



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																																																																																																																		
Seminar	8420402256		T=2	P=0	ECTS=3.18	6	June 20, 2022																																																																																																																		
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator																																																																																																																			
	Prof. Dr. Utiya Azizah, M.Pd.		Dr. Mitarlis, S.Pd., M.Si.			Prof. Dr. Utiya Azizah, M.Pd.																																																																																																																			
Learning model	Case Studies																																																																																																																								
Program Learning Outcomes (PLO)	PLO study program which is charged to the course																																																																																																																								
	PLO-5	Able to make decisions based on data/information in order to complete tasks that are their responsibility and evaluate performance that has been carried out both individually and in groups, has an entrepreneurial spirit with an environmental perspective (CPL 7)																																																																																																																							
	Program Objectives (PO)																																																																																																																								
	PO - 1	Able to apply chemistry, research methodology and statistics to solve problems in society																																																																																																																							
	PO - 2	Master 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																																																																																																																							
	PO - 4	Have a responsible attitude in applying written ideas in solving problems in society																																																																																																																							
	PLO-PO Matrix																																																																																																																								
		<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="width: 10%;">P.O</th> <th colspan="16">PLO-5</th> </tr> </thead> <tbody> <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><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><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><td></td></tr> <tr><td>PO-4</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><td></td></tr> </tbody> </table>						P.O	PLO-5																PO-1																		PO-2																		PO-3																		PO-4																																										
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	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2" style="width: 10%;">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> </thead> <tbody> <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><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><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><td></td></tr> <tr><td>PO-4</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><td></td></tr> </tbody> </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																		PO-4																	
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Short Course Description	Training to develop scientific reasoning power through library/field/laboratory studies on chemistry education topics, searching, systematizing, then writing them in the form of papers and presenting them orally																																																																																																																								
References	Main :																																																																																																																								
	<ol style="list-style-type: none"> 1. Suseno, S. 1980. Teknik Penulisan Ilmiah Populer. Jakarta: Gramedia 2. Tim. 2006. Panduan Penulisan dan Penilaian Skripsi. Surabaya: Unesa Univeristy Press 																																																																																																																								
	Supporters:																																																																																																																								

	1. Tim. 2011. Panduan Penulisan Proposal dan Skripsi Program Studi Pendidikan Kimia. Surabaya: Unesa University Press						
Supporting lecturer	Prof. Dr. Achmad Lutfi, M.Pd. Prof. Dr. Harun Nasrudin, M.S. Prof. Dr. Suyono, M.Pd. Prof. Dr. Hj. Rudiana Agustini, M.Pd. Prof. Dr. Utiya Azizah, M.Pd. Dr. Sukarmin, M.Pd. Dr. Mitarlis, S.Pd., M.Si. Dr. Muchlis, S.Pd., M.Pd. Dr.Hj. Rinaningsih, S.Pd., M.Pd. Dian Novita, S.T., M.Pd. Dr. Kusumawati Dwiningsih, S.Pd., M.Pd. Rusmini, S.Pd., M.Si. Rusly Hidayah, S.Si., M.Pd. Bertha Yonata, 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	Understand the techniques for preparing a scientific work	1.Explain the meaning of scientific work 2.Explain the components of scientific work	Criteria: 1.Participation in lectures and seminar paper presentations (weight 20%) 2.Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3.Assessment of structured assignments and seminar papers or draft proposals, (weight 30%) 4.The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5.Final NA = ((participation value x 2) (assignment value x 3) (UTS value x 2) (UAS value x 3)) divided by 10 Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment	Presentation and discussion 2 X 50		Material: techniques for preparing scientific work. Reference: Suseno, S. 1980. <i>Popular Scientific Writing Techniques.</i> Jakarta: Gramedia	0%

2	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.Participation in lectures and seminar paper presentations (weight 20%)</p> <p>2.Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%)</p> <p>3.Assessment of structured assignments and seminar papers or draft proposals, (weight 30%)</p> <p>4.The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%)</p> <p>5.Final NA = ((participation value x 2) (assignment value x 3) (UTS value x 2) (UAS value x 3)) divided by 10</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Presentation and discussion 2 X 50		<p>Material: techniques for preparing scientific work.</p> <p>Reference: Suseno, S. 1980. <i>Popular Scientific Writing Techniques</i>. Jakarta: Gramedia</p> <hr/> <p>Material: library materials</p> <p>Library: Team. 2006. <i>Guide to Writing and Grading Thesis</i>. Surabaya: Unesa University Press</p>	0%
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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.Participation in lectures and seminar paper presentations (weight 20%)</p> <p>2.Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%)</p> <p>3.Assessment of structured assignments and seminar papers or draft proposals, (weight 30%)</p> <p>4.The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%)</p> <p>5.Final NA = ((participation value x 2) (assignment value x 3) (UTS value x 2) (UAS value x 3)) divided by 10</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Presentation and discussion 2 X 50		<p>Material: library materials</p> <p>Library: <i>Team. 2006. Guide to Writing and Grading Thesis. Surabaya: Unesa University Press</i></p> <hr/> <p>Material: library material search techniques</p> <p>Library: <i>Team. 2011. Guide to Writing Proposals and Theses for the Chemistry Education Study Program. Surabaya: Unesa University Press</i></p>	0%
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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.Participation in lectures and seminar paper presentations (weight 20%)</p> <p>2.Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%)</p> <p>3.Assessment of structured assignments and seminar papers or draft proposals, (weight 30%)</p> <p>4.The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%)</p> <p>5.Final NA = ((participation value x 2) (assignment value x 3) (UTS value x 2) (UAS value x 3)) divided by 10</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Presentation and discussion 2 X 50		<p>Material: library materials</p> <p>Library: <i>Team. 2006. Guide to Writing and Grading Thesis. Surabaya: Unesa University Press</i></p> <hr/> <p>Material: library material search techniques</p> <p>Library: <i>Team. 2011. Guide to Writing Proposals and Theses for the Chemistry Education Study Program. Surabaya: Unesa University Press</i></p>	0%
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5	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.Participation in lectures and seminar paper presentations (weight 20%)</p> <p>2.Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%)</p> <p>3.Assessment of structured assignments and seminar papers or proposal drafts (30% weight)</p> <p>4.The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%)</p> <p>5.Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Presentation and discussion 2 X 50		<p>Material: library materials</p> <p>Library: <i>Team. 2006. Guide to Writing and Grading Thesis. Surabaya: Unesa University Press</i></p> <hr/> <p>Material: library material search techniques</p> <p>Library: <i>Team. 2011. Guide to Writing Proposals and Theses for the Chemistry Education Study Program. Surabaya: Unesa University Press</i></p>	0%
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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 6. Able to formulate research assumptions and limitations 	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 20%) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3. Assessment of structured assignments and seminar papers or proposal drafts (30% weight) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5. Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, workshops and mentoring 2 X 50		<p>Material: background, problem formulation, research objectives, benefits of research, operational definitions and assumptions</p> <p>References: <i>Team. 2011. Guide to Writing Proposals and Theses for the Chemistry Education Study Program. Surabaya: Unesa University Press</i></p> <hr/> <p>Material: scientific writing techniques</p> <p>Reference: <i>Suseno, S. 1980. Popular Scientific Writing Techniques. Jakarta: Gramedia</i></p> <hr/> <p>Material: proposal writing</p> <p>References: <i>Team. 2006. Guide to Writing and Grading Thesis. Surabaya: Unesa University Press</i></p>	0%
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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. Participation in lectures and seminar paper presentations (weight 20%) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3. Assessment of structured assignments and seminar papers or proposal drafts (30% weight) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5. Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, workshops and mentoring 2 X 50		<p>Material: theoretical study and framework of thinking References: <i>Team. 2011. Guide to Writing Proposals and Theses for the Chemistry Education Study Program. Surabaya: Unesa University Press</i></p> <p>Material: techniques for writing scientific papers. Reference: <i>Suseno, S. 1980. Popular Scientific Writing Techniques. Jakarta: Gramedia</i></p> <p>Material: writing a research proposal References: <i>Team. 2006. Guide to Writing and Grading Thesis. Surabaya: Unesa University Press</i></p>	0%
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8	UTS and presentation of preliminary draft, literature review, and proposal framework	<p>1. Able to prepare preliminary drafts, literature reviews and proposal frameworks</p> <p>2. Able to present a preliminary draft, literature review and proposal framework</p>	<p>Criteria:</p> <p>1. Participation in lectures and seminar paper presentations (weight 20%)</p> <p>2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%)</p> <p>3. Assessment of structured assignments and seminar papers or proposal drafts (30% weight)</p> <p>4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%)</p> <p>5. Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10</p> <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	presentation 2 X 50			0%
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9	Able to develop research methods	Able to develop research methods according to the problems posed	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 20%) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3. Assessment of structured assignments and seminar papers or proposal drafts (30% weight) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5. Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, workshops and mentoring 2 X 50		<p>Material: research methods</p> <p>References: Suseno, S. 1980. <i>Popular Scientific Writing Techniques</i>. Jakarta: Gramedia</p> <hr/> <p>Material: research methods</p> <p>References: Team. 2011. <i>Guide to Writing Proposals and Theses for the Chemistry Education Study Program</i>. Surabaya: Unesa University Press</p> <hr/> <p>Material: research methods</p> <p>References: Team. 2011. <i>Guide to Writing Proposals and Theses for the Chemistry Education Study Program</i>. Surabaya: Unesa University Press</p>	0%
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10	Able to develop research methods	Able to develop research methods according to the problems posed	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 20%) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3. Assessment of structured assignments and seminar papers or proposal drafts (30% weight) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5. Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, workshops and mentoring 2 X 50		<p>Material: research methods</p> <p>References: Suseno, S. 1980. <i>Popular Scientific Writing Techniques</i>. Jakarta: Gramedia</p> <hr/> <p>Material: research methods</p> <p>References: Team. 2011. <i>Guide to Writing Proposals and Theses for the Chemistry Education Study Program</i>. Surabaya: Unesa University Press</p> <hr/> <p>Material: research methods</p> <p>References: Team. 2011. <i>Guide to Writing Proposals and Theses for the Chemistry Education Study Program</i>. Surabaya: Unesa University Press</p>	0%
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11	Able to develop research methods	Able to develop research methods according to the problems posed	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 20%) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3. Assessment of structured assignments and seminar papers or proposal drafts (30% weight) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5. Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, workshops and mentoring 2 X 50		<p>Material: research methods References: Suseno, S. 1980. <i>Popular Scientific Writing Techniques</i>. Jakarta: Gramedia</p> <hr/> <p>Material: research methods References: Team. 2011. <i>Guide to Writing Proposals and Theses for the Chemistry Education Study Program</i>. Surabaya: Unesa University Press</p> <hr/> <p>Material: research methods References: Team. 2011. <i>Guide to Writing Proposals and Theses for the Chemistry Education Study Program</i>. Surabaya: Unesa University Press</p>	0%
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12	Able to develop research methods	Able to develop research methods according to the problems posed	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 20%) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3. Assessment of structured assignments and seminar papers or proposal drafts (30% weight) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5. Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, workshops and mentoring 2 X 50		<p>Material: research methods References: Suseno, S. 1980. <i>Popular Scientific Writing Techniques</i>. Jakarta: Gramedia</p> <hr/> <p>Material: research methods References: Team. 2011. <i>Guide to Writing Proposals and Theses for the Chemistry Education Study Program</i>. Surabaya: Unesa University Press</p> <hr/> <p>Material: research methods References: Team. 2011. <i>Guide to Writing Proposals and Theses for the Chemistry Education Study Program</i>. Surabaya: Unesa University Press</p>	0%
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13	<p>1. Able to understand types of research instruments</p> <p>2. Able to prepare research instruments that are appropriate to the proposed research</p>	<p>1. Able to understand types of research instruments</p> <p>2. Able to prepare research instruments according to the proposed research</p>	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 20%) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3. Assessment of structured assignments and seminar papers or proposal drafts (30% weight) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5. Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, workshops and mentoring 2 X 50		<p>Material: research instruments</p> <p>References: Suseno, S. 1980. <i>Popular Scientific Writing Techniques</i>. Jakarta: Gramedia</p> <hr/> <p>Material: research instruments</p> <p>References: Team. 2006. <i>Guide to Writing and Grading Thesis</i>. Surabaya: Unesa University Press</p> <hr/> <p>Material: research instruments</p> <p>References: Team. 2011. <i>Guide to Writing Proposals and Theses for the Chemistry Education Study Program</i>. Surabaya: Unesa University Press</p>	0%
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14	<p>1. Able to understand research data analysis techniques</p> <p>2. Able to analyze research data</p>	Able to calculate/analyze research data	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 20%) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3. Assessment of structured assignments and seminar papers or proposal drafts (30% weight) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5. Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, workshops and mentoring 2 X 50		<p>Material: data analysis techniques</p> <p>References: Team. 2006. <i>Guide to Writing and Grading Thesis</i>. Surabaya: Unesa University Press</p> <hr/> <p>Material: data analysis techniques</p> <p>References: Team. 2011. <i>Guide to Writing Proposals and Theses for the Chemistry Education Study Program</i>. Surabaya: Unesa University Press</p>	0%
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15	<p>1. Able to understand research data analysis techniques</p> <p>2. Able to analyze research data</p>	Able to calculate/analyze research data	<p>Criteria:</p> <ol style="list-style-type: none"> 1. Participation in lectures and seminar paper presentations (weight 20%) 2. Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3. Assessment of structured assignments and seminar papers or proposal drafts (30% weight) 4. The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5. Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10 <p>Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment</p>	Discussions, workshops and mentoring 2 X 50		<p>Material: data analysis techniques</p> <p>References: <i>Team. 2006. Guide to Writing and Grading Thesis. Surabaya: Unesa University Press</i></p> <hr/> <p>Material: data analysis techniques</p> <p>References: <i>Team. 2011. Guide to Writing Proposals and Theses for the Chemistry Education Study Program. Surabaya: Unesa University Press</i></p>	0%
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16	Final Semester Examination (UAS) and proposal presentation	able to present research proposals that have been made	Criteria: 1.Participation in lectures and seminar paper presentations (weight 20%) 2.Sub-summative tests or mid-semester exams (UTS) are carried out to assess the progress of preparing the research proposal draft (weight 20%) 3.Assessment of structured assignments and seminar papers or proposal drafts (30% weight) 4.The final semester exam (UAS) is used to measure presentation skills and defend seminar papers or research proposal drafts and their results (weight 50%) 5.Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10	presentation			0%
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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** 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.**

