
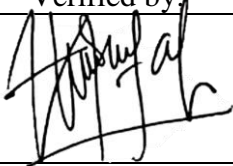





Faculty of Natural Sciences and Mathematics
Chemistry Department
Chemistry Education Study Program

Module Name		Separation and Purification Chemistry		
Module level, if applicable		3 st year		
Code, if applicable		SPK-316		
Semester (s) in which the module is taught		6 st semester		
Person responsible for the module		Prof. Riyanto, M.Si., Ph.D		
Lecturer(s)		Prof. Riyanto, M.Si., Ph.D Muhaimin, M.Sc.		
Language		English- Indonesia		
Relation to curriculum		Compulsory		
Types of teaching and learning	Class size	Forms of active participation	Workload: 91 hours	
Lecture and discussion	50 – 60	Discussion	Lecture: 100 (min) x 16 (meeting)	27 hours
			Assignment: 120 (min) x 16 (week)	32 hours
			Independent study: 120 (min) x 16 (week)	32 hours
ECTS credit		3.25		
Credit points		2 SCU		
Requirements according to examination regulations		Minimum attendance at lectures is 75% (according to UII regulation)		
Recommended prerequisites		N/A		
Related course		Instrumental Chemistry		
Module objectives/intended learning		<p>On successful completion of the course students should be able to:</p> <ol style="list-style-type: none"> 1. Explain a comprehensive overview of the theory of separation and classification of chemical separation and can explain the basics of chemical separation 2. Present examples of applications of several chemical separation methods in everyday life 		
Content		<ul style="list-style-type: none"> • Separation technique by distillation • Separation technique by soxhletation • Separation technique by chromatography • Separation technique by filtering • Separation technique by separating funnel extraction • Separation technique with compleximetry • Separation technique by adsorption and coagulation 		

	<ul style="list-style-type: none"> • Purification technique by chemical and physical recrystallization 									
Study and examination requirements and forms of examination	Final score (NA) is calculated as follows:									
	<table border="1"> <thead> <tr> <th>Intended learning outcomes</th> <th>Weight (%)</th> <th>Technique of assessment</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>50</td> <td>Written test: assignment, midterm</td> </tr> <tr> <td>2</td> <td>50</td> <td>Written test: assignment, final examination</td> </tr> </tbody> </table>	Intended learning outcomes	Weight (%)	Technique of assessment	1	50	Written test: assignment, midterm	2	50	Written test: assignment, final examination
	Intended learning outcomes	Weight (%)	Technique of assessment							
1	50	Written test: assignment, midterm								
2	50	Written test: assignment, final examination								
Media employed	Power point slide presentation, video, Google classroom									
Reading lists	<ol style="list-style-type: none"> 1. Ackley, K.L. dan Caruso, J.A. 2003. Separation Techniques- Liquid Chromatography, p. 147-162 dalam Cornelis, R., Caruso, J., Crews, H., dan Heumann, K., eds, Handbook of elemental speciation: techniques and methodology, Wiley, England. 2. Harvey, d., Modern analytical Chemsitry, McGraw-Hill Higher Education Pubs., 2000 3. Mitra, S., Sample Preparation techniques in analytical chemistry, Wiley, Canada, 2003 4. Aktr, K. F., G. Owens, D. E. Davey and R. Naidu. 2005. Arsenic spaciation and toxicity in biological systems. Reviews of environmental contamination and toxicology, vol 184:97-149. 5. B'Hymer, C. and Caruso, J.A. 2004. Arsenic and its speciation analysis using high-performancne liquid chromatography and inductively coupled plasma mass spectrometry. Jounal of chromatography A 1045, no 1-2, 1-13. 									

Prepared by:	Verified by:	Authorized by:
		
Person responsible for the module	Student representative	Coordinator Program