

Academic Assessment Plan: Chemistry and Biochemistry B.A., B.S., and Ph.D.

June 1, 2016

Program Goals – Students completing a bachelor's degree in chemistry will be able to:

1. Recognize how chemistry is an essential tool in understanding the natural world.
2. Understand how the scientific method is applied in chemistry.
3. Communicate chemical knowledge to both chemistry peers and a general audience.
4. Enroll in graduate and professional schools, or accept chemistry related jobs in the public or private sector.

Chemistry B.S.

Learning Outcomes – Students completing a bachelor's degree in chemistry will possess the skills and knowledge:

1. To design appropriate chemical experiments to test a chemistry hypothesis.
2. To use modern instrumentation to analyze chemical compounds and reactions.
3. To use computer programs to search the chemical literature.
4. To use proper chemical hygiene.
5. To obtain employment in the chemical industry or enroll in professional schools.

Assessment Tools – Students will be assessed using:

1. Course grades.
2. MCAT scores.
3. Exit interviews.

Data Collection – The Dept of Chemistry & Biochemistry has undergone multiple changes of chair within the last 3 years. As a result, some assessment data has not been consistently collected. Beginning with the 2016-2017 academic year, we will compile:

1. Cumulative and chemistry GPAs of graduating seniors.
2. The number and percentage of chemistry majors in undergraduate research.
3. The number and percentage of chemistry majors in the Honors program.
4. The MCAT scores of chemistry majors applying to medical school.
5. Beginning with the Spring 2016 semester, we have started systematic exit interviews with graduating majors.

Use of Assessment Results – We will provide the Dean with the above data on an annual basis. The collected exit interviews (without attribution) will be provided to the faculty as a basis for discussion of potential changes in curriculum.

Chemistry B.A.

Learning Outcomes – Students completing a bachelor's degree in chemistry will possess the skills and knowledge:

1. To design appropriate chemical experiments to test a chemistry hypothesis.
2. To use modern instrumentation to analyze chemical compounds and reactions.
3. To use computer programs to search the chemical literature.
4. To use proper chemical hygiene.
5. To obtain employment in the chemical industry or enroll in professional schools.

Assessment Tools – Students will be assessed using:

1. Course grades.
2. MCAT scores.
3. Exit interviews.

Data Collection – The Dept of Chemistry & Biochemistry has undergone multiple changes of chair within the last 3 years. As a result, some assessment data has not been consistently collected. Beginning with the 2016-2017 academic year, we will compile:

1. Cumulative and chemistry GPAs of graduating seniors.
2. The number and percentage of chemistry majors in undergraduate research.
3. The number and percentage of chemistry majors in the Honors program.
4. The MCAT scores of chemistry majors applying to medical school.
5. Beginning with the Spring 2016 semester, we have started systematic exit interviews with graduating majors.

Use of Assessment Results – We will provide the Dean with the above data on an annual basis. The collected exit interviews (without attribution) will be provided to the faculty as a basis for discussion of potential changes in curriculum.

Chemistry B.A. Biochemistry Option

Learning Outcomes – Students completing a bachelor's degree in chemistry will possess the skills and knowledge:

1. To design appropriate chemical experiments to test a chemistry hypothesis.
2. To use modern instrumentation to analyze chemical compounds and reactions.
3. To use computer programs to search the chemical literature.
4. To use proper chemical hygiene.
5. To obtain employment in the chemical industry or enroll in professional schools.

Assessment Tools – Students will be assessed using:

1. Course grades.
2. MCAT scores.
3. Exit interviews.

Data Collection – The Dept of Chemistry & Biochemistry has undergone multiple changes of chair within the last 3 years. As a result, some assessment data has not been consistently collected. Beginning with the 2016-2017 academic year, we will compile:

1. Cumulative and chemistry GPAs of graduating seniors.
2. The number and percentage of chemistry majors in undergraduate research.
3. The number and percentage of chemistry majors in the Honors program.
4. The MCAT scores of chemistry majors applying to medical school.
5. Beginning with the Spring 2016 semester, we have started systematic exit interviews with graduating majors.

Use of Assessment Results – We will provide the Dean with the above data on an annual basis. The collected exit interviews (without attribution) will be provided to the faculty as a basis for discussion of potential changes in curriculum.

Chemistry B.S. Biophysical Option

Learning Outcomes – Students completing a bachelor's degree in chemistry will possess the skills and knowledge:

1. To design appropriate chemical experiments to test a chemistry hypothesis.
2. To use modern instrumentation to analyze chemical compounds and reactions.
3. To use computer programs to search the chemical literature.
4. To use proper chemical hygiene.
5. To obtain employment in the chemical industry or enroll in professional schools.

Assessment Tools – Students will be assessed using:

1. Course grades.
2. MCAT scores.
3. Exit interviews.

Data Collection – The Dept of Chemistry & Biochemistry has undergone multiple changes of chair within the last 3 years. As a result, some assessment data has not been consistently collected. Beginning with the 2016-2017 academic year, we will compile:

1. Cumulative and chemistry GPAs of graduating seniors.
2. The number and percentage of chemistry majors in undergraduate research.
3. The number and percentage of chemistry majors in the Honors program.
4. The MCAT scores of chemistry majors applying to medical school.
5. Beginning with the Spring 2016 semester, we have started systematic exit interviews with graduating majors.

Use of Assessment Results – We will provide the Dean with the above data on an annual basis. The collected exit interviews (without attribution) will be provided to the faculty as a basis for discussion of potential changes in curriculum.

Chemistry, M.S.

Learning Outcomes – Same as for B.S. Chemistry majors, plus:

6. To present a clear, organized seminar to an audience of peers on a chemistry topic of current interest.
7. To complete a body of original research.
8. To describe the research project results in detailed form in a written thesis.

Assessment Tools – Students will be assessed using:

1. Course grades for 24 credits of graduate courses with at least a 3.0 cumulative average.
2. Annual meetings with their thesis committee to review progress.
3. A written thesis describing their research project.
4. A public defense of their thesis and examination by the thesis committee.

Data Collection –

1. Exit interviews will be held with each student.
2. The number of students graduating with an M.S. degree each year will be recorded.

Results of the interview will be shared with the CHBC Director of Graduate Studies and the department chair.

Chemistry, Ph.D.

Learning Outcomes - Same as for B.S. Chemistry majors, plus:

6. To present a lucid, organized seminar to an audience of peers on a chemistry topic of current interest.
7. To complete a body of original research.
8. To describe the research project results in detailed form in a written thesis.

Assessment Tools – Ph.D. students will be assessed by:

1. Course grades for graduate courses with at least a 3.0 cumulative average.
2. Successful completion of 7 cumulative examinations over 2 ½ semesters.
3. Annual meetings with their thesis committee to review progress.
4. A written thesis describing their research project.
5. A public defense of their thesis and examination by the thesis committee.

Data Collection –

1. Exit interviews will be held with each student.
2. The number of students graduating with an Ph.D. degree each year will be recorded.

Results of the interview will be shared with the CHBC Director of Graduate Studies and the department chair.