



UNIVERSITAS NEGERI PADANG
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
MATHEMATICS DEPARTMENT, MATHEMATICS STUDY PROGRAM
Main Campus Universitas Negeri Padang.
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Bachelor of Science in Mathematics

MODULE HANDBOOK

Module name:	Basic Chemistry
Module level, if applicable:	Bachelor
Code:	FMA1.60.1304
Subheading, if applicable:	-
Classes, if applicable:	Basic Chemistry
Semester:	2 nd (Second Semester)
Module coordinator:	Dra. Iryani, M.Si.
Lecturer(s):	Dra. Iryani, M.Si. and team
Language:	Indonesian Language and English
Classification within the curriculum:	Faculty Compulsory Courses
Teaching format / class hours per week during the semester	<ol style="list-style-type: none">Lectures : by Cooperative Learning with methods such as presentation, question and answer, and problem solving (3 x 50 minutes = 150 minutes).Structured assignment (3 x 60 minutes = 180 minutes).Individual study. (3 x 60 minutes = 180 minutes).Practical lesson in the Laboratorium (170 minutes).
Workload:	Total workload is 181,33 hours per semester, which consists of 150 minutes lectures per week for 16 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, and 170 minutes laboratory work per week, in total 16 weeks per semester (including mid and final exam).
Credit points:	4 sks = 6.04 ECTS
Prerequisites course(s):	No prerequisite is needed
Course Outcomes:	After completing this course, the students have ability to: CO1. Care about environment and health affective by chemical substances CO 2. Work creatively, innovatively, collaboratively, conscientiously and responsibly and sensitive to change CO 3. Mastering theoretical concepts about aspects of the structure, properties, dynamics, and energy of living non-living matter.

Content:	<ul style="list-style-type: none"> ● Atomic Structure ● Periodic System of the Elements ● Basic Chemical Laws ● Ionic Bonds ● Covalent bonds ● Chemical Compound Nomenclature ● Metal Bonds and intermolecular interactions ● Stoichiometry ● Chemical Energetics ● Chemical Kinetics ● form of matter
Study/exam achievements:	<p>The final mark will be weighted as follows:</p> <p>The practicum (20%), final examination (30%), mid term exam (30%), assignment and presentation (20 %).</p> <p>The final and mid-term exams are essay tests with a closed book (120 minutes).</p> <p>In class, the lecturer frequently assigns an issue for small groups to discuss, and students are given an open question to respond individually.</p> <p>Presentations: The class participants will be separated into several small groups. Each group will be assigned to a certain topic relating to the course material. The students should discuss the issue, write a paper, and give a presentation in class.</p> <p>Under the supervision of a lecturer or lecturer assistant, practical work are held in the chemical laboratory. The practicum is useful for illustrating a relevant concept or witnessing a reaction-related phenomena in chemistry.</p>
Forms of media:	White Board, laptop, Projector, e-learning via elearning2.unp.ac.id, and zoom meeting.
Literature:	<ol style="list-style-type: none"> 1. Jespersen, Neil D., James E. Brady, dan Alison Hyslop. (2012). <i>Chemistry The Molecular Nature of Matter</i>. New York, USA: John Willey & Sons. 2. Tim Kimia Dasar FMIPA UNP. (2018). <i>Penuntun Praktikum Kimia Umum</i>. Padang: FMIPA Universitas Negeri Padang. 3. Chang, Raymon, 2011. <i>General Chemistry: The Essential Concept</i>. Sixth Edition. New York: McGraw Hill Companies 4. Pettruci. 2017. <i>General Chemistry: Principles and Modern Applications</i>. University of Windsor, Canada : Prentice-hall. 5. Achmad, Hiskia dkk. (1990). <i>Seri Penuntun Belajar Kimia</i>. Bandung, Indonesia: FMIPA ITB.

PLO and CO Mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1	√									
CO2		√								
CO3							√			