



**Universitas Negeri Surabaya  
Faculty of Economics and Business  
Bachelor of Accounting Study Program**

Document Code

**SEMESTER LEARNING PLAN**

<b>Courses</b>	<b>CODE</b>	<b>Course Family</b>	<b>Credit Weight</b>			<b>SEMESTER</b>	<b>Compilation Date</b>																																
Quantitative and Business Methods	6220103063		T=3	P=0	ECTS=4.77	2	July 17, 2024																																
<b>AUTHORIZATION</b>	<b>SP Developer</b>		<b>Course Cluster Coordinator</b>			<b>Study Program Coordinator</b>																																	
	.....		.....			Dr. Rohmawati Kusumaningtyas, S.E., Ak., MSA.																																	
<b>Learning model</b>	Case Studies																																						
<b>Program Learning Outcomes (PLO)</b>	PLO study program that is charged to the course																																						
	Program Objectives (PO)																																						
	PLO-PO Matrix																																						
		P.O																																					
	PO Matrix at the end of each learning stage (Sub-PO)																																						
		<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td rowspan="2" style="width: 5%;">P.O</td> <td colspan="16">Week</td> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td> </tr> </table>						P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
P.O	Week																																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																							
<b>Short Course Description</b>	This course discusses the basic concepts of operations research and approaches to various deterministic modeling methods such as linear programming, transportation models, assignments, queuing systems, game theory and project management. The learning application is through analysis of case examples in class. Lectures are carried out using a system of case study analysis, lectures, discussions, assignments and reflections.																																						
<b>References</b>	<b>Main :</b>																																						
	<ol style="list-style-type: none"> <li>1. Taylor III, Bernard W., 2004, Introduction to Management Science, 8th Ed., Pearson, Prentice Hall.</li> <li>2. Mulyono, Sri. 2004. Operation Research. Jakarta: Lembaga Penerbitan FE UI.</li> <li>3. Render, B. Stair, R.M., Jr. and Hana, Michael E., 2009, Quantitative Analysis for Management, 10th Ed., Pearson, Prentice Hall.</li> <li>4. Zamit, Yulian. 2009. Manajemen Kuantitatif untuk Bisnis. Yogyakarta:BPFE</li> </ol>																																						
	<b>Supporters:</b>																																						
<b>Supporting lecturer</b>	Dr. Nadia Asandimitra Haryono, S.E., M.M. Widyastuti, S.Si., M.Si. Aisyaturrahmi, S.E., M.A.,Ak. Merlyana Dwinda Yanthi, S.E., S.T., M.SA.Ak. Cantika Sari Siregar, S.E., M.Acc., Ak. Insyirah Putikadea, S.E., M.A. Rediyanto Putra, S.E., M.S.A.																																						
<b>Week-</b>	<b>Final abilities of each learning stage (Sub-PO)</b>	<b>Evaluation</b>		<b>Help Learning, Learning methods, Student Assignments, [ Estimated time]</b>		<b>Learning materials [ References ]</b>	<b>Assessment Weight (%)</b>																																
		<b>Indicator</b>	<b>Criteria &amp; Form</b>	<b>Offline ( offline )</b>	<b>Online ( online )</b>																																		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)																																

1	Explain the definition and use of quantitative methods	<ol style="list-style-type: none"> <li>1.Explain the history of quantitative methods</li> <li>2.Mention the benefits of quantitative methods</li> <li>3.Explain the stages in quantitative methods</li> </ol>		Lectures and discussions 3 X 50			0%
2	Analyze problem solving based on models that have been prepared using graphical methods	Achieving the objective function that provides the most optimum value using graphical methods		Lectures, discussions, problem solving 3 X 50			0%
3	Analyze problem solving based on a model that has been prepared using the simplex method	<ol style="list-style-type: none"> <li>1.Achievement of the minimum objective function that provides the most optimum value using the simplex method</li> <li>2.Achievement of the maximum objective function that provides the most optimum value using the simplex method</li> </ol>		Lectures, discussions, problem solving 3 X 50			0%
4	Analyzing PERT/CPM project completion problem solving	<ol style="list-style-type: none"> <li>1.Completion of optimal project completion problem solving using the CPM method</li> <li>2.Completion of optimal project completion problem solving using the PERT method</li> </ol>		Lectures, discussions, problem solving 3 X 50			0%
5	Analyzing PERT/CPM project completion problem solving	<ol style="list-style-type: none"> <li>1.Completion of optimal project completion problem solving using the CPM method</li> <li>2.Completion of optimal project completion problem solving using the PERT method</li> </ol>		Lectures, discussions, problem solving 3 X 50			0%

6	Apply assignment models to find optimal solutions	<ol style="list-style-type: none"> <li>1. Able to create assignment tables</li> <li>2. Determine the optimal solution for the number of tasks equal to the number of workers</li> <li>3. Determining the optimal solution for the number of tasks is not equal to the number of workers</li> </ol>		Lectures, discussions, problem solving 3 X 50			0%
7	Apply assignment models to find optimal solutions	<ol style="list-style-type: none"> <li>1. Able to create assignment tables</li> <li>2. Determine the optimal solution for the number of tasks equal to the number of workers</li> <li>3. Determining the optimal solution for the number of tasks is not equal to the number of workers</li> </ol>		Lectures, discussions, problem solving 3 X 50			0%
8	UTS			3 X 50			0%
9	Analyzing transportation problem solving using the North West Corner, Stepping Stone, Least Cost, Vogel's Approximation Method	<ol style="list-style-type: none"> <li>1. Resolved optimal transportation problems using the North West Corner and Stepping Stone methods</li> <li>2. Resolving optimum transportation problems using the Least Cost method and Vogel's Approximation Method</li> <li>3. Resolving optimal transportation problems with Modified Distribution</li> </ol>		Lectures, discussions, problem solving 3 X 50			0%

10	Analyzing transportation problem solving using the North West Corner, Stepping Stone, Least Cost, Vogel's Approximation Method	<ol style="list-style-type: none"> <li>1.Resolved optimal transportation problems using the North West Corner and Stepping Stone methods</li> <li>2.Resolving optimum transportation problems using the Least Cost method and Vogel's Approximation Method</li> <li>3.Resolving optimal transportation problems with Modified Distribution</li> </ol>		Lectures, discussions, problem solving 3 X 50			0%
11	Analyzing transportation problem solving using the North West Corner, Stepping Stone, Least Cost, Vogel's Approximation Method	<ol style="list-style-type: none"> <li>1.Resolved optimal transportation problems using the North West Corner and Stepping Stone methods</li> <li>2.Resolving optimum transportation problems using the Least Cost method and Vogel's Approximation Method</li> <li>3.Resolving optimal transportation problems with Modified Distribution</li> </ol>		Lectures, discussions, problem solving 3 X 50			0%
12	Analyze inventory control	<ol style="list-style-type: none"> <li>1.Discuss the functions and types of supplies</li> <li>2.Resolved inventory problems using the EOQ model</li> </ol>		Lectures, discussions, problem solving 3 X 50			0%
13	Determining the optimal strategy using Game Theory	Completion of problem solving to determine optimal strategy with Game Theory using pure and mixed strategies		Lectures, discussions, problem solving 3 X 50			0%

14	Analyze queuing problems	1.Completed solving the queue problem using the single server method 2.Completed solving the queue problem using the multiple server method		Lectures, discussions, problem solving 3 X 50			0%
15							0%
16	UAS			3 X 50			0%

#### 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.
- Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
- Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
- Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
- Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
- Forms of assessment:** test and non-test.
- Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
- Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.