



UNIVERSITAS NEGERI YOGYAKARTA
 FACULTY OF MATHEMATICS AND NATURAL SCIENCES
 DEPARTMENT OF CHEMISTRY
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Bachelor of Science in Chemistry

MODULE HANDBOOK

Module name:	Chemical Separation Method						
Module level, if applicable:	Undergraduate						
Code:	KIM6412						
Sub-heading, if applicable:	-						
Classes, if applicable:	2						
Semester:	4 th						
Module coordinator:	Susila Kristianingrum, M.Si.						
Lecturer(s):	1. Prof. Dr. Suyanta, M.Si 2. Susila Kristianingrum, M.Si. 3. Annisa Fillaeli, M.Si.						
Language:	Bahasa Indonesia and English						
Classification within the curriculum:	Compulsory Subject						
Teaching format / class hours per week during the semester:	<ul style="list-style-type: none"> • Lectures: 150 minutes lectures, 180 structured activities and 180 individual study per week • Laboratory work: 170 minutes includes the laboratory work and it's reporting per week 						
Workload:	Total workload of the activity is 181,33 hours per semester which consists of 150 minutes lectures, 180 structured activities and 180 individual study and also 170 minutes laboratory work with it's reporting per week for 16 weeks						
Credit points:	4 SKS (7 ECTS) with the details of 3 SKS (5 ECTS) lectures and 1 SKS (2 ECTS)						
Prerequisites course(s):	General Chemistry, Fundamentals of Analytical Chemistry						
Course Outcomes	<p>After taking this course, the students are expected to be able to:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 15%;">CO1</td> <td>Understand the concept of chemical separation processes through direct minitrip</td> </tr> <tr> <td>CO2</td> <td>Understand the concept of separating materials in a mixture</td> </tr> <tr> <td>CO3</td> <td>Apply the methods of chemical separation found in everyday life through literature and field observations</td> </tr> </table>	CO1	Understand the concept of chemical separation processes through direct minitrip	CO2	Understand the concept of separating materials in a mixture	CO3	Apply the methods of chemical separation found in everyday life through literature and field observations
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CO2	Understand the concept of separating materials in a mixture						
CO3	Apply the methods of chemical separation found in everyday life through literature and field observations						
Content:	This course deals with various principles of analytic separation, several factors that influence, electrochemical separation and analysis methods and separation with membranes.						
Course Outcome:	Attitude assessment is carried out at each meeting by observation and/or self-assessment techniques using the assumption that basically every student has a good attitude. The student is marked very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not taken into account in the final grades, but as one of the requirements to pass						

	<p>the course. Students will pass from this course if at least have a good attitude. The final mark will be weight as follow:</p> <table border="1"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CO1, CO2, CO3</td> <td>a. Participation b. Assignment c. Mid-term Exam d. Final Exam e. Lab Work</td> <td>Presentation / written test</td> <td>5% 15% 25% 25% 30%</td> </tr> <tr> <td colspan="4">Total</td> <td>100%</td> </tr> </tbody> </table>				No	CO	Assessment Object	Assessment Technique	Weight	1	CO1, CO2, CO3	a. Participation b. Assignment c. Mid-term Exam d. Final Exam e. Lab Work	Presentation / written test	5% 15% 25% 25% 30%	Total				100%
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Total				100%															
Forms of media:	Board, LCD Projector, Laptop/Computer, Tools and Chemicals for demonstration.																		
References:	<ol style="list-style-type: none"> 1. Soebagyo, dkk, (2005), Kimia Analisis II, UM Press: Malang 2. Skoog & West. (1985). <i>Fundamental Methods of Chemical Analysis</i>. Philadelphia: Saunders College Pub. 3. Khopkar, S.M. (1990). <i>Konsep Dasar Kimia Analitik</i>. Jakarta: UI Press 4. Pecksock, R.I. & Shield. (1976). <i>Modern Methods of Chemical Analysis</i>. New York: John Wiley & Sons 5. Larry G.H, (1988). <i>Analytical Chemistry, Principles and Techniques</i>. London: Prentice-Hall Inc. 6. John Kenkel. (2003). <i>Analytical Chemistry for Technicians</i>, Boca Raton: Lewis Publisher. 7. Nellu Grinberg and Peter W Carr. (2019). <i>Advanced in Chromatography</i>. Volume 56. CRC Press 																		

PLO and CO mapping

	PLO										
	Attitude	General Skill			Knowledge				Specific Skill		
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	
CO1				√							
CO2					√						
CO3										√	