

OSC009 – GENERAL CHEMISTRY II (WITH LAB)

Credit Hour Recommendation: 4-5 Semester Hours
Prerequisite: General Chemistry I (OSC008)
Suggested Textbook Topics: Lecture to include a standard modern general chemistry text designed for a full-year sequence of general chemistry for science majors
Related TAGs: Biology, Bioengineering, Chemical Engineering, Chemistry, Geology
General Course Description: A continuation of the study of the principles of chemistry, including solution properties; acids and bases; chemical equilibrium; thermodynamics; reaction kinetics; and electrochemistry.
Note: These core competencies were aligned with the American Chemical Society (ACS) recommendations in mind. All experimental chemistry lab work must be performed in a traditional hands-on lab setting, ¹ and will build on topics covered in the corresponding lecture course.
Students must be proficient in all of the following core competencies:
<ol style="list-style-type: none">1. Intermolecular forces and phase changes2. Solutions and colligative properties3. Chemical kinetics4. Chemical equilibrium5. Acid-base and solubility equilibria6. Thermodynamics (including entropy and free energy)7. Electrochemistry8. Descriptive chemistry, including chemical properties and periodic patterns of reactivity9. Societal applications of chemistry10. Chemical problem solving using algebraic methods
Lab Course: Students must be proficient in all of the following core competencies: <ol style="list-style-type: none">11. Analytical and preparative skills12. The ability to effectively collect, analyze and report data13. Safe laboratory practice

¹ An American Chemical Society Public Policy Statement on the Importance of Hands-on Laboratory Science can be found at: <https://www.acs.org/content/acs/en/policy/publicpolicies/education/computersimulations.html>

**GENERAL CHEMISTRY TAG: GENERAL CHEMISTRY II
FACULTY PARTICIPANTS
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Name	Institution
Brian Leskiw (Lead)	Youngstown State University
John Blaha	Columbus State Community College
Hanbin Mao	Kent State University
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