

Annual Report on Program Student Learning Outcomes Assessment

Program: BA in Chemistry: Teaching of Chemistry

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1. List the learning outcomes for the program

Students graduating with a major in Chemistry: Teaching of Chemistry are able to:

1. Demonstrate mastery of vertically integrated learning for building a body of critical knowledge in the chemical sciences.
2. Demonstrate an ability to use and apply appropriate concepts and quantitative methods in all sub-disciplines of chemistry (analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry) in both the classroom and the laboratory.
3. Integrate and apply a relevant body of knowledge to the evaluation of existing scientific studies, and address unsolved problems in the chemical and life sciences by designing studies to test specific hypotheses.
4. Communicate effectively both orally and in writing about the process of the chemical sciences, as a result of scientific inquiry.
5. Demonstrate mastery of basic laboratory techniques in all chemistry sub-disciplines.
6. Conduct mentored research in a research laboratory setting. *(Note: Approximately 85-90% of all graduating chemistry majors have had at least one semester of research experiences over the past five years.)*
7. Use research-grade chemical instrumentation, especially in nuclear magnetic resonance spectroscopy *(as specifically required by the American Chemical Society for certification as a chemistry major)*.
8. Demonstrate understanding of principles and best practices for the ethical conduct of research, as well as for experimental interpretation and the application of research.
9. Achieve secondary education licensure.