



**Universitas Negeri Surabaya
Vocational Faculty,
D4 Civil Engineering Study Program**

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight	SEMESTER	Compilation Date																																
ESTIMATED CONSTRUCTION COSTS	2230502030		T=2 P=0 ECTS=3.18	4	July 17, 2024																																
AUTHORIZATION	SP Developer		Course Cluster Coordinator	Study Program Coordinator																																	
	Puguh Novi Prasetyono, S.Pd.,M.T/ Drs. Hasan Dani, M.T		Drs. Hasan Dani, M.T.	Puguh Novi Prasetyono, S.Pd., M.T.																																	
Learning model	Project Based Learning																																				
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																				
	PLO-11	Able to apply knowledge of mathematics, natural and/or materials science, civil engineering information technology to gain a thorough understanding of the principles and methods of civil engineering in the field of building construction.																																			
	Program Objectives (PO)																																				
	PLO-PO Matrix																																				
		<table border="1" style="margin: auto;"> <tr> <td style="width: 50px;">P.O</td> <td style="width: 50px;">PLO-11</td> </tr> </table>				P.O	PLO-11																														
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PO Matrix at the end of each learning stage (Sub-PO)																																					
	<table border="1" style="margin: auto;"> <tr> <td rowspan="2" style="width: 30px;">P.O</td> <td colspan="16" style="text-align: center;">Week</td> </tr> <tr> <td style="width: 20px;">1</td> <td style="width: 20px;">2</td> <td style="width: 20px;">3</td> <td style="width: 20px;">4</td> <td style="width: 20px;">5</td> <td style="width: 20px;">6</td> <td style="width: 20px;">7</td> <td style="width: 20px;">8</td> <td style="width: 20px;">9</td> <td style="width: 20px;">10</td> <td style="width: 20px;">11</td> <td style="width: 20px;">12</td> <td style="width: 20px;">13</td> <td style="width: 20px;">14</td> <td style="width: 20px;">15</td> <td style="width: 20px;">16</td> </tr> </table>				P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
P.O	Week																																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																					
Short Course Description	This course contains the basic concepts of project cost budget plans, calculation of cost plans for civil, architectural, mechanical and electrical works accompanied by calculations of material requirements. At the end, this course will provide an overview of calculating budget plans for state buildings, budget plans for planning work, construction management and supervision. Learning is carried out using direct teaching methods with a constructivist approach																																				
References	Main :																																				
	<ol style="list-style-type: none"> 1. Nugraha Paulus, Natan Ishak, Sutjipto R. 1985. Manajemen Proyek Konstruksi 1. Surabaya: Kartika Yudha. 2. Soeharto Iman. 2001. Manajemen Proyek dari Konseptual Sampai Operasional Jilid 2. Jakarta: Erlangga. 3. Ibrahim Baktiar. 2001. Rencana dan Estimate Real of Cost. Jakarta: Bumi Aksara. 4. Badan Standarisasi Nasional. 2008. Tata Cara Perhitungan Harga Satuan Pekerjaan. Jakarta: Badan Standarisasi Nasional. 5. Pemerintah Kota Surabaya. 2021. Harga Satuan Pokok Kegiatan (HSPK) Kota Surabaya. Surabaya: Pemkot Surabaya. 6. Kementerian Pekerjaan Umum. 2021. Analisa Harga Satuan Pekerjaan (AHSP) Bidang Pekerjaan Umum. Jakarta: Kementerian Pekerjaan Umum. 7. Kementerian Pekerjaan Umum. 2007. Permen PU No. 45/PRT/M/2007 tentang Pedoman Teknis Pembangunan Bangunan Gedung Negara. Jakarta: Kementerian Pekerjaan Umum. 8. Ikatan Nasional Konsultan Indonesia. 2022. Pedoman Standar Minimal 2022 Biaya Langsung Personil dan Biaya Langsung Non Personil untuk Kegiatan Jasa Konsultansi. Jakarta: Inkindo. 9. Journal of Cost Analysis and Parametrics 																																				
	Supporters:																																				
	<ol style="list-style-type: none"> 1. Pemerintah Kota Surabaya. 2021. Harga Satuan Pokok Kegiatan (HSPK) Kota Surabaya. Surabaya: Pemkot Surabaya. 																																				

Supporting lecturer		Drs. Hasan Dani, M.T. Puguh Novi Prasetyono, S.Pd., M.T.					
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 basic concepts of cost budget planning	Can state the meaning, types, components and methods of calculating cost budget plans	Criteria: Full marks are obtained if you do all the questions correctly Form of Assessment : Project Results Assessment / Product Assessment	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	Material: cost budget plan Reference: <i>Soeharto Iman. 2001. Project Management from Conceptual to Operational Volume 2. Jakarta: Erlangga.</i>	0%
2	Understand the basic concepts of cost budget planning	Can state the meaning, types, components and methods of calculating cost budget plans	Criteria: Full marks are obtained if you do all the questions correctly Form of Assessment : Participatory Activities	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	Material: cost budget plan Reference: <i>Soeharto Iman. 2001. Project Management from Conceptual to Operational Volume 2. Jakarta: Erlangga.</i>	0%
3	Understand how to calculate the budget plan for preparatory work, land and foundations and material requirements	Can calculate the budget plan for the costs of preparatory work, land, foundations and material requirements	Criteria: Full marks are obtained if you do all the questions correctly Form of Assessment : Project Results Assessment / Product Assessment	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	Material: budget plan for preparatory work, soil and foundations Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i>	5%
4	Understand how to calculate the budget plan for preparatory work, land and foundations and material requirements	Can calculate the budget plan for the costs of preparatory work, land, foundations and material requirements	Criteria: Full marks are obtained if you do all the questions correctly	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	Material: preparatory work, soil and foundation Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i>	5%
5	Understand how to calculate the budget plan for reinforced concrete work and how to calculate material requirements	Can calculate the budget plan for reinforced concrete work and material requirements	Criteria: Full marks are obtained if you do all the questions correctly Form of Assessment : Project Results Assessment / Product Assessment	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	Material: budget plan for reinforced concrete work Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i>	5%

6	Understand how to calculate the budget plan for reinforced concrete work and how to calculate material requirements	Can calculate the budget plan for reinforced concrete work and material requirements	<p>Criteria: Full marks are obtained if you do all the questions correctly</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	<p>Material: budget plan for reinforced concrete work</p> <p>Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i></p>	5%
7	Understand how to calculate the budget plan for reinforced concrete work and how to calculate material requirements	Can calculate the budget plan for reinforced concrete work and material requirements	<p>Criteria: Full marks are obtained if you do all the questions correctly</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	<p>Material: budget plan for reinforced concrete work</p> <p>Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i></p>	20%
8	Understand how to calculate the budget plan for reinforced concrete work and how to calculate material requirements	Can calculate the budget plan for reinforced concrete work and material requirements	<p>Criteria: Full marks are obtained if you do all the questions correctly</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	<p>Material: budget plan for reinforced concrete work.</p> <p>Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i></p>	5%
9	U.S.S			USS 2 X 50 Exam	USS Exam	<p>Material: cost estimation calculations</p> <p>Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i></p>	5%
10	Understand how to calculate the budget plan for finishing work costs and material requirements	Can calculate the budget plan for finishing work costs and material requirements	<p>Criteria: Full marks are obtained if you do all the questions correctly</p>	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	<p>Material: budget plan for finishing work.</p> <p>Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i></p>	5%

11	Understand how to calculate the budget plan for finishing work costs and material requirements	Can calculate the budget plan for finishing work costs and material requirements	<p>Criteria: Full marks are obtained if you do all the questions correctly</p>	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	<p>Material: budget plan for finishing work. Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i></p>	5%
12	Understand how to calculate the budget plan for finishing work costs and material requirements	Can calculate the budget plan for finishing work costs and material requirements	<p>Criteria: Full marks are obtained if you do all the questions correctly</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	<p>Material: budget plan for finishing work. Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i></p>	5%
13	Understand how to calculate the budget plan for steel construction work and material requirements	Can calculate the budget plan for steel construction work costs and material requirements	<p>Criteria: Full marks are obtained if you do all the questions correctly</p>	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	<p>Material: steel construction work cost budget plan Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i></p>	5%
14	Understand how to calculate the budget plan for electrical and sanitary installation work and material requirements	Can calculate the budget plan for electrical and sanitary installation work costs and material requirements	<p>Criteria: correct 100%</p>	Lecture, practice questions 2 X 50	Lecture, practice questions 2 X 50	<p>Material: budget plan for electrical and sanitary installation work. Reference: <i>National Standardization Agency. 2008. Procedures for Calculating Unit Prices of Work. Jakarta: National Standardization Agency.</i></p>	5%
15	Understand how to calculate the budget plan for the construction of state buildings,	Can calculate the budget plan for the construction costs of state buildings	<p>Criteria: correct 100%</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	Lecture, questions and answers, practice questions 2 X 50	Lecture, questions and answers, practice questions 2 X 50	<p>Material: budget plan for construction of state buildings, Reference: <i>Ministry of Public Works. 2007. PU Ministerial Decree No. 45/PRT/M/2007 concerning Technical Guidelines for the Construction of State Buildings. Jakarta: Ministry of Public Works.</i></p>	5%

16	Summative Exam	Can calculate construction cost budget plans	Criteria: correct 100%	Problem calculating Cost Estimate 2 X 50	Problem calculating Cost Estimate 2 X 50	Material: cost estimation calculations Reference: <i>Ministry of Public Works. 2007. PU Ministerial Decree No. 45/PRT/M/2007 concerning Technical Guidelines for the Construction of State Buildings. Jakarta: Ministry of Public Works.</i> <hr/> Material: construction cost estimates Reference: <i>Surabaya City Government. 2021. Basic Activity Unit Prices (HSPK) for the City of Surabaya. Surabaya: Surabaya City Government.</i> <hr/> Material: unit price estimation coefficient Reference: <i>Surabaya City Government. 2021. Basic Activity Unit Prices (HSPK) for the City of Surabaya. Surabaya: Surabaya City Government.</i>	20%
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Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Project Results Assessment / Product Assessment	50%
		50%

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** 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.
- 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.

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.