CHEMISTRY (BS/MS 4+1 PROGRAM)

Department: Chemistry and Biochemistry

Admission Requirements

BS/MS Admission Requirements (Undergraduate)

Students may apply to the program after completing CHM 252 Organic Chemistry I; to be admitted, the student must have achieved an overall GPA of 2.50, an average GPA of 2.75 in chemistry courses, and a C or better in all chemistry, mathematics, biology, and physics courses.

Students are strongly encouraged to apply during their junior year, but applications from seniors who have significant research experience will also be considered. The initial application is made within the department, using the "Application for Admission to the B.S./M.S. Program" form available from the Department's graduate coordinator. This application is to be submitted to the graduate coordinator.

BS/MS Admission Requirements (Graduate)

To earn graduate status within the B.S./M.S. program, students must have achieved a cumulative GPA of 3.0 in the last 60 hours of undergraduate coursework, a cumulative GPA of 2.75 in undergraduate chemistry courses, and a cumulative GPA of 3.0 in graduate courses. The student must also have met the requirements for undergraduate graduation in any one of the undergraduate concentrations in Chemistry or a major in Biochemistry at Bradley University before the first semester of the graduate study. In addition, the student must earn credit for:

- CHM 499 Directed Studies in Chemistry and Biochemistry- 2 hrs. minimum
- CHM 580 Literature Seminar in Chemistry & Biochemistry - 1 hr.

For both Chemistry and Biochemistry B.S./M.S. options, up to nine hours of graduate credit (including CHM 580 Literature Seminar in Chemistry & Biochemistry) taken prior to the completion of the bachelor's degree can be counted toward both degrees. These nine hours of 500-level CHM courses can be taken as electives or can be used to fulfill the requirements for an undergraduate chemistry concentration or a Biochemistry major as long as the student meets the department's requirement for taking 500-level courses. Undergraduate students wishing to take 500-level CHM courses must have junior or senior standing and either a cumulative GPA of 3.0 or greater or a GPA of 3.0 or greater in the last 60 hours of coursework. Special permission may be granted to students whose GPA is below 3.0 if the student provides a compelling case for enrolling in the course.

Programmatic Requirements and Procedures

- Program participants are expected to engage in full-time research experiences during the summers after their third, fourth, and fifth years.
- Students must identify a research mentor/thesis advisor and begin their undergraduate research no later than the summer after their third year. A research mentor/thesis advisor must be identified before applying to the B.S./M.S. program.
- At the beginning of the fourth year, the student's thesis committee shall be constituted. The committee shall be composed of at least three voting members, chosen in consultation with the student, the thesis advisor, and the graduate coordinator. The committee shall include the thesis advisor and at least two other members from the department. If a research mentor from outside the department is directing the student's research, the research mentor is an ex officio, non-voting member of the committee.
- Before completion of the fourth year, the student must present a seminar (CHM 580 Literature Seminar in Chemistry & Biochemistry) that summarizes the literature relevant to the thesis project, outlines the proposed research, and presents any preliminary data. Within one week of the seminar, the student must meet with the thesis committee to discuss the presentation and the research plan. Failure to meet with the committee will result in a grade of IN in the course.
- The student must apply to graduate when the undergraduate requirements are complete, so as to be able to register as a graduate student thereafter.
- All matriculated graduate students (except those requiring a leave of absence) are required to be registered for at least one course for each fall and spring semester and one course during each summer from the semester of matriculation through the semester in which the degree is completed
- The Department's graduate coordinator and the student's thesis advisor must approve a Graduate Program of Study before the first day of classes of the student's fifth year of study.
- Upon completion of the thesis, the student must present the work in a public research seminar and successfully defend the thesis to the thesis committee (CHM 699 Thesis, 1 credit). The voting members of the thesis committee shall determine the CHM 699 Thesis grade and when a thesis has satisfactorily met all standards.

MS Requirements for BS/MS Chemistry

To complete the M.S. degree (M.S. awarded in GRD CHM 41), students must complete a minimum of 30 hours of coursework at the 500–600 level and the courses listed below either as a requirement for their B.S. degree or as a requirement for their M.S. degree.[1] The graduate coordinator will review the transcript of each student to ensure that students do not repeat courses they have already completed (C or better) at the undergraduate level. All students in this program will have an American Chemical Society Certified Degree once the M.S. degree requirements are complete.

Code	Title	Hours
CHM 361	Biochemistry Laboratory	1.0
or CHM 561	Principles of Biochemistry Laboratory	
CHM 420/520	Instrumental Analysis	4.0
CHM 436/536	Inorganic Chemistry	3.0
CHM 471/571	Physical Chemistry Laboratory	1.0
CHM 476/576	Quantum Chemistry and Spectroscopy	3.0
CHM 524	Fundamentals of Separation Science	3.0
CHM 599	Research [2]	2.0-4.0
CHM 697	Research [2]	6.0-8.0
CHM 699	Thesis	1.0
500-level CHM courses to meet the 30.0 required 500-600 level hours		

[1] A maximum of three graduate credit hours from cognate fields may be used to fulfill this requirement if approved by the Department's graduate coordinator and the student's thesis advisor.

[2] The total number of Graduate research hours (CHM 599 Research + CHM 697 Research) must equal 10.