



Diponegoro University
Faculty of Science and Mathematics
Undergraduate Program Of Chemistry

Module designation	Experimental in Analytical Chemistry (PKA)
Semester(s) in which the module is taught	3
Person responsible for the module	Khabibi, M.Si
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	KA 1

<p>Module objectives/intended learning outcomes</p>	<ol style="list-style-type: none"> 1. Demonstrate a responsible attitude towards work in their area of expertise independently (S9) 2. Able to apply logical, critical, systematic, and innovative thinking in the development or implementation of science and technology that pays attention to and uses humanities values by their field of expertise. (KU1) 3. Able to produce appropriate conclusions based on the identification, analysis, isolation, transformation, and synthesis of chemicals that have been carried out. (KK1) 4. Able to solve science and technology problems in general chemistry and uncomplicated scopes such as identification, analysis, isolation, transformation, and synthesis of micro-molecules through the application of knowledge of structure, properties, kinetics, and energetics of molecules and chemical systems, with methods analysis and synthesis in specific chemical fields, as well as the application of relevant technologies. (KK2) 5. 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) 6. 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 for data processing (analytical chemistry). (KK4) 7. Mastering the theoretical concepts of structure, properties, changes, kinetics, and energetics of molecules and chemical systems, identification, separation, characterization, transformation, synthesis of micromolecular chemicals, and their application. (PP1)
<p>Content</p>	<ol style="list-style-type: none"> 1. Assistance 2. Preparation of standard solutions 3. Preparation of test solution 4. Cation group analysis 5. Anion group analysis 6. Acidi-alkalimetric analysis 7. Gravimetric Analysis 8. Permanganometric Analysis 9. Determination of calcium levels by atomic absorption spectroscopy (AAS) 10. Electrogravimetric separation and determination of Cu^{2+} and Zn^{2+} ions in a mixture 11. Potentiometric determination of ZnSO_4 concentration 12. Assistance and guidance in writing the best reports 13. Assistance and guidance in writing the best reports 14. Presentation of the best results for each practicum subject 15. Presentation of the best results for each practicum subject

Exams and assessment formats	Response
Study and examination requirements	
Reading list	