



Universitas Negeri Surabaya
Faculty of Mathematics and Natural Sciences
Undergraduate Chemistry Education Study Program

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date																																																												
Organic Chemistry I: Basic Theory and Monofunctional Compounds	8420403164		T=3	P=0	ECTS=4.77	3	July 18, 2024																																																												
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator																																																													
			Prof. Dr. Utiya Azizah, M.Pd.																																																													
Learning model	Project Based Learning																																																																		
Program Learning Outcomes (PLO)	PLO study program which is charged to the course																																																																		
	Program Objectives (PO)																																																																		
	PLO-PO Matrix																																																																		
		P.O																																																																	
	PO Matrix at the end of each learning stage (Sub-PO)																																																																		
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 5%;">P.O</th> <th colspan="16" style="text-align: center;">Week</th> </tr> <tr> <th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th> </tr> </thead> <tbody> <tr> <td style="height: 20px;"></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>																P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																	
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Short Course Description	Study of structural concepts and theories, alkanes, cycloalkanes, alkenes, alkynes, basics of isomerism concepts, alkyl halides, introduction to SN1 and SN2 reactions, aromatic compounds, alcohol-ethers, aldehyde-ketones, carboxylic acids and their derivatives, and amines.																																																																		
References	Main :																																																																		
	<ol style="list-style-type: none"> 1. Carey, Francis A. 2000.ORGANICCHEMISTRY.fourth edition. TheMcGraw-Hill Companies, Inc. All rights reserved, New York, the United States ofAmerica. ISBN 0-07-290501-8,ISBN 0-07-117499-0 (ISE) 2. Fessenden, R. J. dan Fessenden,J. S. (1998).Kimia Organik. Jilid 1. Jakarta: Erlangga 3. Fessenden, R. J. dan Fessenden,J. S. (1998).Kimia Organik. Jilid 1. Jakarta: Erlangga 4. Hart, H. , Craine, L. E. &Hart, D. J. (2003).Kimia Organik. Suatu Kuliah Singkat. Edisi ke XI. Jakarta: Erlangga. 5. Michael B. Smith and Jerry March, 2007,Advance Organic ChemistryREACTIONS, Mechanism and structure , 6th edition, Published by John Wiley & Sons, Inc. ,Hoboken, New Jersey Published simultaneously in Canada 6. Solomon, T. W. G. & Fryhle, C. B. (2011).Organic Chemistry.New York: John Wiley& Sons, Inc 																																																																		
	Supporters:																																																																		
Supporting lecturer	NURUL HIDAJATI ISMONO Dr. Mitarlis, S.Pd., M.Si. Dr.Hj. Rinaningsih, S.Pd., M.Pd.																																																																		
Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [Estimated time]		Learning materials [References]	Assessment Weight (%)																																																												
		Indicator	Criteria & Form	Offline (offline)	Online (online)																																																														
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)																																																												

1							0%
2	Explain the nomenclature structure of the isomer concept as well as the properties and synthesis of alkane and cycloalkane compounds	1. Explain the structure of alkane and cycloalkane compounds. 2. Explain the physical and chemical properties of alkane and cycloalkane compounds and their isomers. 3. Explain the synthesis reactions for alkane and cycloalkane compounds.	Criteria: In accordance with the assessment guidebook that applies at Unesa	Question and answer presentation solving discussion questions. and guided inquiry learning and identification and preparation of 3 X 50 concept maps			0%
3	Explain the nomenclature structure of the concept of isomers as well as the properties and synthesis of alkene and alkyne compounds.	1. Explain the structure of alkene and alkyne group compounds 2. Explain the physical and chemical properties of alkene and alkyne group compounds and their isomerism 3. Explain the synthesis reactions of alkene and alkyne group compounds	Criteria: In accordance with the assessment guidebook that applies at Unesa	Question and answer presentations resolve discussion questions. and identification and preparation of a 3 X 50 concept map			0%
4	Explain conformational geometric isomers and optical isomers in organic compounds	1. Explain geometric isomers in alkenes and alicyclics 2. Explain the conformation of acyclic and cyclic compounds 3. Explain optical isomers in organic compounds 4. Describe the absolute configuration of a chiral compound	Criteria: In accordance with the research guidelines applicable at Unesa	Question and answer presentation completing discussion questions and guided inquiry learning identifying and compiling concept maps 3 X 50			0%
5	Explain conformational geometric isomers and optical isomers in organic compounds	1. Explain optical isomers in organic compounds. 2. Describe the absolute configuration of a chiral compound	Criteria: In accordance with the assessment guidelines applicable at Unesa	Question and answer presentation completing discussion questions and guided inquiry learning identification and preparation of concept maps 3 X 50			0%

6	Explain the nomenclature structure and properties as well as the synthesis of alkyl halogenide compounds as well as the reaction mechanisms of SN-1 and SN-2.	1. Explain the structure of alkyl halide group compounds 2. Explain the physical and chemical properties of alkyl halide group compounds 3. Explain the synthesis reaction of alkyl halide group compounds 4. Explain the mechanism of SN-1 and SN-2 reactions in alkyl halides	Criteria: in accordance with the assessment guidelines applicable at Unesa	3 X 50 discussion question and answer presentation		0%
7	Explain the nomenclature structure and properties as well as the synthesis of alkyl halogenide compounds as well as an introduction to the SN-1 and SN-2 reaction mechanisms		Criteria: in accordance with the assessment guidelines applicable at Unesa	3 X 50 discussion question and answer presentation		0%
8	complete UTS	Can complete UTS properly and correctly	Criteria: In accordance with the assessment guidelines applicable at Unesa	UTS and Explanation of UTS 3 X 50 answers		0%
9	Explain the nomenclature structure and properties of aromatic hydrocarbons and be able to apply substitution reactions for the synthesis of aromatic compounds	1. Explain the molecular structure of aromatic compounds. 2. Explain the relationship between aromatic molecular structure and resonance stability. 3. Explain substitution reactions in aromatic compounds. 4. Explain synthesis reactions in aromatic compounds	Criteria: In accordance with the assessment guidelines applicable at Unesa	Presentation Question and answer discussion 1 X 50		0%
10	Understanding the structure of isomer nomenclature, classification of properties and synthesis of phenol ether alcohol compounds.	1. Explain the structure of alcohol-phenol and ether group compounds 2. Explain the physical and chemical properties of alcohol-phenol and ether group compounds 3 Explain the synthesis reaction of alcohol-phenol and ether group compounds	Criteria: In accordance with the assessment guidelines applicable at Unesa	Discussion Presentation and Question and Answer 3 X 50		0%

11	Understanding the structure of isomer nomenclature, classification of properties and synthesis of phenol ether alcohol compounds.	1. Explain the structure of alcohol-phenol and ether group compounds 2. Explain the physical and chemical properties of alcohol-phenol and ether group compounds 3 Explain the synthesis reaction of alcohol-phenol and ether group compounds	Criteria: In accordance with the assessment guidelines applicable at Unesa	Discussion Presentation and Question and Answer 3 X 50			0%
12	Explain the structure of nomenclature and properties and be able to predict isomers and synthesize carbonyl compounds.	1. structure of aldehyde and ketone group compounds 2. Explain the physical and chemical properties of aldehyde and ketone group compounds 3. Explain the synthesis reaction of aldehyde and ketone group compounds	Criteria: In accordance with the assessment guidelines applicable at Unesa	Presentation Question and answer Discussion on assignment 3 X 50			0%
13	Explain the structure of isomer nomenclature, properties, especially acidity and synthesis of carboxylic acids and their derivatives.	1. Explain the structure of carboxylic acid group compounds and their derivatives 2. Explain the physical and chemical properties of carboxylic acid group compounds and their derivatives 3. Explain the synthesis reactions of carboxylic acid group compounds and their derivatives	Criteria: In accordance with the assessment guidelines applicable at Unesa	Question and Answer Presentation and Discussion 3 X 50			0%
14	Explain the structure of isomer nomenclature, properties, especially acidity and carboxylic acid synthesis along with	1. Explain the structure of carboxylic acid group compounds and their derivatives 2. Explain the physical and chemical properties of carboxylic acid group compounds and their derivatives 3. Explain the synthesis reactions of carboxylic acid group compounds and their derivatives	Criteria: In accordance with the assessment guidelines applicable at Unesa	Question and Answer Presentation and Discussion 3 X 50			0%

15	Explain the nomenclature structure of the properties (especially basicity) of amine clarification and synthesis.	1. Explain the structure of amine group compounds 2. Explain the physical and chemical properties of amine group compounds 3. Explain the synthesis reaction of amine group compounds	Criteria: In accordance with the assessment guidelines applicable at Unesa	Presentation Question and answer Discussion 3 X 50			0%
16	complete UAS	can complete the UAS well and correctly	Criteria: In accordance with the assessment guidebook that applies at Unesa	UAS 2 X 50 test			0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
		0%

Notes

- Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
- The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
- Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
- Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
- Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
- Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
- Forms of assessment:** test and non-test.
- Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
- Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.