



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
Seminar	4720102159	Non Clump	T=2	P=0	ECTS=3.18	5	July 17, 2024
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator	
	Dr. Amaria, M.Si.				Dr. Amaria, M.Si.	

Learning model	Case Studies																																																																																			
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																																																																			
	Program Objectives (PO)																																																																																			
	PO - 1 Able to apply chemistry, research methodology and statistics to solve problems in society																																																																																			
	PO - 2 Mastering the basic concepts of chemistry, research methodology, and data analysis techniques to prepare a written idea of the role of chemistry in solving societal problems																																																																																			
	PO - 3 Make decisions based on the results of scientific reasoning analysis of problem-solving efforts in society																																																																																			
	PLO-PO Matrix																																																																																			
	<table border="1" style="margin-left: 40px;"> <tr><td>P.O</td></tr> <tr><td>PO-1</td></tr> <tr><td>PO-2</td></tr> <tr><td>PO-3</td></tr> </table>	P.O	PO-1	PO-2	PO-3																																																																															
P.O																																																																																				
PO-1																																																																																				
PO-2																																																																																				
PO-3																																																																																				
PO Matrix at the end of each learning stage (Sub-PO)																																																																																				
<table border="1" style="margin-left: 40px;"> <tr> <th rowspan="2">P.O</th> <th colspan="16">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> <tr> <td>PO-1</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> <tr> <td>PO-2</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> <tr> <td>PO-3</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> </table>	P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	PO-1																	PO-2																	PO-3																
P.O		Week																																																																																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																																																																				
PO-1																																																																																				
PO-2																																																																																				
PO-3																																																																																				

Short Course Description Develop scientific reasoning power through library/field/laboratory studies on chemical research topics, searching and systematizing, then writing them in the form of papers/proposals and presenting them orally (presentations).

References

Main :

- Suseno, S. 1980. Teknik Penulisan Ilmiah Populer . Jakarta: Gramedia
- Tim. 2011. Panduan Penulisan Proposal dan Skripsi Program Studi Kimia . Surabaya: Unesa University Press
- Tim. 2006. Panduan Penulisan dan Penilaian Skripsi. Surabaya: Unesa Univeristy Press.

Supporters:

- Artikel-artikel ilmiah dari berbagai jurnal yang relevan dengan penelitian bidang kimia dan turunannya.

Supporting lecturer	Prof. Dr. Hj. Rudiana Agustini, M.Pd. Prof. Dr. Pirim Setiarso, M.Si. Dr. Maria Monica Sianita Basukiwardojo, M.Si. Dr. Amaria, M.Si. Dr. Prima Retno Wikandari, M.Si. Prof. Dr. Suyatno, M.Si. Dr. I Gusti Made Sanjaya, M.Si. Prof. Dr. Tukiran, M.Si. Prof. Dr. Titik Taufikurohmah, S.Si., M.Si. Prof. Dr. Nuniek Herdyastuti, M.Si. Prof. Dr. Sari Edi Cahyaningrum, M.Si. Dr. Dina Kartika Maharani, S.Si., M.Sc. Prof. Dr. Nita Kusumawati, S.Si., M.Sc. Samik, S.Si., M.Si. Mirwa Adiprahara Anggarani, S.Si., M.Si. Dr. Ratih Dewi Saputri, S.Si., 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 (%)
(1)	(2)	Indicator	Criteria & Form	Offline (offline)	Online (online)	(7)	(8)
1	Understand the techniques for preparing a scientific work	Explain the meaning of scientific work	Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Presentation and discussion 2 X 50			0%
2	Able to search library materials	1.Explain the types of library materials 2.Able to search for library sources	Criteria: 1.The assessment is carried out on the following aspects: 2.Participation in lectures and seminar paper presentations (weight 2) 3.Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 4.Assessment of structured assignments and seminar papers or proposal drafts, then weighted (3) 5.The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. 6.The final NA is (participation value x2) (Assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Presentation and discussion 2 X 50			0%

3	Able to search library materials	<p>1.Explain the types of library materials</p> <p>2.Able to search for library sources</p>	<p>Criteria:</p> <p>1.The assessment is carried out on the following aspects:</p> <p>2.Participation in lectures and seminar paper presentations (weight 2)</p> <p>3.Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2)</p> <p>4.Assessment of structured assignments and seminar papers or proposal drafts, then weighted (3)</p> <p>5.The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5.</p> <p>6.The final NA is (participation value x2) (Assignment value x 3) (UTS value x 2) UAS value (3) divided by 10</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	<p>Presentation and discussion</p> <p>2 X 50</p>			0%
---	----------------------------------	---------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------	--	--	----

4	Able to search library materials	<p>1.Explain the types of library materials</p> <p>2.Able to search for library sources</p>	<p>Criteria:</p> <p>1.The assessment is carried out on the following aspects:</p> <p>2.Participation in lectures and seminar paper presentations (weight 2)</p> <p>3.Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2)</p> <p>4.Assessment of structured assignments and seminar papers or proposal drafts, then weighted (3)</p> <p>5.The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5.</p> <p>6.The final NA is (participation value x2) (Assignment value x 3) (UTS value x 2) UAS value (3) divided by 10</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	<p>Presentation and discussion</p> <p>2 X 50</p>			0%
---	----------------------------------	---------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------	--	--	----

5	Able to search library materials	<ol style="list-style-type: none"> 1.Explain the types of library materials 2.Able to search for library sources 	<p>Criteria:</p> <ol style="list-style-type: none"> 1.The assessment is carried out on the following aspects: 2.Participation in lectures and seminar paper presentations (weight 2) 3.Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 4.Assessment of structured assignments and seminar papers or proposal drafts, then weighted (3) 5.The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. 6.The final NA is (participation value x2) (Assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Presentation and discussion 2 X 50			0%
---	----------------------------------	------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------	--	--	----

6	Able to prepare the introductory part of a research proposal	<ol style="list-style-type: none"> 1. Able to compile the background of the problem 2. Able to formulate problem formulations 3. Able to formulate research objectives 4. Able to formulate the benefits of research 5. Able to compile operational definitions 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. The assessment is carried out on the following aspects: 2. Participation in lectures and seminar paper presentations (weight 2) 3. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 4. Assessment of structured assignments and seminar papers or proposal drafts, then weighted (3) 5. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. 6. The final NA is (participation value x 2) (Assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	2 X 50		<p>Material: Research Methodology Literature: <i>Team. 2011. Guide to Writing Proposals and Theses for Chemistry Study Programs. Surabaya: Unesa University Press</i></p>	0%
---	--------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------	--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----

7	Able to prepare the literature review section of a research proposal	<ol style="list-style-type: none"> 1. Able to compile theoretical studies supporting research 2. Able to compile relevant research results 3. Able to develop a framework for thinking 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. The assessment is carried out on the following aspects: 2. Participation in lectures and seminar paper presentations (weight 2) 3. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 4. Assessment of structured assignments and seminar papers or proposal drafts, then weighted (3) 5. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. 6. The final NA is (participation value x2) (Assignment value x 3) (UTS value x 2) UAS value (3) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, presentations and consultations 2 X 50			0%
8	UTS	Able to understand and solve questions related to meeting material 1-7	<p>Criteria: score obtained from UTS</p> <p>Form of Assessment : Test</p>	Written test 2 X 50			0%

9	Able to prepare the literature review section of a research proposal	<ol style="list-style-type: none"> 1. Able to formulate research targets 2. Able to formulate research types and designs 3. Able to prepare research procedures 4. Able to formulate data analysis techniques 5. Able to prepare a research schedule 6. Able to develop a research operational framework 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. The assessment is carried out on the following aspects: 2. Participation in lectures and seminar paper presentations (weight 2) 3. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 4. Assessment of structured assignments and seminar papers or proposal drafts, then weighted (3) 5. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. 6. The final NA is (participation grade") (Assignment grade%2 3) (UTS grade%2 2) UAS grade (3) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	<p>Ø Study of supporting theories Ø Relevant research results Ø Research thinking/conceptual framework 2 X 50</p>	<p>Material: Research methodology References: <i>Team. 2011. Guide to Writing Proposals and Theses for Chemistry Study Programs. Surabaya: Unesa University Press</i></p>	0%
---	----------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----

10	Able to present draft proposals in seminar forums	<ol style="list-style-type: none"> 1. Able to compose presentation scripts 2. Able to present draft proposals in seminar forums 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 2) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 3. Assessment of structured assignments and seminar papers or draft proposals, then weighted (3) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, presentations and consultations 2 X 50		<p>Material: preparation of proposal manuscript</p> <p>References: <i>Team. 2011. Guide to Writing Proposals and Theses for Chemistry Study Programs. Surabaya: Unesa University Press</i></p>	0%
11	Able to present draft proposals in seminar forums	<ol style="list-style-type: none"> 1. Able to compose presentation scripts 2. Able to present draft proposals in seminar forums 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 2) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 3. Assessment of structured assignments and seminar papers or draft proposals, then weighted (3) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, presentations and consultations 2 X 50		<p>Material: preparation of proposal manuscript</p> <p>References: <i>Team. 2011. Guide to Writing Proposals and Theses for Chemistry Study Programs. Surabaya: Unesa University Press</i></p>	0%

12	Able to present draft proposals in seminar forums	<ol style="list-style-type: none"> 1. Able to compose presentation scripts 2. Able to present draft proposals in seminar forums 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 2) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 3. Assessment of structured assignments and seminar papers or draft proposals, then weighted (3) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, presentations and consultations 2 X 50		<p>Material: preparation of proposal manuscript</p> <p>References: <i>Team. 2011. Guide to Writing Proposals and Theses for Chemistry Study Programs. Surabaya: Unesa University Press</i></p>	0%
13	Able to present draft proposals in seminar forums	<ol style="list-style-type: none"> 1. Able to compose presentation scripts 2. Able to present draft proposals in seminar forums 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 2) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 3. Assessment of structured assignments and seminar papers or draft proposals, then weighted (3) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, presentations and consultations 2 X 50		<p>Material: preparation of proposal manuscript</p> <p>References: <i>Team. 2011. Guide to Writing Proposals and Theses for Chemistry Study Programs. Surabaya: Unesa University Press</i></p>	0%

14	Able to present draft proposals in seminar forums	<ol style="list-style-type: none"> 1. Able to compose presentation scripts 2. Able to present draft proposals in seminar forums 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 2) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 3. Assessment of structured assignments and seminar papers or draft proposals, then weighted (3) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, presentations and consultations 2 X 50		<p>Material: preparation of proposal manuscript</p> <p>References: <i>Team. 2011. Guide to Writing Proposals and Theses for Chemistry Study Programs. Surabaya: Unesa University Press</i></p>	0%
15	Able to present draft proposals in seminar forums	<ol style="list-style-type: none"> 1. Able to compose presentation scripts 2. Able to present draft proposals in seminar forums 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 2) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 3. Assessment of structured assignments and seminar papers or draft proposals, then weighted (3) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, presentations and consultations 2 X 50		<p>Material: preparation of proposal manuscript</p> <p>References: <i>Team. 2011. Guide to Writing Proposals and Theses for Chemistry Study Programs. Surabaya: Unesa University Press</i></p>	0%

16	UAS	Able to defend draft proposals in front of supervisors and students	Criteria: 1. The assessment is carried out on the following aspects: 2. Participation in lectures and seminar paper presentations (weight 2) 3.2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft and are given weight (2) 4.3. Assessment of structured assignments and seminar papers or draft proposals, then given weights (3) 5.4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and the results are given a weight of 5. 6. The final NA is (participation grade") (Assignment grade %2 3) (UTS grade % 2 2) UAS grade (3) divided by 10	Presentation and questions and answers 2 X 50			0%
----	-----	---------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------	--	--	----

Evaluation Percentage Recap: Case Study

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** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities 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.**

