

MAJOR PROGRAM ASSESSMENT

Majors: B.A. in Chemistry, B.S. in Forensic Chemistry, B.S. in Chemistry Education

Department: Chemistry

Student Learning Goals/ Objectives <i>(For ALL majors)</i>	Courses Resulting in Achievement of these Goals/Objectives	Assessment Activities measuring achievement of goals/objectives	Measures/Criteria/Rubrics	Timetable
Students demonstrate mastery of core knowledge in the area of Analytical Chemistry	CHE112, CHE301	Selected questions from the ACS standardized exam in Analytical Chemistry upon completion of CHE301	>66%tile: exceeds expectation 45-66%tile: meets " 33-44%tile: approaching " <33%tile: does not meet "	Starting Fall 2009 and completed every semester the course is offered
Students demonstrate mastery of core knowledge in the area of Organic Chemistry	CHE201, CHE202, CHE203, CHE204	ACS standardized exam in Organic Chemistry upon completion of CHE202	>66%tile: exceeds expectation 45-66%tile: meets " 33-44%tile: approaching " <33 %tile: does not meet "	Starting Fall 2009 and completed every semester the course is offered
Students demonstrate mastery of core knowledge in the area of Physical Chemistry (B.A. and B.S. Ed.) <i>OR</i> mastery of basic concepts of Physical Chemistry (B.S. in Forensic Chemistry)	CHE305, CHE306 (B.A. and B.S. Ed.) ----- -- CHE331 (B.S. in Forensic Chemistry)	Cumulative final exam in Physical Chemistry upon completion of CHE306 ----- Cumulative final exam upon completion of CHE331	>72%: exceeds expectations 60-72%: meets " 50-59%: approaching " <50%: does not meet " >70%: exceeds expectations 60-70%: meets " 50-59%: approaching " <50%: does not meet "	Starting Spring 2010 and completed every semester the course is offered ----- Starting Spring 2010 and completed every semester the course is offered
Students demonstrate a mastery of basic concepts in the area of Biochemistry	CHE470	Cumulative final exam in CHE470	>72% : exceeds expectations 60-72%: meets " 50-59%: approaching " <50%: does not meet "	Starting Fall 2009 and completed every semester the course is offered
Students can use and understand the theory behind modern laboratory instrumentation	CHE203, CHE204, CHE301, CHE403, CHE471	Percentage of all possible points in CHE403	>85%: exceeds expectations 75-84%: meets " 50-74%: approaching " <50%: does not meet "	Starting Fall 2009 and completed every semester the course is offered
Students demonstrate ability to analyze and evaluate experimental data	CHE112, CHE301	Grade on the data analysis section of a laboratory report in CHE301.	>85%: exceeds expectations 75-85%: meets " 60-75%: approaching " <60%: does not meet "	Starting Fall 2009 and completed every semester the course is offered
Students are knowledgeable concerning safe laboratory practices	CHE111, CHE112, CHE203	Grade on laboratory-based experience on safety	>90%: exceeds expectations 80-89%: meets " 70-79%: approaching " <70%: does not meet "	Starting Fall 2009 and completed every semester the course is offered

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Students keep a legible and complete experimental record	CHE301, CHE403, CHE414, CHE471	Pts. on Laboratory Notebook in CHE 471 (20 pts possible)	>18 pts : exceeds expectations 16-18 pts: meets “ 14-15 pts: approaching “ <14 pts: does not meet “	Starting Fall 2009 and completed every semester the course is offered
Students can synthesize and characterize molecules	CHE203, CHE204	Laboratory report in CHE 204 on a synthesis experiment that reports % yield, melting point (m.p.) and/or other data used to characterize the product.	>70% yield, m.p. within 1 °C of accepted value: exceeds 60-70% yield, m.p. within 2 °C of accepted value: meets 50-60% yield, m.p. within 3 °C of accepted value: approaching. <50% yield, m.p. within 4 °C of accepted value: does not meet	Starting Fall 2009 and completed every semester the course is offered
Students demonstrate adequate technical report writing skills	CHE301, CHE403, CHE414, CHE471	The last formal laboratory report in CHE471 will be evaluated using assessment tool designed for this purpose	Avg. score on assess. tool: >5.0: exceeds expectations 4.0-4.9: meets “ 3.0-3.9: approaching “ <3.0: does not meet “	Starting Fall 2009 and completed every semester the course is offered
Students can use a personal computer to analyze and collect scientific data	CHE301, CHE471	Score on part A of the Enzyme Kinetics lab in CHE471	>18 pts: exceeds expectations 16-18 pts: meets “ 14-15 pts: approaching “ <14 pts: does not meet “	Starting Fall 2009 and completed every semester the course is offered
Students demonstrate adequate oral presentation skills	CHE 310, CHE 312, CHE 471	Oral Presentation in CHE471. Skills will be evaluated using assessment tool designed for this purpose.	Avg. score on assess. tool: >5.0: exceeds expectations 4.0-4.9: meets “ 3.0-3.9: approaching “ <3.0: does not meet “	Starting Fall 2009 and completed every semester the course is offered

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Student Learning Goals/ Objectives <i>(Additionally for major as indicated)</i>	Courses Resulting in Achievement of these Goals/Objectives	Assessment Activities measuring achievement of goals/objectives	Measures/Criteria/Rubrics	Timetable
<i>B.A. in Chemistry:</i>				
Students demonstrate a mastery of core knowledge in the area of Inorganic Chemistry (traditional track)	CHE111, CHE 460, CHE461	Final comprehensive exam in Inorganic Chemistry upon completion of CHE460	>90%: exceeds expectations 80-89%: meets “ 70-79%: approaching “ <70%: does not meet “	Starting Spring 2010 and completed every semester the course is offered
Students demonstrate a mastery of core knowledge in the area of Biochemistry (biochemistry track)	CHE470, CHE471, CHE472	ACS standardized exam in Biochemistry upon completion of CHE472	>66%tile: exceeds expectations 45-66%tile: meets “ 33-44%tile: approaching “ <33 %tile: does not meet “	Starting Spring 2010 and completed every semester the course is offered
Students demonstrate the rudimentary skills required to design and conduct chemical research	CHE203, CHE204, CHE307, CHE308, CHE403, CHE310, CHE461, CHE495	Special Project in CHE461 evaluated using assessment instrument designed for this purpose	Avg. score on assess. tool: >5.0: exceeds expectations 4.0-4.9: meets “ 3.0-3.9: approaching “ <3.0: does not meet “	Starting Spring 2010 and completed every semester the course is offered
Students are prepared for a career in chemistry or a chemistry related field, or, for advanced studies in chemistry	All required CHE courses; required courses in PHY and MAT	Alumni Survey; number of students that obtain jobs in Chemistry; number of students being accepted into Graduate level programs	Examination of Alumni survey and departmental data concerning entrance rates into Graduate school.	Ongoing
<i>B.S. in Forensic Chemistry:</i>				
Students are prepared for a career in forensic chemistry or for advanced studies in Forensic Chemistry	All required CHE courses; required courses in CRJ, BIO, PHY, and MAT	Evaluation by host in CHE412; Alumni Survey; Chemistry Department records of graduate schools attended	Examination of: alumni survey; evaluation and rubric conducted at end of CHE 412; Chemistry Department records.	Ongoing