UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF CHEMISTRY EDUCATION
Jl. Colombo No. 1, Karangmalang, Yogyakarta
Phone : +62 274 548203 e-mail: kimia@uny.ac.id
Website: pendidikankimia.fmipa.uny.ac.id

Bachelor of Education in Chemistry **MODULE HANDBOOK**

Module name:	**Reactivity and Mechanism of Organic Reaction**
Module level, if applicable:	Undergraduate
Code:	KIM 6408
Sub-heading, if applicable:	-
Classes, if applicable:	2
Semester:	4th
Module coordinator:	C. Budi Marwanti, M.Si
Lecturer(s):	Dr. Sri Handayani, M.Si.; Prof. Dr. Sri Atun, M.Si.
Language:	Bahasa Indonesia and English
Classification within the curriculum:	Compulsory Subject
Teaching format / class hours per week during the semester:	Lectures: 100 minutes lectures, 120 minutes structured activities and 120 minutes individual study per week
Workload:	Total workload of the activity is 136 hours per semester which consist of 100 minutes lectures, 120 minutes structured activities, 120 minutes individual study per week.
Credit points:	2SKS (3.28 ECTS)
Prerequisites course(s):	-
Course Outcome:	After taking this course, the students are expected to be able to: CO1. Involve actively and independently on any group task and individual task. CO2. be able to explain the basic concepts, molecular structure and types of organic reactions, understand and apply basic concepts, structures, physical properties and mechanisms that occur in carbonyl and amide compounds, able to understand aromatic compounds and aromatic heterocyclic, able to understand and apply concepts the basis relating to structure, nomenclature, classification, physical chemical properties, and reactions of carbohydrates, proteins, amino acids, lipids and poly-functional compounds. CO3. be able to implement the concepts of reaction mechanisms in various chemical reactions that are often encountered in everyday life
Content:	The subject of organic compounds' structure and reactivity contains concept, structure, physical and chemical traits and reaction mechanism on carbonyl compound (aldehyde and ketone), amide, aromatic compound, aromatic heterocyclic, stereochemistry, compound with polyfunctional groups, carbohydrate, lipids, amino acid, and protein. Main discussion involves:

<table>
<tr><td></td><td>1. Basic concept of organic compounds' structure and reactivity
2. Polyfunctional compounds synthesis through reaction to carbonyl
3. Amide
4. Aromatic compound and aromatic heterocyclic
5. Stereochemistry
6. Carbohydrate
7. Lipids
8. Amino acid and protein</td></tr>
<tr><td>Study / exam achievements:</td><td>Attitude assessment is carried out at each meeting by observation and/or self-assessment techniques using the assumption that basically every student has a good attitude. The student is marked very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not taken into account in the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude. The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1,
CO2,
CO3.</td><td>Assignments
Activity
Final Exam
Midterm Exam</td><td>Presentation / written test</td><td>25%
20%
30%
25%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forms of media:</td><td>Handout, Board, LCD Projector, Laptop/Computer, Module</td></tr>
<tr><td>References:</td><td>• McMurry, John., 2016. Organic Chemistry 9th Ed: Cengage Learning.
• Bruice, P.Y., 2007. Organic Chemistry 5th Ed: Pearson Prentice Hall.
• Organic chemistry journals in english</td></tr>
</table>

PLO and CO mapping

	PLO					
	Attitude		Knowledge	Specific Skill	General Skill	
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CO1						√
CO2			√			
CO3				√		