



**Universitas Negeri Surabaya  
Vocational Faculty,  
D4 Civil Engineering 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>
VALUE ENGINEERING	2230502038		T=2	P=0	ECTS=3.18	5	July 17, 2024
<b>AUTHORIZATION</b>	<b>SP Developer</b>		<b>Course Cluster Coordinator</b>			<b>Study Program Coordinator</b>	
	Mas Suryanto H.S., S.T., M.T. ; Puguh Novi Prasetyono, S.Pd., M.T. ; Drs. Hasan Dani, M.T.		Mas Suryanto H.S.,S.T.,M.T			Puguh Novi Prasetyono, S.Pd., M.T.	
<b>Learning model</b>	Case Studies						
<b>Program Learning Outcomes (PLO)</b>	PLO study program which is charged to the course						
	Program Objectives (PO)						
	PLO-PO Matrix						
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 100px; height: 30px;">P.O</td> </tr> </table>					
P.O							
<b>Short Course Description</b>	This course contains the history of development, basic concepts, organization, implementation and implementation of value engineering; the concepts of value, cost, and function in value engineering; value engineering techniques and work plans (information phase: breakdown analysis, cost models, function analysis; speculation phase; analysis phase; development phase; recommendation phase; and implementation phase. Learning is carried out using direct and cooperative teaching methods through a constructivist approach.						
<b>References</b>	<b>Main :</b>						
	<ol style="list-style-type: none"> <li>1. Anonimus. 1998. Kumpulan Bahan Kuliah Manajemen Proyek Konstruksi ITS . Surabaya: ITS.</li> <li>2. Dell 19isola Alphonse J. 1982. Value Engineering in the Construction Industry, Edisi ke-3 . New York: Van Nostrand Reinhold.</li> <li>3. Soeharto, Iman, 2001. Manajemen Proyek Dari Konseptual Sampai Operasional Jilid 2 . Jakarta: Penerbit Erlangga.</li> <li>4. Venkataraman Ray R., Pinto Jeffrey K. 2008. Cost and Value Management in Projects . New Jersey: John Wiley &amp; Sons</li> <li>5. Journal of Construction Engineering and Management (ASCE)</li> </ol>						
	<b>Supporters:</b>						
	<ol style="list-style-type: none"> <li>1. Journal of Construction Engineering and Management (ASCE)</li> </ol>						
<b>Supporting lecturer</b>	Drs. Hasan Dani, M.T. Puguh Novi Prasetyono, S.Pd., M.T.						
<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	Know the history of the development of value engineering	Students can describe the history of the development of value engineering	<b>Criteria:</b> Essay 100%  <b>Form of Assessment :</b> Participatory Activities	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers	<b>Material:</b> history of the development of value engineering <b>References:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	0%
2	Understand the basic concepts of value engineering	Students can explain the reasons for the need, understanding, main elements and conditions for using value engineering	<b>Criteria:</b> Essay 100%  <b>Form of Assessment :</b> Participatory Activities	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	<b>Material:</b> basic concepts of value engineering <b>References:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	0%
3	Understand the value engineering organizational structure	Students can describe the organizational structure of value engineering	<b>Criteria:</b> Essay 100%  <b>Form of Assessment :</b> Participatory Activities	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	<b>Material:</b> value engineering organizational structure <b>Reference:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	5%
4	Understand the implementation of value engineering at each stage of the project	Students can explain the implementation of value engineering at each stage of the project	<b>Criteria:</b> Essay 100%  <b>Form of Assessment :</b> Participatory Activities	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	<b>Material:</b> implementation of value engineering at each stage of the project <b>Reference:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	5%
5	Understand the concepts of value, cost, and function in value engineering	Students can explain the concepts of value, cost, and function in value engineering and how they are related	<b>Criteria:</b> Essay 100%  <b>Form of Assessment :</b> Participatory Activities	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	<b>Material:</b> concepts of value, cost and function in value engineering <b>Reference:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	5%

6	Understand the concepts of value, cost, and function in value engineering	Students can explain the concepts of value, cost, and function in value engineering and how they are related	<b>Criteria:</b> Essay 100%  <b>Form of Assessment :</b> Participatory Activities	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	<b>Material:</b> concepts of value, cost and function in value engineering <b>Reference:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	5%
7	Meeting 01 - 06	Meeting 01 - 06	<b>Criteria:</b> Essay 100%  <b>Form of Assessment :</b> Participatory Activities	Written test 2 X 50	Written test 2 X 50	<b>Material:</b> value engineering <b>References:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	20%
8	Understand the value engineering work plan	Students can explain the value engineering work plan	<b>Criteria:</b> Essay 100%  <b>Form of Assessment :</b> Participatory Activities	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	<b>Material:</b> value engineering work plan <b>References:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	5%
9	USS Exam	100 marks if answered correctly	<b>Criteria:</b> 100 marks if answered correctly	written test 2 X 50	written test 2 X 50	<b>Material:</b> value engineering <b>References:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	0%
10		100 marks if answered correctly	<b>Criteria:</b> 100 marks if answered correctly  <b>Form of Assessment :</b> Participatory Activities	Presentation and group discussion 2 X 50	Presentation and group discussion 2 X 50	<b>Material:</b> application of value engineering work plans to the <b>Library Building project:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	5%

11	Understand the application of value engineering work plans in building projects	Students can present the results of value engineering on building projects	<p><b>Criteria:</b></p> <p>1.75-100 Presentation is carried out coherently with appropriate intonation and emphasis, shows good understanding of the concept, assisted by ppt media according to media criteria, answers to the questioner correctly, able to formulate suggestions for improvement</p> <p>2.50-74 50-74 The presentation was carried out coherently with appropriate intonation and emphasis, but lacked some conceptual understanding, assisted by ppt media according to media criteria, answers from the questioner were generally correct, able to formulate suggestions for improvement</p> <p>3.25-49 25-49 The presentation was carried out, was not coherent and/or showed a lack of understanding of several concepts, was assisted by ppt media but did not meet the media criteria, answers from the questioner were generally incorrect, able to formulate suggestions for improvement</p> <p>4.0-24 0-24 The presentation was carried out, but was not coherent and/or showed a lack of understanding of many concepts, was not assisted by ppt media, the answer from the questioner was incorrect, unable to formulate suggestions for improvement</p> <p><b>Form of Assessment</b> : Participatory Activities</p>	Presentation and group discussion 2 X 50	Presentations and group discussions	<p><b>Material:</b> application of value engineering work plans on building construction projects</p> <p><b>Reference:</b> <i>Soeharto, Iman, 2001. Project Management From Conceptual to Operational Volume 2. Jakarta: Erlangga Publishers.</i></p>	5%
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12	Understand the application of value engineering work plans on road building projects	Students can present the results of value engineering on building projects	<p><b>Criteria:</b></p> <p>1.75-100 Presentation is carried out coherently with appropriate intonation and emphasis, shows good understanding of the concept, assisted by ppt media according to media criteria, answers to the questioner correctly, able to formulate suggestions for improvement</p> <p>2.50-74 50-74 The presentation was carried out coherently with appropriate intonation and emphasis, but lacked some conceptual understanding, assisted by ppt media according to media criteria, answers from the questioner were generally correct, able to formulate suggestions for improvement</p> <p>3.25-49 25-49 The presentation was carried out, was not coherent and/or showed a lack of understanding of several concepts, was assisted by ppt media but did not meet the media criteria, answers from the questioner were generally incorrect, able to formulate suggestions for improvement</p> <p>4.0-24 0-24 The presentation was carried out, but was not coherent and/or showed a lack of understanding of many concepts, was not assisted by ppt media, the answer from the questioner was incorrect, unable to formulate suggestions for improvement</p> <p><b>Form of Assessment</b> : Participatory Activities</p>	Presentation and group discussion 2 X 50	Presentations and group discussions	<p><b>Material:</b> application of value engineering work plans on road building projects</p> <p><b>Reference:</b> <i>Soeharto, Iman, 2001. Project Management From Conceptual to Operational Volume 2. Jakarta: Erlangga Publishers.</i></p>	5%
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13	Understand the application of value engineering work plans to road and bridge projects	Students can present the results of value engineering on road and bridge projects	<p><b>Criteria:</b>  75-100: Presentation is carried out coherently with appropriate intonation and emphasis, shows good understanding of the concept, assisted by ppt media according to media criteria, answers to the questioner are correct, able to formulate suggestions for improvement 50-74:  Presentation is carried out coherently with correct intonation and emphasis appropriate, but lacking in understanding some concepts, assisted by ppt media according to media criteria, answers from the questioner are generally correct, able to formulate suggestions for improvement 25-49:  Presentation is done, not coherent and/or shows lack of understanding of several concepts, assisted by ppt media but does not meet media criteria, answers from asker are generally incorrect, able to formulate suggestions for improvement 0-24  Presentation is made, but lacks consistency and/or shows lack of understanding of many concepts, not supported by ppt media, answers from asker are incorrect, unable formulate suggestions for improvement</p> <p><b>Form of Assessment</b>  :  Participatory Activities</p>	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	<p><b>Material:</b>  application of value engineering work plans on road and bridge projects  <b>Reference:</b>  Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.</p>	5%
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14	Understand the application of value engineering work plans to road and bridge projects	Students can present the results of value engineering on road and bridge projects	<p><b>Criteria:</b>  75-100: Presentation is carried out coherently with appropriate intonation and emphasis, shows good understanding of the concept, assisted by ppt media according to media criteria, answers to the questioner are correct, able to formulate suggestions for improvement 50-74:  Presentation is carried out coherently with correct intonation and emphasis appropriate, but lacking in understanding some concepts, assisted by ppt media according to media criteria, answers from the questioner are generally correct, able to formulate suggestions for improvement 25-49:  Presentation is done, not coherent and/or shows lack of understanding of several concepts, assisted by ppt media but does not meet media criteria, answers from asker are generally incorrect, able to formulate suggestions for improvement 0-24  Presentation is made, but lacks consistency and/or shows lack of understanding of many concepts, not supported by ppt media, answers from asker are incorrect, unable formulate suggestions for improvement</p> <p><b>Form of Assessment</b>  :  Participatory Activities</p>	Lectures, discussions and questions and answers 2 X 50	Lectures, discussions and questions and answers 2 X 50	<p><b>Material:</b>  application of value engineering work plans on road and bridge projects  <b>Reference:</b>  Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.</p>	5%
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15	Understand the application of value engineering work plans to water construction projects	Students can present the results of value engineering on water building projects	<b>Criteria:</b> 75-100: Presentation is carried out coherently with appropriate intonation and emphasis, shows good understanding of the concept, assisted by ppt media according to media criteria, answers to the questioner are correct, able to formulate suggestions for improvement 50-74: Presentation is carried out coherently with correct intonation and emphasis appropriate, but lacking in understanding some concepts, assisted by ppt media according to media criteria, answers from the questioner are generally correct, able to formulate suggestions for improvement 25-49: Presentation is carried out, not coherent and/or shows lack of understanding of several concepts, assisted by ppt media but does not meet media criteria, answers from asker are generally incorrect, able to formulate suggestions for improvement 0-24 Presentation is made, but lacks consistency and/or shows lack of understanding of many concepts, not supported by ppt media, answers from asker are incorrect, unable to formulate suggestions for improvement	Presentation and group discussion 2 X 50	Presentation and group discussion 2 X 50	<b>Material:</b> application of value engineering work plans on water construction projects <b>Reference:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	5%
16		100 marks if answered correctly	<b>Criteria:</b> 100 marks if answered correctly  <b>Form of Assessment :</b> Participatory Activities	written test 2 X 50	written test 2 X 50	<b>Material:</b> value engineering <b>References:</b> Soeharto, Iman, 2001. <i>Project Management From Conceptual to Operational Volume 2.</i> Jakarta: Erlangga Publishers.	20%

**Evaluation Percentage Recap: Case Study**

No	Evaluation	Percentage
1.	Participatory Activities	90%
		90%

**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.