

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

Document Code

SEMESTER LEARNING PLAN

Courses			CODE				Cou	rse F	amily	'		Cred	it Wei	ght		SEM	ESTER	Cor Dat	npilat e
Seminar			842040225	6								T=2	P=0	ECTS=	3.18		6	Jun 202	e 20, 2
AUTHORIZA ⁻	ZATION SP Developer Course Cluster Coordinator Study Program Coordinator																		
			Prof. Dr. Ut	Prof. Dr. Utiya Azizah, M.Pd.						Dr.	Dr. Mitarlis, S.Pd., M.Si.					Prof. Dr. Utiya Azizah M.Pd.			
_earning nodel	Case Studies																		
Program	PLO study pr	ogra	m which is ch	arge	d to 1	the c	ours	е											
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	Program Obje	ectiv	es (PO)																
	PO - 1	Al	ole to apply cher	nistry	, rese	arch	meth	olobc	gy an	d stat	tistics	to so	lve pr	oblems i	in so	ciety			
	PO - 2	M id	aster the basic of ea of the role of	conce chem	pts of istry i	chen n solv	nistry /ing s	, rese ocieta	arch i al prol	netho	odolo S	gy, aı	nd dat	a analys	is teo	chniqu	es to pi	epare	e a wri
	PO - 3	М	ake decisions ba	ased (on the	e resu	lts of	scien	tific re	easor	ning a	inalys	is of p	oroblem-s	solvir	ng effo	rts in so	ociety	
	PO - 4	H	ave a responsibl	e attit	ude in	n app	lying	writte	n idea	as in s	solvir	ng pro	blems	in socie	ety				
	PLO-PO Matr	ix																	
P.O PLO-						.0-5													
			PO-1																
			PO-2																
			PO-3																
			PO-4																
	PO Matrix at	the e	end of each lea	arnin	g sta	ge (S	Sub-F	PO)											
																			
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			PO-1																
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Short Course Description	systematizing,	/elop then	scientific reasc writing them in th	oning ne for	powe m of p	er thro paper	ough s and	librar pres	y/field enting	l/labo j then	rator n ora	y stud Ily	dies c	n chemi	istry	educa	tion top	Dics, s	search
References	Main :																		
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	1. Tim. 201	1. Panduan Penulisa	n Proposal dan Skripsi P	rogram Studi P	endidikan Kimia. Suraba	aya: Unesa Univ	ersity Press
Suppor lecturer	Prof. Dr. Harun N Prof. Dr. Suyono, Prof. Dr. Hj. Rudi Prof. Dr. Utiya Az Dr. Sukarmin, M. Dr. Mitarlis, S.Pd Dr. Muchlis, S.Pc Dr.Hj. Rinaningsi Dian Novita, S.T.	lasrudin, M.S. , M.Pd. ana Agustini, M.Pd. izah, M.Pd. Pd. , M.Si. I., M.Pd. h, S.Pd., M.Pd. , M.Pd. Dwiningsih, S.Pd., M. A.Si. Si., M.Pd.	Pd.				
Week-	Final abilities of each learning stage	Eva	aluation	Lear Stude	elp Learning, ning methods, nt Assignments, <mark>stimated time]</mark>	Learning materials [Assessment Weight (%)
	(Sub-PO)	Indicator	Criteria & Form	Offline(offline)	Online (<i>online</i>)	References	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Understand the techniques for preparing a scientific work	 Explain the meaning of scientific work 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 2) (Assessment Participatory Activities, Project Results Assessment Product Assessment	Presentation and discussion 2 X 50		Material: techniques for preparing scientific work. Reference: Suseno, S. 1980. Popular Scientific Writing Techniques. Jakarta: Gramedia	0%

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2	Able to search library materials	 Explain the types of library materials Able to search for library sources 	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) (assignment value x 3)) divided by 10 Form of Assessment Product Assessment / Product Assessment	Presentation and discussion 2 X 50	Material: techniques for preparing scientific work. Reference: Suseno, S. 1980. Popular Scientific Writing Techniques. Jakarta: Gramedia Materials Library: Team. 2006. Guide to Writing and Grading Thesis. Surabaya: Unesa University Press	0%

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3	Able to search library materials	1.Explain the types of	Criteria: 1.Participation in	Presentation and	Material: library	0%
	,		lectures and	discussion	materials	
		library		2 X 50	Library:	
		materials	seminar paper	2 / 00	Team. 2006.	
		2.Able to	presentations		Guide to	
		search for	(weight 20%)		Writing and	
		library	2.Sub-summative		Grading	
		sources	tests or mid-		Thesis.	
			semester exams		Surabaya:	
			(UTS) are carried		Unesa	
			out to assess the		University	
			progress of		Press	
			preparing the			
			research		Material:	
			proposal draft		library	
			(weight 20%)		material	
			Assessment of		search	
			structured		techniques	
			assignments and		Library:	
			seminar papers		Team. 2011.	
			or draft		Guide to	
			proposals,		Writing	
			(weight 30%)		Proposals	
			4.The final		and Theses	
			semester exam		for the	
			(UAS) is used to		Chemistry	
			measure		Education Study	
			presentation		Program.	
			skills and defend		Surabaya:	
			seminar papers		Unesa	
			or research		University	
			proposal drafts		Press	
			and their results			
			(weight 50%)			
			5.Final NA =			
			((participation			
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			divided by 10			
			Form of Assessment			
			Participatory Activities,			
			Project Results			
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4	Able to search	1.Explain the	Criteria:	Presentation	Material:	0%
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		sources	tests or mid-		Grading	
		0001000	semester exams		Thesis.	
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			out to assess the		University	
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			proposal draft		Material: library	
			(weight 20%)		material	
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			seminar papers		Team. 2011.	
			or draft		Guide to	
			proposals,		Writing	
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			4.The final		and Theses	
			semester exam		for the	
			(UAS) is used to		Chemistry	
			measure		Education	
			presentation		Study	
			skills and defend		Program.	
			seminar papers		Surabaya: Unesa	
			or research		University	
			proposal drafts		Press	
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			(weight 50%)			
			5.Final NA =			
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			value x 2) (0/10 value x 3))			
			divided by 10			
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proposal drafts and their results (weight 50%)Reference: Suseno, S. 1980.5.Final grade = ((participation grade x 2) plus (assignment grade x 3) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10Popular Scientific Writing Techniques. Jakarta: GramediaForm of Assessment Participatory Activities,Reference: Suseno, S. 1980.Participatory Activities,Reference: Suseno, S. 1980.Participatory Activities,Writing References: Team. 2006.				or research			
and their results (weight 50%) Suseno, S. 1980. 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 Techniques. Jakarta: Gramedia Material: proposal writing Material: proposal writing Form of Assessment : Participatory Activities, References: Team. 2006. Guide to				proposal drafts			
(weight 50%) 1980. 5.Final grade = Popular ((participation Scientific grade x 2) plus Writing (assignment Jakarta: grade x 3) plus Gramedia (UTS grade x 2) plus (UAS grade x 3)) divided by 10 Form of Assessment Tean. 2006. Participatory Activities, Guide to							
5.Final grade = Popular ((participation Scientific grade x 2) plus Writing (assignment Jakarta: grade x 3) plus Gramedia (UTS grade x 2) plus (UAS grade plus (UAS grade Material: x 3)) divided by 10 Form of Assessment References: : Team. 2006. Guide to Writing							
((participation Scientific grade x 2) plus (assignment grade x 3) plus Techniques. (UTS grade x 2) Jakarta: plus (UAS grade Gramedia x 3)) divided by 10 Form of Assessment Team. 2006. : Participatory Activities,							
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Image: Second							
Jakarta: Jakarta: grade x 3) plus Gramedia (UTS grade x 2) plus (UAS grade x 3)) divided by 10 Form of Assessment References: : Team. 2006. Guide to Writing							
Gramedia (UTS grade x 2) plus (UAS grade x 3)) divided by 10 Form of Assessment : Participatory Activities, Gramedia Gramedia Material: proposal writing References: Team. 2006. Guide to							
Image: transmission of the second							
x 3)) divided by 10 Material: proposal writing Form of Assessment References: Team. 2006. : Participatory Activities, Guide to				,			
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· Participatory Activities, Guide to				Form of Assessment			
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Breiget Begulte Writing and						Writing and	
Ploject Results						0	
Assessment / Floudet							
Assessment Titesis. Surabaya:				Assessment			
Unesa							
University							
Press							
						, 1035	

7	Able to prepare the	1.Able to	Criteria:	Discussions,	Material: 0%
	literature review	compile	1.Participation in	workshops	theoretical
	section of a	theoretical	lectures and	and	study and
	research proposal	studies	seminar paper	mentoring	framework
			presentations	2 X 50	of thinking
		supporting	•		References:
		research	(weight 20%)		Team. 2011.
		2.Able to	2.Sub-summative		Guide to
		compile	tests or mid-		Writing
		relevant	semester exams		Proposals
		research	(UTS) are carried		and Theses
		results	out to assess the		for the
		3.Able to	progress of		Chemistry
		develop a	preparing the		
					Education
		framework for	research		Study
		thinking	proposal draft		Program.
			(weight 20%)		Surabaya:
			Assessment of		Unesa
			structured		University
			assignments and		Press
			seminar papers		
			or proposal drafts		Material:
			(30% weight)		techniques
			4.The final		for writing
					scientific
			semester exam		papers.
			(UAS) is used to		Reference:
			measure		Suseno, S.
			presentation		1980.
			skills and defend		Popular
			seminar papers		Scientific
			or research		Writing
			proposal drafts		
					Techniques.
			and their results		Jakarta:
			(weight 50%)		Gramedia
			5.Final grade =		
			((participation		Material:
			grade x 2) plus		writing a
			(assignment		research
			grade x 3) plus		proposal
			(UTS grade x 2)		References:
			plus (UAS grade		Team. 2006.
			x 3)) divided by		Guide to
					Writing and
			10		Grading
					Thesis.
			Form of Assessment		Surabaya:
					Unesa
			Participatory Activities,		University
			Project Results		Press
			Assessment / Product		Press
			Assessment		

8	UTS and presentation of preliminary draft, literature review, and proposal framework	 1.Able to prepare preliminary drafts, literature reviews and proposal frameworks 2.Able to present a preliminary draft, literature review and proposal framework 	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	presentation 2 X 50		0%
			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 Form of Assessment : Participatory Activities, Project Results Assessment / Product Assessment			

					T T	
9	Able to develop research methods	Able to develop research	Criteria: 1.Participation in	Discussions, workshops	Material: research	0%
		methods	lectures and	and	methods	
		according to the		mentoring	References:	
		problems posed	seminar paper	2 X 50	Suseno, S.	
			presentations	2 / 30	1980.	
			(weight 20%)		Popular	
			2.Sub-summative			
			tests or mid-		Scientific	
			semester exams		Writing	
			(UTS) are carried		Techniques.	
			out to assess the		Jakarta:	
			progress of		Gramedia	
			preparing the		Motorial	
			research		Material:	
			proposal draft		research	
					methods	
			(weight 20%)		References:	
			3.Assessment of		Team. 2011.	
			structured		Guide to	
			assignments and		Writing	
			seminar papers		Proposals	
			or proposal drafts		and Theses	
			(30% weight)		for the	
			4.The final		Chemistry	
			semester exam		Education	
			(UAS) is used to		Study	
			measure		Program.	
			presentation		Surabaya:	
					Unesa	
			skills and defend		University	
			seminar papers		Press	
			or research		(m. m. m	
			proposal drafts		Material:	
			and their results		research	
			(weight 50%)		methods	
			5.Final grade =		References:	
			((participation		Team. 2011.	
			grade x 2) plus		Guide to	
			(assignment		Writing	
			grade x 3) plus		Proposals	
			(UTS grade x 2)		and Theses	
			,		for the	
			plus (UAS grade		Chemistry	
			x 3)) divided by		Education	
			10		Study	
					Program.	
			Form of Assessment		Surabaya:	
			:		Unesa	
			Participatory Activities,			
			Project Results		University	
			Assessment / Product		Press	
			Assessment			

10 Able to develop research methods Able to develop research methods according to the problems posed Criteria: Discussions, workshops and methods Material: 0% 1.Participation in problems posed Discussions, methods Workshops and methods methods methods 2 X 50 Suseno, S. 1980. Popular Scientific Popular Scientific Writing Virting Virting
semester exams (UTS) are carried out to assess the progress of pregating the proposal draft (weight 20%) 3.Assessment of saturctured assignments and seminar papers or proposal drafts (30% weight) 4. The final seminar papers or proposal drafts (30% weight) 4. The final seminar papers or research presentation presentation seminar papers or research proposal drafts and their results (weight 50%) 5. Final grade = (participation grade x 3) plus (UTS grade x 2) plus (AS grade x) july (AS grade

					1	
11	Able to develop research methods	Able to develop research	Criteria: 1.Participation in	Discussions, workshops	Material: research	0%
		methods	lectures and	and	methods	
		according to the		mentoring	References:	
		problems posed	seminar paper	2 X 50	Suseno, S.	
			presentations	2 X 30	1980.	
			(weight 20%)		Popular	
			2.Sub-summative		Scientific	
			tests or mid-		Writing	
			semester exams		Techniques.	
			(UTS) are carried		Jakarta:	
			out to assess the		Gramedia	
			progress of		Grameula	
			preparing the			
			research		Material:	
					research	
			proposal draft		methods	
			(weight 20%)		References:	
			3.Assessment of		Team. 2011.	
			structured		Guide to	
			assignments and		Writing	
			seminar papers		Proposals	
			or proposal drafts		and Theses	
			(30% weight)		for the	
			4.The final		Chemistry	
			semester exam		Education	
			(UAS) is used to		Study	
			measure		Program.	
			presentation		Surabaya:	
			skills and defend		Unesa	
			seminar papers		University	
			or research		Press	
			proposal drafts			
			and their results		Material:	
			(weight 50%)		research	
			5.Final grade =		methods	
			•		References:	
			((participation		Team. 2011.	
			grade x 2) plus		Guide to	
			(assignment		Writing	
			grade x 3) plus		Proposals	
			(UTS grade x 2)		and Theses	
			plus (UAS grade		for the	
			x 3)) divided by		Chemistry	
			10		Education	
					Study	
			Form of Assessment		Program.	
			:		Surabaya:	
			Participatory Activities,		Unesa	
			Project Results		University	
			Assessment / Product		Press	
			Assessment			

					T T	
12	Able to develop research methods	Able to develop research	Criteria:	Discussions,	Material:	0%
	research methods	methods	1.Participation in	workshops	research	
		according to the	lectures and	and	methods	
		problems posed	seminar paper	mentoring	References:	
		P P	presentations	2 X 50	Suseno, S.	
			(weight 20%)		1980.	
			2.Sub-summative		Popular	
			tests or mid-		Scientific	
					Writing	
			semester exams		Techniques.	
			(UTS) are carried		Jakarta:	
			out to assess the		Gramedia	
			progress of			
			preparing the		Material:	
			research		research	
			proposal draft		methods	
			(weight 20%)		References:	
			3.Assessment of		Team. 2011.	
			structured		Guide to	
			assignments and		Writing	
			seminar papers		Proposals	
			or proposal drafts		and Theses	
					for the	
			(30% weight)		Chemistry	
			4.The final		Education	
			semester exam		Study	
			(UAS) is used to		Program.	
			measure		Surabaya:	
			presentation		Unesa	
			skills and defend		University	
			seminar papers		Press	
			or research			
			proposal drafts		Material:	
			and their results		research	
			(weight 50%)		methods	
			5.Final grade =		References:	
			((participation		Team. 2011.	
			grade x 2) plus		Guide to	
					Writing	
			(assignment		Proposals	
			grade x 3) plus		and Theses	
			(UTS grade x 2)		for the	
			plus (UAS grade			
			x 3)) divided by		Chemistry	
			10		Education	
					Study	
			Form of Assessment		Program.	
			:		Surabaya:	
			Participatory Activities,		Unesa	
			Project Results		University	
			Assessment / Product		Press	
			Assessment			

13	 Able to understand types of research instruments Able to prepare research instruments that are appropriate to the proposed research 	 Able to understand types of research instruments Able to prepare research instruments according to the proposed research 	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 2) plus (assignment grade x 2) plus (UTS grade x 2) plus (UAS grade x 3)) divided by 10 Form of Assessment / Product Assessment / Product	Discussions, workshops and mentoring 2 X 50	Material: research instruments References: Suseno, S. 1980. Popular Scientific Writing Techniques. Jakarta: Gramedia Material: research instruments References: Team. 2006. Guide to Writing and Grading Thesis. Surabaya: Unesa University Press Material: research instruments References: Team. 2011. Guide to Writing Proposals and Theses for the Chemistry Education Study Pregram. Surabaya: Unesa University Program. Surabaya: Unesa University Proposals and Theses for the Chemistry Education Study Press	0%

r						
14	 Able to understand research data analysis techniques Able to analyze research data 	Able to calculate/analyze research data	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 (30% weight) 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 Form of Assessment / Product Assessment / Product Assessment	Discussions, workshops and mentoring 2 X 50	Material: data analysis techniques References: Team. 2006. Guide to Writing and Grading Thesis. Surabaya: University Press Material: data analysis techniques References: Team. 2011. Guide to Writing Proposals and Theses for the Chemistry Education Study Program. Surabaya: Unesa University Press	0%

15	1.Able to	Able to calculate/analyze	Criteria:	Discussions,	Material:	0%
	understand	research data	 Participation in 	workshops	data	
	research data	research uala	lectures and	and	analysis	
	analysis		seminar paper	mentoring	techniques	
	techniques		presentations	2 X 50	References:	
	2.Able to analyze		(weight 20%)		Team. 2006.	
					Guide to	
	research data		2.Sub-summative		Writing and	
			tests or mid-		Grading	
			semester exams		Thesis.	
			(UTS) are carried		Surabaya:	
			out to assess the			
			progress of		Unesa	
					University	
			preparing the		Press	
			research			
			proposal draft		Material:	
			(weight 20%)		data	
			3.Assessment of		analysis	
			structured		techniques	
			assignments and		References:	
			seminar papers		Team. 2011.	
			or proposal drafts		Guide to	
					Writing	
			(30% weight)		Proposals	
			4.The final		and Theses	
			semester exam		for the	
			(UAS) is used to			
			measure		Chemistry	
			presentation		Education	
			skills and defend		Study	
			seminar papers		Program.	
					Surabaya:	
			or research		Unesa	
			proposal drafts		University	
			and their results		Press	
			(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			
			Form of Assessment			
			Participatory Activities,			
			Project Results			
			Assessment / Product			
			Assessment			

16	Final Semester	able to present	Criteria:	presentation		0%
10	Examination (UAS)	research	1.Participation in	presentation		070
	and proposal	proposals that have been made	lectures and			
	presentation	nave been made	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			

 Evaluation Percentage Recap: Case Study

 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.
- 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.
- 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.