# Module Description of Basic Chemistry

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| Module Name | : | Basic Chemistry |
| Module Level | : | Bachelor of Mathematics |
| Code, if applicable | : | 23H03112702 |
| Subtitle, if applicable | : | - |
| Courses, if applicable | : | Basic Chemistry |
| Semester(s) in which the module is taught | : | I (First Semester) |
| Module coordinator(s) | : | Dr. Rugaiyah A., M.Si |
| Lecturer(s) | : | MKU Chemistry Lecturer Team |
| Language | : | Indonesian Language (Bahasa Indonesia) |
| Relation to curriculum | : | This course is a compulsory course and offered in first semester |
| Type of teaching | | Small Group Discussion (SGD), Cooperative and Collaborative Learning (CBL), Problem Based Learning (PBL) |
| Contact hours | : | 100 minutes lectures per week, 120 minutes structured activities per week, and 120 minutes independent study per week |
| Workload | : | Total workload is 90 hours per semester which consists of 26 hours for Learning and Teaching, 32 hours for Self-Study, and 32 hours for Structured Works |
| Credit points | : | 2 (3.2 ECTS) |
| Requirements according to the examination regulations | : | Students are required to attend at least 80% of the total meetings which is recorded via the attendance menu at https://sikola-v2.unhas.ac.id/, complete all mandatory assignments, and obtain permission from the lecturer to participate in the examination. |
| Recommended prerequisites | : | None |
| Module objectives/intended learning outcomes | : | Intended Learning Outcomes (ILO):<br>ILO 1: Mastering knowledge of facts and theories related to the basic fields of chemistry (organic chemistry, inorganic chemistry, physical chemistry, analytical chemistry, and biochemistry) (Knowledge)<br>ILO 2: Demonstrate the ability to think critically and analytically to solve various problems related to the field of chemistry (Generic Skill 1)<br><br>Course Learning Objective (CLO):<br>CLO 1. Ability to comprehensively describe the material of atomic structure, periodic system of elements, chemical bonding, chemical equilibrium, hydrocarbon compounds, functional groups of organic compounds, and basic biomolecules. [ILO 1] |

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| | | CLO 2. Ability to critically analyze problems or cases related to stoichiometry, solutions, acid-base equilibrium, chemical thermodynamics, chemical kinetics, and electrochemistry. [ILO 2] |
| Content | : | Students will learn about:<br>1. Atomic Structure<br>2. Periodic System of elements<br>3. Chemical Bonding<br>4. Stoichiometry<br>5. Solutions<br>6. Chemical Equilibrium<br>7. acid-base equilibrium<br>8. Chemical Thermodynamics<br>9. Chemical Kinetics<br>10. Electrochemistry<br>11. Hydrocarbon Compounds<br>12. Functional Groups of Organic Compounds<br>13. Biomolecular Basis |
| Study and examination requirements | : | Study and examination requirements:<br>1. Students must attend 15 minutes before the class starts<br>2. Students must inform the lecturer if they will not attend the class due to sickness, an urgent need, etc.<br>3. Students must submit all class assignments before the deadline<br>4. Students must switch off/silent all electronic devices<br>5. Students must the attend the exam to get final grade |
| Exams and assessment formats | : | 40% for Presentation, 30% for Written Exam, and 30% for Assignment<br><br>Assignments assess student's ability to apply concepts independently. Presentations evaluate oral communication, organization of ideas, and confidence in delivering academic material. The Written Exam assesses comprehension and synthesis of all materials discussed during the semester. Altogether, these components account for 100% of the final grade. |
| Reading list | : | Main:<br>1. Hasanuddin University Chemistry Lecturer Team, 2011, Basic Chemistry, Technical Implementation Unit-MKU, Hasanuddin University, Makassar.<br>2. Chemistry Lecturer Team, 2013, Organic Chemistry, Technical Implementation Unit-MKU, Hasanuddin University, Makassar Teaching Materials for Sampling Techniques, Anisa, 2012.<br>Support: |

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| | | 1. David L. Nelson, Michael M.Cox, 2005, Lehninger; Principles of Biochemistry, W.H. Freeman Company<br>2. David L. Nelson, Michael M.Cox, 2005, Lehninger; *Principles of Biochemistry*, W.H. Freeman Company. |
| Last Updated | : | June 5th, 2023 |