Advising points for out-of-department advisors regarding Chemistry majors

The Department of Chemistry and Biochemistry offers four different degree programs

* B.S. Chemistry
  + ACS† certified with four specializations or emphasis areas
  + Chemistry, Biochemistry, Chemical Physics, Environmental Chemistry
* B.S. Forensic Chemistry
  + FEPAC\* accredited
  + Optional ACS certification with additional coursework
* B.A. Biochemistry
* B.A. Chemistry (with an Accelerated Law 3+3 option)

(†American Chemical Society; \*Forensic Education Programs Accreditation Committee)

We invite and encourage advisors outside the department to contact us when advising students with a strong interest in majoring in chemistry, especially when the student is planning to double major, or, is planning to use their studies toward a professional program.

Students should also be strongly encouraged to contact the department advisors to regularly review degree plans.

Advising contacts in the Department of Chemistry and Biochemistry:

* Dr. Nathan Hammer ([nhammer@olemiss.edu)](mailto:nhammer@olemiss.edu))
* Dr. Kerri Scott ([kscott@olemiss.edu](mailto:kscott@olemiss.edu))

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Incoming Students:**

Students who wish to major in a chemistry program but do not have the prerequisite scores (ACT Math subsection of 24; SAT-Revised (SATR) Math subsection of 580; or SAT Math subsection score of 560) can take one of the following coursework options to meet the prerequisite:

* MATH 125 – Basic Mathematics for Science and Engineering
* CHEM 101 – Chemical Concepts
* MATH 121- College Algebra AND then MATH 123 – Trigonometry (takes 2 semesters)

Enrollment in both MATH 125 and CHEM 101 is recommended.

Upon completion of one of the above options with a grade of B or higher (B- is not acceptable), the student may declare the chemistry major and enroll in CHEM 105.

Please note: Students who do not have the prerequisite to enroll in the general chemistry sequence will also not have the prerequisite to enroll in neither calculus (MATH 261) nor BISC 160. CHEM 101 cannot be used to meet the prerequisite for MATH 261.

**Effective Fall 2021**: Students may take the ALEKS PPL test and earn a score of 76 to also meet the prerequisite. Information on the ALEKS PPL test can be found at <https://mathlab.olemiss.edu/aleks/>

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**First-year majors:**

To stay on track for timely degree completion, all first-year chemistry students should be enrolled in the general chemistry sequence (CHEM 105/115 and CHEM 106/116) and calculus (MATH 261 and MATH 262) regardless of degree program or emphasis area.

Most first-year chemistry majors should also be enrolled in the BISC 160/161 and BISC 162/163 biology sequence (required coursework for the B.A. Biochemistry degree, B.S. Forensic Chemistry degree and the Biochemistry Emphasis of the B.S. Chemistry degree).

***Regardless of chemistry degree program or emphasis track, students with pre-medical or other pre-professional interests should be enrolled in the chemistry, calculus, and biology sequences during the first year in order to complete all requirements in a timely manner.***

Fall Semester Spring Semester

CHEM 105/115 CHEM 106/116

MATH 261 MATH 262

BISC 160/161 BISC 162/163

Deferring one of the courses in order to “lighten the load” can lead to graduation delays. These courses are prerequisites to courses required in the second-year of the degree programs. (Moving one of the sequences to summer school is possible with caution.)

Students with pre-professional interests should consult the HPAO office before taking any chemistry course during the summer. Some professional schools may consider core science or math courses taken over the summer problematic.

The chemistry department advises our pre-professional majors to complete the chemistry, biology, and calculus sequences listed above by the end of the first year to avoid graduation delays.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Second-year students:** The transition to the second-year courses for all chemistry majors is also crucial for timely degree completion.

*Completion of the foreign language requirement by the end of the 2nd year is recommended due to the laboratory coursework required in years 3 and 4 of all of the chemistry and biochemistry degrees, especially if the Intensive Language Sequence (XXX 111/211) is used.*

**B.S. Chemistry** students (all emphasis tracks) must take the Organic Chemistry sequence (CHEM 221/225 and CHEM 222/226), the Calculus-Based Physics Sequence (PHYS 211/221 and PHYS 212/222), and Calculus III and IV (MATH 263 and MATH 264) to avoid graduation delays.

Fall Semester Spring Semester

CHEM 221/225 CHEM 222/226

PHYS 211/221 PHYS 212/222

MATH 263 MATH 264

**B.A. Chemistry and B.A. Biochemistry** students must take the Organic Chemistry sequence (CHEM 221/225 and CHEM 222/226) and one of the Physics Sequences (PHYS 211/221 and PHYS 212/222; or PHYS 213/223 and PHYS 214/224).

*While the algebra/trigonometry-based Physics sequence (PHYS 213/223 and PHYS 214/224) is accepted for the degree, the department highly recommends students take the calculus-based sequence (PHYS 211/221 and PHYS 212/222), especially if graduate studies are a possibility.*

Fall Semester Spring Semester

CHEM 221/225 CHEM 222/226

PHYS 211/221 (or 213/223) PHYS 212/222 (or 214/224)

**B.S. Forensic Chemistry** students must take the Organic Chemistry sequence (CHEM 221/225 and CHEM 222/226) and one of the Physics Sequences (PHYS 211/221 and PHYS 212/222; or PHYS 213/223 and PHYS 214/224) to avoid graduation delays. These students should also plan to complete either BISC 336 – Genetics - or MATH 375 – Introduction to Statistical Methods - during the second year.

*While the algebra/trigonometry-based Physics sequence (PHYS 213/223 and PHYS 214/224) is accepted for the degree, the department highly recommends students take the calculus-based sequence (PHYS 211/221 and PHYS 212/222). Students who may be planning for graduate studies in chemistry should be encouraged to take the calculus-based sequence.*

Fall Semester Spring Semester

CHEM 221/225 CHEM 222/226

PHYS 211/221 (or 213/223) PHYS 212/222 (or 214/224)

BISC 336 or MATH 375

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Additional points:**

***300-level coursework:*** *Chemistry majors cannot take 300-level or higher chemistry courses without completion of the Organic Chemistry sequence CHEM 221/225 and 222/226.*

***Physical Chemistry I (CHEM 331):***  *A critical third-year course that is a prerequisite for many of the other advanced courses, Physical Chemistry I (CHEM 331), is required of all chemistry department degree programs. Its prerequisites are the Organic Chemistry sequence, Physics sequence, and at least two semesters of Calculus (MATH 261, 262). CHEM 331 Physical Chemistry I is offered fall terms only.*

***Chemistry minor:*** *The chemistry minor requires the General Chemistry sequence (CHEM 105/115, 106/116), the Organic Chemistry sequence (CHEM 221/225, 222/226), and 3-4 credit hours of 300+ level coursework, excluding CHEM 381, 382, and 383. BMS 343 (formerly PHCL 343) – Biochemical Foundations of Therapeutics can be used toward the chemistry minor. CHEM 373 – Intermediate Biochemistry - can be used for a chemistry minor but not a chemistry major.*

*A common issue for transfer students who desire the chemistry minor is the requirement that six (6) credits of the minor must be in residence. If the student transfers in the General Chemistry and Organic Chemistry sequences, then they will need two additional chemistry classes to complete the minor.*