in math placement, it is important to try to take an LC that double counts as a gen-ed course(s) so as to not fall further behind in required courses.

Second Year

Semester Three

Course Subject and Number	Credit Hrs.	Min. Grade	Critical	GenEd	Course Notes
CHEM 112/112L	4				Math 111 is a pre-req for Chem 112
General Education Requirement	3				
General Education Requirement	3				
General Education Requirement	3				
MATH 120	4				

Semester Four

Course Subject and Number	Credit Hrs.	Min. Grade	Critical	GenEd	Course Notes
CHEM 220/220L	5				Quantitative Analysis; 220L is a six hour lab; this class is offered both Spring and Fall terms
CHEM 231/231L	4				Organic Chemistry I; this class is offered both Spring and Fall terms
MATH 229	5				This course needs to be completed prior to taking CHEM 341/CHEM 342
General Education Requirement	3-4				

Second Year Notes

Recommended grade in Chem 231 before proceeding to Chem 232 is a C.

Note: Math 120-Math 220-Math 221 is an alternative math requirement option for chemistry and biochemistry majors and is the recommended pathway for math or physics double majors or minors

Third Year

Semester Five

Course Subject and Number	Credit Hrs.	Min. Grade	Critical	GenEd	Course Notes
PHYS 111/111L	4			NATSCI	Completion of Physics prior to CHEM 341/CHEM 342 is recommended
CHEM 232/232L	3				C avg in Chem 231 recommended before attempting 232
General Education Requirement	3-4				
General Education Requirement	3-4				

Semester Six

Course Subject and Number	Credit Hrs.	Min. Grade	Critical	GenEd	Course Notes
CHEM 351	3				Students can take Chem 354 with Chem 351 but they are not co-requisites
Molecular Biology	4				
General Education Requirement	3-4				
Chem Lab elective	2				CHEM 481 Research is recommended; student must arrange to work with a faculty mentor; individual enrollment course; other options are available to meet this requirement
Physics 112/112L	4			NATSCI	

Third Year Notes

Note 1: Research can be taken for credit at CofC if the work is done at MUSC; Student must arrange for a faculty member to oversee the requirements of the course locally

For Biochemistry Lab Elective Hours, select two of the following courses for a minimum of three lab credit hours:

- CHEM 312L Inorganic Chemistry Laboratory (1) *CO: CHEM 311 (Spring offering)*
- CHEM 355 Research Methods in Biochemistry (2) *PR: CHEM 354L (fall offering)*
- CHEM 371 Chemical Synthesis Character (3) *PR: CHEM 220, CHEM 220L, CHEM 232, CHEM 232L (fall offering)*
- CHEM 481 Introductory Research (2) *PR: Instructor permission (either semester)*
- CHEM 482 Introductory Research II (2) *PR: Instructor permission (either semester)*
- CHEM 421L Instrumental Lab (1) *CO: CHEM 421 (spring offering)*
- CHEM 422L Environmental Chemistry Laboratory (1) *CO or PR: CHEM 422 (not routinely offered)*

Fourth Year

Semester Seven

Course Subject and Number	Credit Hrs.	Min. Grade	Critical	GenEd	Course Notes
CHEM 341/341L	4				CHEM 341 is only offered in the fall
CHEM Lab elective	1-2				CHEM 482 Research is recommended; student must arrange to work with a faculty mentor; individual enrollment course; other options are available to meet this requirement
CHEM 352	3				
CHEM 490	1		TIME		Guest seminar format; can be repeated; only offered in the fall
General Education Requirement	3-4				
CHEM 354	1				

Semester Eight

Course Subject and Number	Credit Hrs.	Min. Grade	Critical	GenEd	Course Notes
CHEM 342/342L	4				CHEM 342 is only offered in the Spring
CHEM 311	3				Inorganic Chemistry is only offered in the spring
General Education Requirement	3-4			Y	
CHEM 492	1		TIME		CHEM 492 is only offered in the spring
Chemistry Lecture Elective	2-4				Several Options available
General Education Requirement	3-4			Y	

Fourth Year Notes

Note 1: If student wants to continue research without writing a Bachelor's Essay, CHEM 397 is a zero credit research course that is graded either Satisfactory or Unsatisfactory.

Note 2: Don't forget to apply to graduate in MyCharleston!

Note 3: 341 is no longer a pre-req for Chem 342; however, Math 229 and Chem 220 are pre-reqs for both Chem 341 and 342

Several options exist for Chemistry Lecture Elective:

CHEM 353 Chemical Biology (3) *PR: CHEM 351 (fall offering)*

CHEM 356 Biochemical Basis of Disease (2) *PR: CHEM 351 (spring offering)*

CHEM 421 Instrumental Methods of Analysis (3) *PR: CHEM 220, CHEM 220L; CO: CHEM 421L (spring offering)*

CHEM 422 Environmental Chemistry (3) *PR: CHEM 220, CHEM 220L (not offered on a regular schedule)*

CHEM 431 Advanced Organic Chemistry (3) *PR: CHEM 232, CHEM 232L (not offered on a regular schedule)*

Note 4: Biochemistry BS majors fulfill all the requirements of the Chemistry BA majors. To receive both degrees, students must have earned 153 credit hours total.

Note 5: Chem 490 is only offered in the Fall and Chem 492 is only offered in the Spring.