



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

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date																																											
Chemical Innovation	4710202004		T=2 P=0 ECTS=4.48	0	July 17, 2024																																											
AUTHORIZATION	SP Developer		Course Cluster Coordinator	Study Program Coordinator																																												
	Prof. Dr. Nuniek Herdyastuti, 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																																														
Short Course Description	PO Matrix at the end of each learning stage (Sub-PO)																																															
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">P.O</td> <td colspan="16" style="text-align: center;">Week</td> </tr> <tr> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> <td style="text-align: center;">7</td> <td style="text-align: center;">8</td> <td style="text-align: center;">9</td> <td style="text-align: center;">10</td> <td style="text-align: center;">11</td> <td style="text-align: center;">12</td> <td style="text-align: center;">13</td> <td style="text-align: center;">14</td> <td style="text-align: center;">15</td> <td style="text-align: center;">16</td> </tr> </table>														P.O	Week																	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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References	Main : _____ _____ Supporters: _____ _____																																															
Supporting lecturer	Prof. Dr. Titik Taufikurohmah, S.Si., M.Si. Prof. Dr. Nita Kusumawati, S.Si., M.Sc.																																															
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	Students are able to explain innovations in the field of chemistry	Class comprehension and interactive abilities	Criteria: The depth of understanding expressed Forms of Assessment : Participatory Activities, Project Results Assessment / Product Assessment, Portfolio Assessment, Practical Assessment, Tests	Non-test form: Participation in discussion 2 X 50			20%
2	Students are able to express chemical innovation ideas	1. Class understanding and interactive abilities		Non-test form: Participation in discussions Test form: Making 2 X 50 ppt		Material: Food innovations References:	0%
3	Students are able to analyze problems and innovative solutions in organic chemistry	1. Accuracy in describing the orientation of chemical innovation 2. Accuracy in answering questions/quiz		Non-test form: 1. Case presentation 2. Participation in discussion 2 X 50			0%
4	Students are able to analyze problems and innovative solutions in inorganic chemistry	1. Quality of argumentation in class discussions		Non-test form: 1. Presentation 2. Participation in discussion 2 X 50			0%
5	Students are able to analyze problems and innovate solutions in analytical chemistry	1. Quality of argumentation in class discussions		Non-test forms: 1. Material presentation 2. Case presentation Participation in discussion 2 X 50		Material: Innovations in the herbal field Reference:	0%
6	Students are able to analyze basic problems as a basis for developing a chemical innovation product	1. Quality of argumentation in class discussions		Non-test forms: 1. Case presentation Participation in discussion 2 X 50		Material: Innovations in the field of nanomaterials References:	0%
7	Students are able to convey the basis of the problem as a basis for developing a chemical innovation product and implementing it for further study	1. Quality of argumentation in case discussions		Non-test forms: 1. Case presentation Participation in discussion 2 X 50		Material: Material innovations References:	0%
8	Midterm Evaluation / Midterm Exam			2 X 50		Material: Innovations in the field of cosmetics References:	0%
9	Students are able to implement chemical innovations	1. Quality of argumentation in case discussions	Form of Assessment : Participatory Activities	Non-test forms: 1. Case presentation Participation in discussion 2 X 50		Material: Food innovations References:	20%
10	Students are able to analyze the potential usefulness of chemical innovation in problems in society	1. Quality of argumentation in case discussions		Non-test forms: 1. Case presentation Participation in discussion 2 X 50		Material: Innovations in the field of medicine References:	0%

11			Form of Assessment : Participatory Activities			Material: Material innovations References:	20%
12						Material: Innovations in the field of nanomaterials References:	0%
13						Material: Innovations in the field of cosmetics References:	0%
14			Form of Assessment : Participatory Activities			Material: Food innovations References:	0%
15						Material: Innovations in the field of cosmetics References:	0%
16			Form of Assessment : Participatory Activities			Material: Innovations in the field of medicine References:	20%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	64%
2.	Project Results Assessment / Product Assessment	4%
3.	Portfolio Assessment	4%
4.	Practical Assessment	4%
5.	Test	4%
		80%

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.

