



Diponegoro University
Faculty of Science and Mathematics
Undergraduate Program Of Chemistry

Module designation	Experimental in General Chemistry 1 (PKD1)
Semester(s) in which the module is taught	1
Person responsible for the module	Yayuk Astuti, S.Si., Ph.D
Language	Indonesian
Relation to curriculum	Compulsory /elective/ specialisation
Teaching methods	Labwork
Workload (incl. contact hours, self-study hours)	Face to Face: 1 x (1 x 50 min); Self Study : 1 x (1 x 60 min); Structured tasks : 1 x (1 x 60 min)
Credit points	1
Required and recommended prerequisites for joining the module	-

Module objectives/intended learning outcomes	<ol style="list-style-type: none">1. Work together and have social sensitivity and concern for society and the environment. (S6).2. Internalize academic values, norms, and ethics. (S8).3. Demonstrate an attitude of being responsible for work in their field of expertise independently. (S9).4. Internalize the spirit of independence, struggle, and entrepreneurship. (S10).5. Able to apply logical, critical, systematic, and innovative thinking in the development or implementation of science and technology that pays attention to and applies humanities values by their field of expertise. (KU1)6. Able to make decisions regularly in the context of solving problems in their area of expertise, based on the results of analysis of information and data. (KU5)7. Able to maintain and develop a network with supervisors, colleagues, colleagues both inside and outside the institution. (KU6)8. Able to be responsible for achieving group work results and supervise and evaluate the completion of work assigned to workers under their responsibility. (KU7)9. Able to carry out the process of self-evaluation of the workgroup under their responsibility and manage to learn independently. (KU8)10. Able to document, store, secure, and retrieve data to ensure validity and prevent plagiarism. (KU9)11. Able to produce appropriate conclusions based on the identification, analysis, isolation, transformation, and synthesis of chemicals that have been carried out. (KK1)12. Able to analyze several alternative solutions in identification, analysis, isolation, transformation, and synthesis of available chemicals and present analysis conclusions for appropriate decision making. (KK3)13. Able to use software to determine the structure and energy of micromolecules, software to assist analysis and synthesis in general or more specific chemical fields (organic, biochemical, or inorganic), and data processing (analytical chemistry). (KK4)14. Mastering complete operational knowledge of functions, operating standard chemical instruments, and analyzing data and information from these instruments. (PP2)
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Content	<ol style="list-style-type: none"> 1. Briefing 2. Basic Laboratory Skills 3. Chemical Reactions: General Symptoms and Reaction Rates 4. Chemical Reactions: General Symptoms and Reaction Rates 5. Colligative Properties of Solutions; Freezing Point Drop 6. Colligative Properties of Solutions; Freezing Point Drop 7. Acid-Base Reaction Quantitative Analysis 8. Acid-Base Reaction Quantitative Analysis 9. Quantitative Analysis Based on Solution Color: Colorimetry 10. Chemical Reactions: Introduction to Functional Groups 11. Chemical Reactions: Introduction to Functional Groups 12. Bio-organic Compounds: Carbohydrates 13. Bio-Organic Compounds: Fat 14. Bio-Organic Compounds: Fat 15. Bio-Organic Compound: Protein
Exams and assessment formats	Response
Study and examination requirements	
Reading list	