



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

Document Code

**SEMESTER LEARNING PLAN**

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date
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Actuarial	4420103001		T=3 P=0 ECTS=4.77	6	July 18, 2024
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AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Prof. Dr. Raden Sulaiman, M.Si.

Learning model	Project Based Learning
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Program Learning Outcomes (PLO)	PLO study program that is charged to the course
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Program Objectives (PO)	
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PLO-PO Matrix	
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	<table border="1" style="margin: auto;"> <tr><td style="padding: 5px;">P.O</td></tr> </table>	P.O
P.O		

PO Matrix at the end of each learning stage (Sub-PO)	
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	<table border="1" style="margin: auto;"> <tr> <td style="padding: 5px;">P.O</td> <td colspan="16" style="text-align: center;">Week</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;">1</td><td style="padding: 5px;">2</td><td style="padding: 5px;">3</td><td style="padding: 5px;">4</td><td style="padding: 5px;">5</td><td style="padding: 5px;">6</td><td style="padding: 5px;">7</td><td style="padding: 5px;">8</td><td style="padding: 5px;">9</td><td style="padding: 5px;">10</td><td style="padding: 5px;">11</td><td style="padding: 5px;">12</td><td style="padding: 5px;">13</td><td style="padding: 5px;">14</td><td style="padding: 5px;">15</td><td style="padding: 5px;">16</td> </tr> </table>	P.O	Week																	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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Short Course Description	Life table, mortality table, annuity and life annuity, pure endowment, life insurance, single net premium, net premium, gross premium, net premium reserve
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References	<b>Main :</b> 1. S. David P, Fundamentals of Actuarial Mathematics, 2011, A John Wiley and Sons,Ltd, Publication 2. Bowers, C.S. 1997. Actuarial Mathematics . The Society of Actuaries
	<b>Supporters:</b> 

Supporting lecturer	Affiati Oktaviarina, S.Si., M.Sc.
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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	Understanding life tables	1.Explore how to create a life table 2.Solving problems regarding life tables		Collaborative Learning Approach (Lectures, discussions and questions and answers 3 X 50			0%

2	Understanding life tables	1.Explore how to create a life table 2.Solving problems regarding life tables		Collaborative Learning Approach (Lectures, discussions and questions and answers 3 X 50			0%
3	Understanding Annuities	· Explore problems using annuities · Solve problems using annuities		annuity value 3 X 50			0%
4	Understanding Annuities	· Explore problems using annuities · Solve problems using annuities		annuity value 3 X 50			0%
5	Understanding life annuities	1.Explore the cash value and ending value of a living annuity 2.Solving problems with cash value and ending value of living annuities		Collaborative Learning Approach (Lecture, discussion and question and answer) 3 X 50			0%
6	Understanding life annuities	1.Explore the cash value and ending value of a living annuity 2.Solving problems with cash value and ending value of living annuities		Collaborative Learning Approach (Lecture, discussion and question and answer) 3 X 50			0%
7	Understanding life annuities	1.Explore the cash value and ending value of a living annuity 2.Solving problems with cash value and ending value of living annuities		Collaborative Learning Approach (Lecture, discussion and question and answer) 3 X 50			0%
8	UTS			3 X 50			0%
9	Understanding pure endowment	1.Exploring pure endowment 2.Solving pure endowment problems		Collaborative Learning Approach (Lecture, discussion and question and answer) 3 X 50			0%
10	Understanding pure endowment	1.Exploring pure endowment 2.Solving pure endowment problems		Collaborative Learning Approach (Lecture, discussion and question and answer) 3 X 50			0%
11	Understanding life insurance	· Explore about · life insurance Solve problems about life insurance		life insurance 3 X 50			0%
12	Understanding life insurance	· Explore about · life insurance Solve problems about life insurance		life insurance 3 X 50			0%

13	Understanding net premium	1.Explain the characteristics of net premium 2.Solve problems about net premium		Activate students by exploring the net premium. Activate students by discussing to resolve problems related to the 3 X 50 net premium			0%
14	Understanding gross premiums	· Explore gross premium problems · Solve gross premium problems		Collaborative Learning Approach (Lecture, discussion and question and answer) 3 X 50			0%
15	Understanding net premium reserves	Explore net premium reserve problems Solve gross premium problems		Collaborative Learning Approach (Lecture, discussion and question and answer) 3 X 50			0%
16	UAS			3 X 50			0%

#### Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
		0%

#### Notes

- 1. Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
- 2. The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
- 3. Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
- 4. Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
- 5. Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
- 6. Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
- 7. Forms of assessment:** test and non-test.
- 8. Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
- 9. Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
- 10. Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 11. The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
- 12. TM=Face to face, PT=Structured assignments, BM=Independent study.**