



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:	Physical Organic Chemistry
Module level, if applicable:	Undergraduate
Code:	KMA6205
Sub-heading, if applicable:	-
Classes, if applicable:	2
Semester:	4 th
Module coordinator:	Prof. Dr. Sri Handayani
Lecturer(s):	1. Prof. Dr. Sri Handayani 2. Prof. Dr. Nurfina Aznam. 3. Karim Theresih, SU
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	100 minutes lectures, 120 structured activities and 120 individual study per week
Workload:	Total workload of the activity is 90,67 hours per semester which consists of 100 minutes lectures, 120 structured activities and 120 individual per week for 16 weeks
Credit points:	2 SKS (3 ECTS)
Prerequisites course(s):	Reactivity and Mechanism of Organic Compound
Course Outcomes	After taking this course, the students have ability to: CO1. understand the concept of organic reaction mechanism and implement them in order to solve problems and chemical research CO2. analyze the concept and rationale of stereochemical material, stereochemical reactions , types of organic chemical reactions (substitutions, additions, eliminations, molecular rearrangements, oxidation, reduction) and reactions to aromatic compounds that oriented to daily life CO3. Students are able to apply their knowledge in reaction mechanism of physical organic chemistry to solved daily life problems
Content:	The Physical Organic Chemistry course contains stereochemistry and stereochemical reactions, types of organic chemical reactions (substitution, addition, elimination, molecular rearrangement, oxidation, reduction), and energy involved in the reaction

Study/ exam achievements:	The final mark will be weight as follow:				
	No	CO	Assessment Object	Assessment Technique	Weight
	1	CO1, CO2, CO3	Individual assginment	Assignment	20%
			Structural assignment	Assignment	20%
			Quiz	Written test	10%
			Mid-term exam	Written test	25%
Final exam			Written test	25%	
Total				100%	
Forms of media:	Board, LCD Projector, handouts, PPT slides, laboratory kits, and stationaries				
Reference:	<p>1. McMurry, John., Organic Chemistry, ninth edition, Cengage Learning, (2016).</p> <p>2. Michael B Smith, (2020), Reaction, Mechanism and Structure eight edition.</p> <p><i>Suggested Reading:</i> Tomoyuki Yanagi, Keisuke Nogi, and Hideki Yorimitsu, (2020), Construction of Biaryls from Aryl Sulfoxides and Anilines by Means of a Sigmatropic Rearrangement, Chemistry a European Journal Communication, 25, 1-6</p>				

PLO and CO mapping

CO	PLO										
	Attitude	Generic Skills			Knowledge				Specific Skills		
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	
CO1					√						
CO2							√				
CO3								√			