

MODULE HANDBOOK

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| Course | General Chemistry I (Practical) |
| Module Level: | Undergraduate |
| Code | KID102 |
| Sub-heading, if applicable: | - |
| Courses included in the module, if applicable: | - |
| Semester/Term: | 1 st / First Year |
| Module Coordinator: | Dra. Aning Purwaningsih, M.Si |
| Lecturer(s): | Dra. Aning Purwaningsih, M.Si.; Dr. Ir.Suyanto, M.Si.; Dra. Usreg Sri Handajani, M.Si.; M Zaki Fahmi, S.Si.M.Si. Ph.D.; Siti Wafiroh, S.Si, M.Si.; Harsasi S.Si. M.Si.; Yanuardi Raharjo,S.Si, M.Sc.; Ahmadi Jaya Permana, S.Si, M.Si.; Sofijan Hadi, S.Si. M.Si.; Dr. Purkan, M.Si.; Dr. Sri Sumarsih, M.Si. |
| Language: | Bahasa Indonesia |
| Classification within Curriculum: | Compulsory Course / Elective Course |
| Teaching format / class hours per week during semester: | 2 hours of laboratory work (50 min / hours) |
| Workload: | 2 hours doing worksheet and pretest preparation, 2 hours of laboratory work, 2 hours of group discussion, searching literature and writing report, |
| Credit Points: | 1 |
| Requirement(s): | This course can be taken simultaneously with General Chemistry II (KID103) lecture. |
| Learning Goals/Competencies: | <p>General competence (Skill): Able to prepare, assemble tools and practice for chemical bonding materials, molar volume, speed of reaction, redox reactions, chemical elements, colligative properties, and identify seyawa carbon (alcohols, phenols, ketones, aldehydes, ethene, ethyne and carboxylic acids).</p> <p>Specific Competence</p> <ol style="list-style-type: none"> 1. Students are able to differentiate the chemical bonds of a compound 2. Students are able to calculate the molar volume of gas 3. Students are able to calculate the speed of a chemical reaction 4. Students are able to identify an element with spot test, redox reactions, and colligative properties 5. Students are to identify carbon compounds (alcohols, phenols, ketones, aldehydes, ethene, ethyne and carboxylic acids) |
| Contents: | This course experiment includes topics about chemical bonding, reaction speed, molar volume, reduction and oxidation, the determination of equivalent weight, the introduction of elements (Ag ⁺ , Pb ²⁺ , K ⁺ , Na ⁺ , NH ₄ ⁺ , Mg ²⁺ , Ba ²⁺ , Ca ²⁺ , CO ₃ ²⁻ , NO ₃ ⁻ , SO ₄ ²⁻ , CNS ⁻), colligative properties, alcohols, phenols, ketones and aldehydes, ethene and ethyne, |

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| | carboxylic acids |
| Soft Skill Attribute: | The discipline of presence, submitting journal, hygiene of laboratory Table |
| Study/Exam Achievements: | <p>Students are considered to be competent and passed if at least get 55.</p> <ol style="list-style-type: none"> 1. Daily Value: pretest 20%, 40% experiemntal work (including timely attendance, including submitting the experiment journals on time, skills and activeness during experiment, observations made, and the cleanliness of the table after experiment), discussion 20%, experiment reports 20%. 2. Final Exam (Written Test) <p>Final daily score = 60% daily value + 40% final examination score</p> <p>Final index is defined as follow:</p> <p>A : 75 – 100 AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99 D : 40 - 54.99 E : 0 - 39.99</p> |
| Learning Methods | LCD, white board and experiment guidance |
| Forms of Media: | Experiment in laboratory and discussion |
| Literature(s): | <ol style="list-style-type: none"> 1. Kaisar, R.W. and Griffith, C. H., 1991. <i>General Chemistry Laboratory Manual</i>, 2nd ed., Ginn Press, Kentucky. 2. Raymond Chang., 2004, <i>Kimia Dasar (Konsep Konsep Inti)</i>, Edisi Ketiga , Erlangga , Jakarta 3. Vogel, A.I., 1979, <i>Textbook of Macro and Semimicro Qualitative Inorganic Analysis</i>, 5th Ed, Longman Group, Ltd., London 4. Whitten, K.D., and Dari, R.E., 1992, <i>General Chemistry and Qualitative Analysis</i>, 4th Ed, Saunders, Publ., Orlando |
| Notes: | <p>*Total ECTS = {(total hours workload x 50 min) / 60 min } / 25 hours</p> <p>Each ECTS is equals with 25 hours</p> |