

Bachelor of Science Education
MODULE HANDBOOK

 Email : kimia@unima.ac.id

 Website : <https://kimia.ac.id>

Module designation	General Chemistry II
Module level, if applicable	Bachelor/Undergraduate
Code, if applicable	
Semester(s) in which the module is taught	<i>1st semester</i>
Person responsible for the module	<i>Abdon Saiya, M.Si.</i>
Lecturer	<i>Abdon Saiya, M.Si Aisyiah Restutiningsih Putri Utami, M.Sc Miftahul Jannah, M.Si</i>
Language	<i>Indonesian</i>
Relation to curriculum	<i>A compulsory course that introduces foundational chemical concepts including atomic structure, periodicity, chemical bonding, stoichiometry, solutions, acid–base theories, and chemical equilibrium, serving as the basis for advanced chemistry courses.</i>

Teaching methods	<p><i>Lectures, discussions, question–answer sessions, presentations, case-based method, project-based learning, synchronous & asynchronous online learning, demonstrations.</i></p>
Workload	<p><i>Covers weekly meetings consisting of:</i></p> <ul style="list-style-type: none"><i>• Face-to-face lectures (3 × 50 minutes/week)</i><i>• Structured assignments (3 × 60 minutes/week)</i><i>• Independent study (3 × 60 minutes/week)</i> <p><i>Includes quizzes, presentations, discussions, case-based learning, midterm and final exams.</i></p>

Credit points	3 credits (T=3, P=0)
Required and recommended prerequisites for joining the module	None
Module objectives/intended learning outcomes	<p>Students are able to:</p> <ul style="list-style-type: none"> • Demonstrate academic responsibility, honesty, and discipline in learning chemistry. • Master fundamental concepts of chemistry including atomic structure, periodicity, bonding, stoichiometry, solutions, acid–base theories, and equilibrium. • Utilize digital tools and technology to support learning. • Apply chemical concepts to analyze and solve basic chemical problems.
Content	<ol style="list-style-type: none"> 1. Atomic Structure (classical and quantum theories) 2. Periodic Table Development & Periodic Properties 3. Chemical Bonding (ionic, covalent, coordination, metallic) 4. Molecular Geometry 5. Stoichiometry of Solutions and Gases 6. Concept of Solutions (molarity, normality) 7. Acid–Base Theories (Arrhenius, Brønsted-Lowry, Lewis) 8. Chemical Equilibrium 9. Reaction Kinetics 10. Energy and Entropy
Examination forms	<p>Quizzes, written exams (midterm & final), laboratory reports, practical performance, analytical tasks, presentations, case analysis, observation-based evaluation.</p>

Study and examination requirements	<ul style="list-style-type: none">- <i>Minimum attendance 75%</i>- <i>Active participation in class, group discussions, and laboratory work</i>- <i>Completion of individual and group assignments</i>- <i>Mid-semester and final examinations</i>- <i>Continuous assessment of laboratory performance, reports, and discussions</i>
Reading list	<p>Main References:</p> <ol style="list-style-type: none">1. Sugiyarto, K.H. (2001). <i>Common Textbook: Kimia Anorganik II, UNY.</i>2. Shriver, D.F., Langford, C.H., & Atkins, P.W. (1990). <i>Inorganic Chemistry.</i> Oxford Press.3. Oxtoby, D.W. (2002). <i>Principles of Modern Chemistry.</i> Nelson Thompson. <p>Supporting References:</p> <ul style="list-style-type: none">• <i>Lecture notes and additional materials provided by lecturers.</i>