

Accelerated BS/MS Program in Chemistry

The Department of Chemistry offers an accelerated BS/MS program for talented and motivated undergraduates in Chemistry and Biochemistry. Graduates will receive separate bachelor's and master's degrees on their transcripts. The BS degree can be in either Chemistry or Biochemistry, and the MS degree will be in Chemistry. This program allows a student to complete the traditional BS in 4 years, and while doing so also enroll in 5000-level classes that will count toward both undergraduate and graduate requirements. Together with summer research, these credits shorten the MS timeline to just one additional year, reducing the time and cost required to earn the MS degree.

Admission Requirements

Information about admission into the accelerated program can be found in the undergraduate catalog, as can guidance regarding suggested preparatory courses that will satisfy prerequisites to facilitate timely progress through the advanced degree. The semester before completing the bachelor's degree, participants must also apply for formal admission into Idaho State University's Graduate School. Standard criteria that must be satisfied for admission are detailed by the Graduate School. Standardized tests such as the GRE are not required for students in the BS/MS program.

General Requirements

Students in the accelerated program fulfill the same total credit requirements for the graduate degree as all other MS students. A key benefit of the accelerated framework is that graduate courses can count toward both degrees and shorten the degree timeline. In addition, the accelerated program is differentiated from traditional thesis and coursework MS degrees in Chemistry by a structured research project conducted principally during two summers. This element is intended to give students intensive research analogous to a thesis degree while retaining the structure and respecting the schedule limitations of undergraduate education. To fulfill the research component of the degree, each student selects a committee and identifies a project during the first year after admission, which is typically their third year in university. They go on to conduct laboratory research during the summers, complete parts of a research paper each semester, and defend a final research paper prior to graduation with the MS degree.

Continuation in the accelerated program requires that the student maintain a minimum GPA of 3.0 from date of admission, and make satisfactory progress as approved by their committee. Students failing to make adequate coursework or research progress will be asked to discontinue the program after completing the bachelor's degree. Students enrolled in the accelerated program may also freely elect to abandon the MS portion, and the bachelor's degree will be awarded as soon as the student has fulfilled all bachelor's degree requirements. A student wishing to apply their BS/MS progress towards a stand-alone MS degree (thesis or non-thesis) must reapply to that program following the steps described in the Graduate Catalog.

Suggested Schedule

The following schedule shows how a chemistry student might progress through the BS/MS program if they enter it having already completed CHEM 2211, CHEM 2213, CHEM 2232, and CHEM 2234. Each student is required to meet all course requirements for either the BS degree in chemistry (except independent problems CHEM 4481 and CHEM 4482, which are replaced by a total of 8 credits of CHEM 4485), or the BS in biochemistry. Each student is required to complete two credits of seminar (CHEM 6601), ten credits of MS research (CHEM 6635), two of the advanced chemistry courses (CHEM 6609, CHEM 6630, CHEM 6655, and CHEM 6671) and six additional credits from among these or other approved 6600-level lecture courses. These twenty-four credits of 6600 level courses are taken during the second and third years of the program. Students must complete six additional credits of approved graduate-level

coursework at the 5500 or 6600 level. Up to six credits of CHEM 4400/5500-level lecture or laboratory coursework taken at the 5500-level may be counted simultaneously toward both the Chemistry or Biochemistry BS degree and toward the Chemistry MS degree within the BS/MS program.

Third Year

Fall/Spring	Credits	Summer	Credits	
CHEM 3331 ¹		2	CHEM 4485 ²	6
CHEM 3334 ¹	2			
CHEM 3351 ¹	3			
CHEM 3352 ¹	3			
CHEM 4451	1			
CHEM 4452	1			
MATH 2240	3			
MATH 3360	3			
Electives		11		
			29	6

Fourth Year

Fall/Spring	Credits	Summer	Credits	
CHEM 3365		2	CHEM 6635	6
CHEM 3366	2			
CHEM 4407	2			
CHEM 4485 ²	2			
CHEM 4491	1			
CHEM 5545	3			
CHEM 5547	3			
CHEM 6609 ³	3			
CHEM 6655 ³	3			
Electives		5		
			26	6

Fifth Year

Fall/Spring	Credits
CHEM 6630 ³	3
CHEM 6671 ³	3
CHEM 6635	4

CHEM 6601	1
Electives	13
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24	

Total Credits: 91

¹ Must be completed by the end of the junior year.

² CHEM 4485 Replaces CHEM 4481/4482 in the regular BS curriculum.

³ Two of these four classes are required; two may be replaced by other approved 6600-level lecture electives.

The schedule above includes Biochemistry I and II at the graduate level, which would simultaneously fulfill 6 credits of BS requirements and 6 credits of graduate electives. This schedule achieves the maximum credit overlap permitted within the accelerated program, but double-counting credits may alternatively be found among any of the following courses:

Suggested Electives Eligible for 5500-level credit (Students must register for the 55xx level courses in order to receive both undergraduate and graduate credit for the course)

Code	Title	Credits
CHEM 4400/5500	Practicum in Physical Science	2
CHEM 4407/5507	Inorganic Chemistry II	2
CHEM 4433/5533	Environmental Chemistry	2
CHEM 4437/5537	Environmental Chemistry Laboratory	1
CHEM 4438/5538	Experimental Biochemistry	1
CHEM 4445/5545	Biochemistry I	3
CHEM 4447/5547	Biochemistry II	3
CHEM 4470/5570	Biorganic Chemistry	3
CHEM 4499/5599	Experimental Course	1-6

For more information on this program, including admission into the accelerated program and undergraduate degree requirements related to this program, please reference the accelerated program description in the undergraduate catalog (<https://coursecat.isu.edu/undergraduate/scienceengineering/chemistry/accelerated-bs-ms-chemistry/>).