Department of Chemistry and Biochemistry Master of Science Assessment Plan

PLO	When to Assess?	Direct and Indirect Evidence to Collect?	Who Collects Evidence?	How Evidence Assessed?	How Closing Loop Decisions Made?
C1 Context	SP2017	Direct	Assessment Committee	Online Concept Surveys *Chemistry Concept Inventory (CCI)* *Biochemistry Diagnostic Concept Inventory (BCI)*	AC Recs Department Faculty Vote
C2 Reps	SP2020	Indirect/Direct	Assessment Committee	Embedded & Online Survey Model Building	AC Recs Department Faculty Vote
C3 Interdisc	SP2022	Direct	Assessment Committee	Online Survey/Embedded	CC Recs
C4 Ethics	SP2019	Indirect/Direct	Assessment Committee	Online Survey & Embedded Assignment Lab Safety and Chemistry Ethics	AC Recs Department Faculty Vote
C5 Instrumt	SP2021	Direct	Assessment Committee	Embedded & Online Survey	AC Recs Department Faculty Vote
SP1 Lit	SP2018	Indirect/Direct	Assessment Committee	Online Survey *College Chemistry Self- Efficacy Survey (CCSS)*	AC Recs Department Faculty Vote
SP2 Hyp	SP2023	Direct	Assessment Committee	Online Survey *Test of Integrated Process Skills (TIPS)*	CC Recs
SP3 Rsch	SP2024	Indirect/Direct	Assessment Committee	Embedded Sig Assmt	CC Recs
SP4 Comm	SP2016	Direct	Assessment Committee	Embedded *Scientific Abstract Ethics Evaluation*	AC Recs Department Faculty Vote

AC Recs – Assessment Committee makes recommendations to department

For most updated information, please contact the Department.

University-Wide Student Learning Outcomes	C1 Context	C2 Reps	C3 Interdisc	C4 Ethics	C5 Instrmt	SP1 Lit	SP2 Hyp	SP3 Rsch	SP4 Comm
ULO1: Demonstrate intellectual literacy through the acquisition of knowledge and development of competence in disciplinary perspectives and interdisciplinary points of view.	Demonstrate in-depth knowledge and an understanding of scientific questions in a primary area of expertise in the chemical and biochemical sciences and place the thesis research in the context of the current state of knowledge of the field.	Appropriately employ models, theories, mathematical relationships and symbolic notations that are used to represent and test knowledge in the chemical and the biochemical sciences.			Demonstrate mastery of fundamental and advanced instrumentation and techniques used in his/her disciplinary field of chemistry and biochemistry.				
ULO2: Think critically, using analytical qualitative reasoning, to apply previously-learned concepts to new situations, complex challenges and everyday problems.						Analyze, interpret, and retrieve data from the primary and review literature, to develop critical thinking and problem solving skills for raising and addressing scientific questions.	Demonstrate the ability to generate and collect data and information through designing and safely testing original hypothesis using contemporary methods and techniques.		

University-Wide Student Learning Outcomes	C1 Context	C2 Reps	C3 Interdisc	C4 Ethics	C5 Instrmt	SP1 Lit	SP2 Hyp	SP3 Rsch	SP4 Comm
ULO3: Communicate clearly, effectively, and persuasively, both orally and in writing.									Effectively communicate ideas, concepts, results and conclusions from the original research project in written thesis, oral defense and poster presentations.
ULO4: Work effectively as a team member or leader to achieve a broad variety of goals.								Work independently and cooperatively on an original research project to collect, interpret, analyze, organize, and present high quality data for an original thesis.	

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University-Wide Student Learning Outcomes	C1 Context	C2 Reps	C3 Interdisc	C4 Ethics	C5 Instrmt	SP1 Lit	SP2 Hyp	SP3 Rsch	SP4 Comm
ULO5: Evaluate the significance of how differing perspectives and trends affect their communities.			Demonstrate an awareness of the diversity and interdisciplinary nature of the chemical and biochemical sciences and a competent understanding of the fundamental principles in related disciplinary fields through participation in coursework, seminars and group meetings.	Employ the principles of safe practices and ethical use of scientific knowledge, materials and procedures.					
ULO6: Recognize their roles in an interdependent global community.									

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