

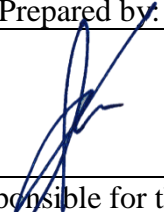
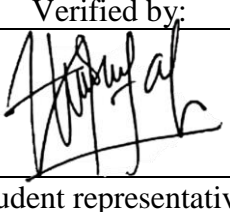



Faculty of Natural Sciences and Mathematics
Chemistry Department
Chemistry Education Study Program

Module name		Chemistry for Senior High School II		
Module level, if applicable		3 rd year		
Code, if applicable		SPK-535		
Semester(s) in which the module is taught		5 th semester		
Person responsible for the module		Krisna Merdekawati, M.Pd		
Lecturer		Krisna Merdekawati, M.Pd Yogo Dwi Prasetyo, M.Pd., M.Sc		
Language		Bahasa Indonesia		
Relation to curriculum		Compulsory		
Teaching methods	Class size	Forms of active participation	Workload: 92 hours	
Theory	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 the examination regulations		Minimum attendance at lectures is 75% (according to UII regulation)		
Recommended prerequisites		N/A		
Related course		Chemistry for Senior High School I		
Module objectives/intended learning outcomes		On successful completion of the course students should be able to: 1. Explain the concept of hydrocarbon and petroleum compounds. a. Identify the peculiarities of carbon atoms. b. Analyze the differences between alkane, alkene and alkyne compounds. c. Abstract the concept of petroleum in daily life.		

	<ol style="list-style-type: none"> 2. Explain the concept of thermochemistry. <ol style="list-style-type: none"> a. Calculate and design standard enthalpy change experiments in various reactions. b. Demonstrate the difference between exothermic and endothermic reactions. 3. Explain the concept of reaction rate and chemical equilibrium. <ol style="list-style-type: none"> a. Analyze the reaction rate equation. b. Describe the factors that affect the reaction rate. c. Calculate and predict shifts in chemical equilibrium. 4. Identify the difference between acids, bases and salts. <ol style="list-style-type: none"> a. Identify the difference between acids and bases. b. Determine the pH of a solution. c. Determine the type of salt that is hydrolyzed. d. Abstract/demonstrate hydrolysis of salt and buffer solutions in daily life. e. Make a titration curve based on the results of an acid-base titration. 5. Apply the solubility balance in everyday life. <ol style="list-style-type: none"> a. Determine the solubility product constant. b. Correlate K_{sp} with pH and use the concept of K_{sp} in the separation of substances. c. Predict and demonstrate the effect of namesake ions on solubility 6. Classify colloidal systems according to their class. <ol style="list-style-type: none"> a. Classify colloids according to their class. b. Explain the nature of colloids d. Demonstrate the manufacture of colloid systems in everyday life. 		
Content	<ul style="list-style-type: none"> ● High school chemistry curriculum: development goals and direction, ● High school characteristics, ● High school learning substances, ● High school learning competencies, and ● High school chemistry materials for grades II. 		
Study and examination requirements and forms of examination	Final score (NA) is calculated as follows:		
	Intended learning outcomes	Weight (%)	Technique of assessment
	1	10	Written test (midterm)

	2	10	Written test (midterm)
	3	20	Written test (midterm)
	4	20	Written test (Final Examination)
	5	20	Written test (Final Examination)
	6	20	Written test (Final Examination)
Media employed	Power point slide presentation, video, Google classroom		
Reading list	Brady, J.E, 1990, <i>General Chemistry Principles and Structure, 5th ed.</i> , New York: John Willey & Sons. Ebbing, D., and Gammon, S.D., 2008, <i>Experiments in General Chemistry, 9th ed.</i> , New York: John Willey & Sons. Permendikbud No. 59 Tahun 2014 tentang Kurikulum 2013 SMA/ Madrasah Aliyah		

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