

Chemistry Biochemistry Track, Major

Degree Requirements

Majors in Arts and Sciences may be completed with a minimum of 120 semester hours unless designated otherwise. At least 30 hours of course work, which represents 25% of the required 120 hours, must be at the upper division level in order to fulfill the University's residency requirement. At least 15 of the 30 upper-division hours must be in the major or concentration area. An overall grade-point-average (GPA) of 2.0 is required for graduation. In addition, a minimum GPA of 2.0 is required in the student's major or concentration area.

Requirements For A Major In Chemistry (Biochemistry Track)

A minimum of 39 semester hours in Chemistry beyond the CH 132 and CH 132L course level, as listed below:

Major in Chemistry (Biochemistry Track)	Credit Hours
A minimum of 39 semester hours in Chemistry beyond the CH 132 and CH 132L course level, as listed below:	39
CH 131, 131L	3, 1 hrs
CH 132, 132L	3, 1 hrs
CH 150	2 hrs
CH 201, 201L	3, 1 hrs
CH 202, 202L	3, 1 hrs
CH 265, 265L	3, 1 hrs
CH 300, CH 300L OR CH 301, 301L OR CH 302, 302L	3, 1 hrs
CH 440, 441	3, 3 hrs
CH 443	2 hrs
CH 465, 465L	3, 2 hrs
CH 492	1 hr
CH 394/494	4 hrs

Electives: In addition to those courses above, a student must choose one (1) other 300/400 level Chemistry, physical science, or life science course (no less than 3 hrs) with the prior approval of their advisor and department chair to satisfy the degree program requirements.

Mathematics Two Semesters of Calculus (MA 125, MA 126)

Physics Students are to select one of the following options. Option 1: PH 201 and PH 202; Option 2: PH 114, PH 115, and MA 227; Option 3: PH 114, PH 115, and PH 201 with approval of the physics department chair; Option 4: PH 114, PH 115, and PH 202 with approval of the physics department chair.

Students in the Biochemistry track who desire ACS Certification of their degree must take CH 401 and 401L as their elective course.

General Education Requirements For Chemistry Majors

Areas I, II, and IV of the General Education Requirements for Chemistry are specified in the College of Arts and Sciences section. Note that Area III requirements (Mathematics and Natural Sciences) are fulfilled by the major requirements specified above.

Department Information

Department of Chemistry website
<https://www.southalabama.edu/colleges/artsandsci/chemistry/>

Undergraduate Studies

The chemistry curriculum is designed for students seeking a liberal education as well as for those students requiring more specialized training and skills. The courses provide the foundation necessary for those planning careers as chemists and biochemists following graduation, for students planning to further their education through advanced degrees in chemistry, biochemistry, related sciences, and for those in other professional fields. Two basic curricula are offered for chemistry majors:

1. The American Chemical Society certified degree program in Chemistry is available for those students seeking technical positions in chemistry, as well as for those planning to attend graduate school, or
2. A Biochemistry Option track is available for students strongly interested in the interface of chemistry and biomedical or biological sciences, especially for students anticipating going to graduate school in medical sciences, biochemistry, biophysics, or other life sciences.

Students pursuing a degree in Chemistry also must have a minor in another discipline. All first-time freshmen must successfully complete CAS 100: First Year Experience as a degree requirement. Students must enroll during their first term at USA, except for summer-entry students who must enroll in the fall semester following entry. CH 150 will fulfill the technology proficiency requirement.

Undergraduate Senior Thesis In Chemistry

The Chemistry Senior Thesis Program is designed to stimulate analytical and critical thinking and as such offers motivated and focused undergraduate students the opportunity to develop research and communication skills in preparation for a graduate or professional career. To apply for admission into the program, a student must:

1. Have Junior Chemistry Major status or above.
2. Have completed CH 131, CH 132, CH 201, CH 202, plus one (1) more lower or upper division chemistry course.
3. Have earned a 3.25 GPA or better in chemistry courses attempted.
4. Have earned a 3.0 GPA or better overall.
5. Obtain a recommendation from a faculty member who will serve as research mentor for senior thesis.

In addition to fulfilling the requirements of the standard chemistry program, senior thesis students must complete:

1. A minimum of six (6) semester hours of Honors Research (CH 499). Upon successful completion of six (6) hours of CH 499 the requirement for four (4) hours of Directed Studies (CH 494) will be waived.
2. A formal research Project Prospectus needs to be submitted and approved by the student's research mentor during the first term of participation in program. The prospectus will be prepared under the supervision of the student's research mentor and should include an introduction to the proposed research project, proposed research methods, and relevant literature citations.
3. Complete a written research thesis.
4. The formation of a thesis committee will be at the discretion of the faculty mentor.
5. Present a formal oral defense of the research work to Chemistry Department faculty and students.
6. Complete a poster presentation at national, regional, or local research forum.

Examples being an ACS National meeting, the USA Annual Research Forum (Spring term) or the UCUR Annual Research Forum (Fall term). Students participating in the Chemistry Senior Thesis Program who have a 3.5 GPA will also be eligible for Departmental Honors status. Chemistry majors who are part of the University Honors College will meet the requirements for the Undergraduate Chemistry Senior thesis as well as those of the University's program.

Graduate Studies

Although the Department of Chemistry has no graduate degree programs, courses are offered at the graduate level for those students who need such work.