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

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Stereochemistry	4720102171		T=2	P=0	ECTS=3.18	4	July 18, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Dr. Amaria, M.Si.

Learning model: Project Based Learning

Program Learning Outcomes (PLO)

PLO study program that is charged to the course

Program Objectives (PO)

PLO-PO Matrix

P.O

PO Matrix at the end of each learning stage (Sub-PO)

P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Short Course Description: This course examines molecules in three-dimensional space and how the atoms in molecules are arranged in space relative to each other, as well as the role of molecular stereo in reaction mechanisms and the implementation of stereochemistry in chemistry, biology and biochemistry. The method used to understand this subject is question and answer methods, discussion, group work and problem solving tasks

References

Main :

1. Alinger NL, 1986, Organic Chemistry, Second Edition, Worth Publisher, Ins, USA
2. D. Nasipuri, 1994, Stereochemistry of Organic Compounds: Principles and Applications 2nd edition, New Age International (P) Ltd., Publishers, New DelhiFessenden RJ and JS. Fessenden, 1996, Kimia Organik Jilid 1 dan 2, Edisi ketiga, Alih bahasa Oleh A Hadyana Pudjaatmaka, Erlangga, Jakarta
3. Michael B. Smith and Jerry March, 2007, March&rsquos Advanced Organic Chemistry, Reaction, Mechanism, and Structure, 6th edition, A Jonh Wiley and Son, Inc, Publication, USA
4. M. Nógrádi, 2013, Stereochemistry: Basic Concepts and Applications, Publishing Houese of Hungarian Academy of Science, Budapest and Pergamon Press, Oxford aan Bew YorkMorrison, R.T. R.N. Boyd, 1983, Organic Chemistry, 4 Ed, Allyn and Bacon Inc, Singapura
5. Tim stereokimia, 2016. Bahan ajar stereokimia untuk kalangan sendiri
6. Buku lain dan jurnal terbaru yang relevan dengan matakuliah stereokimia

Supporters:

Supporting lecturer: ISMONO
Prof. Dr. Suyatno, M.Si.

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	1. Students understand the Stereochemistry lecture system2. Students understand about Geometric Isomers in alkenes and Cyclic Compounds	1. Explain the RPS, lecture system, assessment system, graduation determination, and stereochemistry lecture rules2. Explain about Geometric Isomers in alkenes and Cyclic Compounds	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
2	Students understand about Geometric Isomers in alkenes and Cyclic Compounds	Explain about Geometric Isomers in alkenes and Cyclic Compounds	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
3	Students understand the conformation of acyclic compounds	Explain about the conformation of acyclic compounds	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
4	Students understand the conformation of alicyclic compounds	Explain the conformation of alicyclic compounds	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
5	Students understand about bridged bicyclic compounds and spiro compounds	Explain about bridged bicyclic compounds and spiro compounds	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
6	Students understand Chirality and determining the configuration of the R and S system (one chiral carbon atom	Explaining chirality and determining the configuration of the R and S system (one chiral carbon atom	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
7	Students understand Chirality and determining the configuration of the R and S system (more than one chiral carbon atom)	Understanding about chirality and determining the configuration of the R and S system (more than one chiral carbon atom)	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
8	Midterm exam	Midterm exam	**Criteria:** Attached	Midterm Exam 2 X 50			0%
9	Students understand about optical isomers of organic compounds	Understanding about optical isomers of organic compounds	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
10	Students understand about optical isomers of organic compounds	Understanding about optical isomers of organic compounds	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%

11	Students understand the role of stereochemistry in the SN1 and SN2 reaction mechanisms	Explain the role of chemical stereo in the SN1 and SN2 reaction mechanisms	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
12	Students understand the role of stereochemistry in the E1 and E2 reaction mechanisms	Explain the role of chemical stereo in the reaction mechanism E1 and E2	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
13	Students understand the role of stereochemistry in the mechanism of addition reactions	Explain the role of chemical stereo in the mechanism of addition reactions	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
14	Understand the role of stereochemistry in chemical, biological and biochemical systems	Explain the role of chemical stereo in chemical, biological and biochemical systems	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
15	Students understand how to separate racemic compounds	Explain how to separate racemic compounds	**Criteria:** Attached	Presentations, questions and answers, discussions, problem solving, and assignments 2 X 50			0%
16	Understand concepts, attitudes and skills in the Stereochemistry course	Understand concepts, attitudes and skills in the Stereochemistry course	**Criteria:** Attached	Test 2 X 50			0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
		0%

Notes

1. **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.
2. **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.
3. **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.
4. **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.
5. **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.
6. **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.
7. **Forms of assessment:** test and non-test.
8. **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.
9. **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.
10. **Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.

11. **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%.
12. TM=Face to face, PT=Structured assignments, BM=Independent study.