
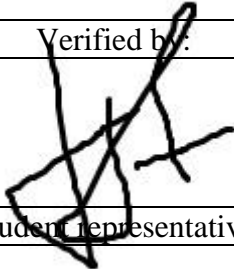





Faculty of Natural Sciences and Mathematics  
Chemistry Department  
Chemistry Education Study Program

Module Name		Analytical Chemistry II		
Module level, if applicable		2 <sup>nd</sup> year		
Code, if applicable		SPK-316		
Semester (s) in which the module is taught		3 <sup>rd</sup> semester		
Person responsible for the module		Prof. Riyanto, M.Si., Ph.D		
Lecturer(s)		Prof. Riyanto, M.Si., Ph.D Muhaimin, M.Sc.		
Language		Indonesia		
Relation to curriculum		<i>Compulsory</i>		
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		Analytical Chemistry I		
Related course		Instrumental Chemistry		
Module objectives/intended learning		On successful completion of the course students should be able to: <ol style="list-style-type: none"> <li>1. Explain and choose the right sampling technique according to the sample</li> <li>2. Explain and select gravimetric and volumetric analysis methods as well as thermal analysis according to the analysis case</li> </ol>		
Content		<ul style="list-style-type: none"> <li>• Identification of analytes,</li> <li>• sampling technique,</li> <li>• quantitative gravimetric analysis,</li> <li>• quantitative analysis of acid base titrimetry,</li> <li>• quantitative analysis of redox reaction titrimetry,</li> </ul>		

	<ul style="list-style-type: none"> <li>quantitative analysis of precipitation reaction titrimetry,</li> <li>quantitative analysis of complexometric titrimetry,</li> <li>thermal analysis.</li> </ul>									
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	Powerpoint slide presentation, video, Google classroom									
Reading lists	<ol style="list-style-type: none"> <li>Harvey, D., Modern Analytical Chemistry, McGraw-Hill Higher Education Pubs., 2000</li> <li>Mitra, S., Sample preparation techniques in analytical chemistry, Wiley, Canada, 2003</li> <li>Skoog, D.A., et al, Fundamentals of Analytical Chemistry 8th ed., Saunder College Pubs., 2004</li> <li>Christian, G.D., Analytical Chemistry 7th ed, John Wiley &amp; Sons, 2011</li> <li>Harris, D.C., Quantitative Analytical Chemistry 8th ed, Freeman Co., 2010</li> <li>Vyazovkin, S., Thermogravimetric Analysis, John Wiley, 2012</li> <li>Hoehne, G., et al., Differential Scanning Calorimetry, Springer, 2003</li> </ol>									

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