

Report to stakeholders for assessment

Mission Statement for BS in Chemistry

The mission of the Bachelor of Science degree in chemistry is to develop students' knowledge in the five areas of chemistry (organic, inorganic, analytical, physical and biological). The program provides outstanding instruction and research opportunities for chemistry majors. The program serves to develop and train graduates who are well prepared for graduate or professional schools as well as careers in the chemical industry sector.

Learning Outcomes for BS Chemistry

1. Written Communication

Students will use prior knowledge, the chemical literature and problem solving skills to create professional written reports in Chemistry.

2. Students will show competence in the five traditional areas of Chemistry via the capstone course of Advanced Inorganic Chemistry with a Physical Chemistry Pre-requisite

Graduates will show competence in the five areas of chemistry (organic, inorganic, analytical, physical and biological). Each area will be assessed individually

- a. One semester general chemistry (CHM 1220)
- b. Full year of organic chemistry (CHM 1240, 2220)
- c. Analytical chemistry (CHM 2280, 5160)
- d. Biochemistry, one semester (CHM 5600)
- e. Comprehensive Physical Chemistry (CHM 5420, 5440, 5550)
- f. Inorganic Chemistry (CHM 3020, 5020*)

*CHM 5020 is our senior capstone course, with physical chemistry pre-requisite.

3. Independent Research

Students will use advanced laboratory skills and problem solving to carry out independent undergraduate research.

4. Oral Communication

Students will use prior knowledge, the chemical literature and problem solving skills to create professional oral presentations in Chemistry.

The Chemistry program at Wayne State University is an ACS certified program. The accreditation assesses the following items:

- Institutional Environment
- Faculty and Staff
- Infrastructure
- Curriculum
- Undergraduate Research
- Development of Student Skills
- Program self-evaluation
- Certification of Graduates

Students are assessed on the learning outcomes through instructor written final examinations. Examinations are reviewed by another faculty member qualified to teach the course to verify the appropriateness of the exam questions.

Our plan is to have final examinations submitted to the Curriculum Committee on a rotating basis to allow review of courses each year. If such reviews suggest the need for modifications in the content or method of instruction, exams will be submitted after the modifications are implemented regardless of the normal review cycle for that course.

All students graduating with a BS will complete our senior capstone course.

Each student is required to complete one semester of undergraduate research. Each report will be read by faculty and any deficiency must be corrected prior to acceptance of the project report for fulfillment of the capstone requirement. At the end of the research experience, the student is assessed by their advisor.