

**SEMESTER LEARNING ACTIVITY PLANS
(SLAP)
SEMESTER ODD 2022/2023**



Physics Undergraduate Study Program
Physics Department
General Chemistry I
MKK 1101/ 3 Credits

Lecturer Coordinator:

Tim

**UNIVERSITAS GADJAH MADA
FACULTY OF MATHEMATICS AND NATURAL SCIENCE
2022**



Universitas Gadjah Mada

Faculty of Mathematics and Natural Science
 Physics Department / Physics Undergraduate Study Program
 Semester ODD 2022/2023

Document Number :

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Code	Course Name	Credits (Credits)		Semester	Status	Prerequisite	
<i>MKK 1101</i>	<i>General Chemistry I</i>	<i>T: 3</i>	<i>P: ...</i>	<i>ODD</i>	<i>Compulsory</i>	<i>None</i>	
Short Description	This course will study Introduction, Molecules, Ions and Chemical Formulas, Chemical Reactions; Reactions in solution, Energy changes in chemical reactions; Atomic Structure, Periodic Table; Ionic Bonds vs Covalent Bonds, Molecular Geometry and covalent bond models						
Program Learning Outcomes (PLO) Imposed on the Course	<i>PLO 1</i>	<i>Attitude.</i> Have faith and fear of God Almighty, and apply good morals, ethics, initiative, and responsibility in completing their duties.					
	<i>PLO 4</i>	<i>Special Skills.</i> Able to design and carry out experiments/theoretical reviews, able to identify a physical problem based on the results of observations and experiments, and able to operate related technologies.					
Course Outcomes (CO)	After completing this course, students are expected to be able to:						
	<i>CO1</i>	Students are able to understand the concept of atomic and molecular structure,					
	<i>CO2</i>	Students understand reactions and energy changes, as well as the basic theory of chemical bonds					
The Correlation of CO to Learning Materials and Methods, and Time Allocation			Learning Materials		Learning Methods	Time Allocation	
	<i>CO 1</i>	Introduction		TCL - SCL mixed	<i>3X50 minutes</i>		
	<i>CO 1</i>	Molecule		TCL - SCL mixed	<i>3X50 minutes</i>		
	<i>CO 1</i>	Ion		TCL - SCL mixed	<i>3X50 minutes</i>		
	<i>CO 1</i>	Chemical Formula		TCL - SCL mixed	<i>3X50 minutes</i>		
	<i>CO 1</i>	Chemical Reaction		TCL - SCL mixed	<i>3X50 minutes</i>		
	<i>CO 1</i>	Chemical reactions in solution		TCL - SCL mixed	<i>3X50 minutes</i>		
	Midterm exam/Project Task Results/Case Analysis Results						
	<i>CO 2</i>	Energy changes in chemical reactions		TCL - SCL mixed	<i>3X50 minutes</i>		
	<i>CO 2</i>	Atomic structure		TCL - SCL mixed	<i>3X50 minutes</i>		
	<i>CO 2</i>	Periodic table		TCL - SCL mixed	<i>3X50 minutes</i>		
	<i>CO 2</i>	Ionic Bond vs Covalent Bonding		TCL - SCL mixed	<i>3X50 minutes</i>		
	<i>CO 2</i>	Molecular geometry		TCL - SCL mixed	<i>3X50 minutes</i>		
	<i>CO 2</i>	Covalent Bonding Model		TCL - SCL mixed	<i>3X50 minutes</i>		
	Final exams/ Project Task Results/Case Analysis Results						
	Learning Methods	TCL - SCL mixed					
Student Learning Experience	Studying, discussing, asking questions						

Access to Learning Media/ LMS and Offline and Online Percentage	Whiteboard, LCD, Laptop/Computer									
Assessment Methods and Synchronization with CO	Assessment Methods	Assessment Percentage	Criteria/ Indicators	CO1	CO2					
	Participatory Activity*									
	Project Results/ Case Study Results/ PBL Results*									
	Cognitive									
	Assignment	30			√	√				
	Quiz	-								
	Midterm Exam	30			√					
	Final Exam	40				√				
	Total	100								
	*) can also be obtained from the Midterm or Final Exam as the result of participatory activities or project/ case study results. According to IKU 7, the percentage of project results/ case study/ PBL results is at least 50%.									
References	Main References; <ol style="list-style-type: none"> 1. James E. Brady, Frederick A. Senese, 2009, Chemistry: The Study of Matter and Its Changes 5th edition. 2. Raymond Chang, Kenneth A. Goldsby, 2012, Chemistry, 11th Edition 3. Ralph H. Petrucci, William S. Harwood, F. Geoffrey Herring, 2002, General Chemistry: Principles and Modern Applications, 8th ed. 									
Lecturers (Team Teaching)	Lecturer Tim									
Authorization	Date of Drafting	Lecturer Coordinator			Head of Curriculum Committee		Head of Study Program			
							<i>Dr. Eng. Ahmad Kusumaatmaja, S.Si., M.Sc.</i>			