

CHEMISTRY MAJOR - ACS CERTIFIED CURRICULUM

Requirements

Code	Title	Credits
CHEM 1171 & 1171L	General Chemistry I and General Chemistry I Lab	4
CHEM 1172 & 1172L	General Chemistry II and General Chemistry II Lab	4
CHEM 2271 & 2271L	Organic Chemistry I and Organic Chemistry I Lab	4
CHEM 2272 & 2272L	Organic Chemistry II and Organic Chemistry II Lab	4
CHEM 2282 & 2282L	Chemical Analysis and Chemical Analysis Lab	4
CHEM/BIOL 3323L	Biochemistry Lab	1
CHEM/BIOL 3324	Biochemistry I	3
CHEM 3326	Chemical Instrumentation	3
CHEM 3326L	Instrumental-Analytical Chemistry Lab	3
CHEM 3341 & 3341L	Advanced Inorganic Chemistry and Advanced Inorganic Chemistry Lab	5
CHEM 3361 & 3361L	Physical Chemistry I and Physical Chemistry I Lab	4
CHEM 3362 & 3362L	Physical Chemistry II and Physical Chemistry II Lab	4
CHEM 4971	Research and Seminar I	3
MATH 1141 or MATH 1171	Calculus I for Chemistry, Engineering, and Physics Majors Calculus I	4
MATH 1142 or MATH 1172	Calculus II for Chemistry, Engineering, and Physics Majors Calculus II	4
MATH 2243 or MATH 2273	Calculus III for Chemistry, Engineering, and Physics Majors Multivariable Calculus	4
MATH 2251	Ordinary Differential Equations	3
PHYS 1171 & 1171L	General Physics I and General Physics I Lab	4
PHYS 1172 & 1172L	General Physics II and General Physics II Lab	4
Total Credits		69

Notes:

- Students intending to enter primary or secondary school teaching should consult annually with the chairs of the departments of Chemistry and Education to facilitate scheduling of these curricula.
- Students intending to enter medical or dental school should consult with the Chair of the Chemistry Department and the Health Professions Advisor for appropriate modifications of this curriculum, which will include taking BIOL 1171 and BIOL 1172 in their first year

in place of PHYS 1171 and PHYS 1172, which are then taken in the sophomore year.

- Students may elect to take CHEM 3324 Biochemistry I or CHEM 3341 Advanced Inorganic Chemistry in their junior year.
- Note that the CHEM 4970-series Research and Seminar is a research elective to be coordinated with individual faculty members. It may be taken for one, two, or three credits. Students enroll in CHEM 4971 for their first semester of research, CHEM 4972 for their second semester, etc.
- Students are encouraged to participate in summer research experiences on or off campus. At the discretion of the Chemistry Department, involvement in summer research such as National Science Foundation Research Experience for Undergraduate Programs may be counted toward the research requirement for American Chemical Society certification. Each case will be evaluated individually by the department.
- All research for credit will be consistent with the American Chemical Society Committee for Professional Training guidelines.

Plan of Study

Course	Title	Credits
First Year		
Fall		
CHEM 1171	General Chemistry I	3
CHEM 1171L	General Chemistry I Lab	1
MATH 1141 or MATH 1171	Calculus I for Chemistry, Engineering, and Physics Majors or Calculus I	4
PHYS 1171	General Physics I	3
PHYS 1171L	General Physics I Lab	1
Core Courses		6
Credits		18
Spring		
CHEM 1172	General Chemistry II	3
CHEM 1172L	General Chemistry II Lab	1
MATH 1142 or MATH 1172	Calculus II for Chemistry, Engineering, and Physics Majors or Calculus II	4
PHYS 1172	General Physics II	3
PHYS 1172L	General Physics II Lab	1
Core Courses		6
Credits		18
Second Year		
Fall		
CHEM 2271	Organic Chemistry I	3
CHEM 2271L	Organic Chemistry I Lab	1
MATH 2243 or MATH 2273	Calculus III for Chemistry, Engineering, and Physics Majors or Multivariable Calculus	4
Core Courses and Electives		9
Credits		17

Spring

CHEM 2272	Organic Chemistry II	3
CHEM 2272L	Organic Chemistry II Lab	1
CHEM 2282	Chemical Analysis	3
CHEM 2282L	Chemical Analysis Lab	1
Core Courses and Electives		9
Credits		17

Third Year**Fall**

CHEM 3326	Chemical Instrumentation ¹	3
CHEM 3361	Physical Chemistry I	3
CHEM 3361L	Physical Chemistry I Lab	1
MATH 2251	Ordinary Differential Equations	3
Core Courses and Electives		6
Credits		16

Spring

CHEM 3326L	Instrumental-Analytical Chemistry Lab ¹	3
CHEM 3362	Physical Chemistry II	3
CHEM 3362L	Physical Chemistry II Lab	1
Core Courses and Electives		9
Credits		16

Fourth Year**Fall**

CHEM 3341	Advanced Inorganic Chemistry ¹	3
CHEM 3341L	Advanced Inorganic Chemistry Lab ¹	2
CHEM 4971	Research and Seminar I ²	3
Core Courses and Electives		9
Credits		17

Spring

CHEM 3323L	Biochemistry Lab ¹	1
or BIOL 3323L	or Biochemistry Lab	
CHEM 3324	Biochemistry I ¹	3
or BIOL 3324	or Biochemistry I	
Core Courses and Electives		9
Credits		13
Total Credits		132

¹ May be taken either third or fourth year.

² 1-3 credits per semester. May be taken in fall, spring, or both semesters of the fourth year.