



**Universitas Negeri Surabaya
Vocational Faculty,
D4 Transportation Study Program**

**Document
Code**

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Transportation Planning and Modeling	99993940102032	Transportation Modeling	T=2	P=0	ECTS=3.18	4	July 16, 2024
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator	
	R. Endro Wibisono, S.Pd., M.T.		Dr. Ari Widayanti, S.T., M.T.			Dr. Anita Susanti, S.Pd., M.T.	

Learning model	Project Based Learning																																																	
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																																	
	PLO-7 Able to carry out work and entrepreneurship in the field of land transportation engineering technology professionally.																																																	
	PLO-11 Able to internalize ethics, norms and laws in carrying out work.																																																	
	Program Objectives (PO)																																																	
	PO - 1 Able to apply logical, critical, innovative, quality and measurable thinking in identifying, implementing and evaluating independently and coordinating groups to solve technical and non-technical problems and able to communicate verbally and in writing. Able to apply the principles of mechanics, mathematics and engineering concepts to the technical design process, drawing measurement results, and design in the field of land transportation engineering technology. Able to carry out design work, implementation, supervision, documentation of work in the field of land transportation engineering technology according to applicable standards by prioritizing principles occupational and environmental security and safety systems (SMK3L). Able to internalize ethics, norms and laws in carrying out transportation modeling work																																																	
	PLO-PO Matrix																																																	
	<table border="1"> <tr> <td>P.O</td> <td>PLO-7</td> <td>PLO-11</td> </tr> <tr> <td>PO-1</td> <td></td> <td></td> </tr> </table>	P.O	PLO-7	PLO-11	PO-1																																													
	P.O	PLO-7	PLO-11																																															
	PO-1																																																	
	PO Matrix at the end of each learning stage (Sub-PO)																																																	
<table border="1"> <tr> <td rowspan="2">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> <tr> <td>PO-1</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	PO-1																
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PO-1																																																		

Short Course Description	Transport planning and national, regional city and community development programs, institutional responsibility for implementing plans, decision making of the central government transport sector and policy setting (in an institutional context), methods of monitoring and evaluating transport plans, problems of cooperation between agents and the need for institutional building transport sector, planning survey
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References	Main :
	<ol style="list-style-type: none">, 1999. Prosiding Simposium I, Forum Studi Transportasi antar Perguruan Tinggi . Bandung: ITB., 2000. Jurnal Transportasi , FSTPT. Volume2 Nomor 1 13 Juni 2000. Bandung: ITB. Morlok, Edward K. 1989. Pengantar Teknik dan Perencanaan Transportasi . Jakarta: Penerbit Erlangga. Nasution, M. Nur. 2004. Manajemen Transportasi . Edisi Kedua. Jakarta: Penerbit Ghalia Indonesia. Warpani, Suwardjoko. 1990. Merencanakan Sistem Perangkutan . Bandung: ITB Tamin,Ofyar Z. 2000. Perencanaan danPemodelan Transporatsi . Edisi ke 2. Bandung : Penerbit ITB. Rizky, Adhi. 2012. Preferensi Pemilihan Moda Dalam Pergerakan Penglaju Koridor Bogor-Jakarta Terkait dengan Pemilihan Tempat Tinggal . Jakarta : BPPJT
	Supporters:

Supporting lecturer		Dr. Ir. H. Dadang Supriyatno, M.T. Dr. Ari Widayanti, S.T., M.T. Dr. Anita Susanti, S.Pd., M.T. R. Endro Wibisono, 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 and master the definition and scope of transportation planning and modeling	1. Explain the definition of transportation planning and modeling. 2. Explain the scope of transportation planning and modeling	Criteria: You get full marks if you do the questions and do everything correctly Form of Assessment : Participatory Activities	1. Oral question and answer 2. Group discussion 2 X 50		Material: Definition of transportation planning and modeling, scope of transportation planning and modeling. References: - ----- 1999. <i>Proceedings of Symposium I, Inter-University Transportation Study Forum. Bandung: ITB.</i> ----- 2000. <i>Transportation Journal, FSTPT. Volume2 Number 1 13 June 2000. Bandung: ITB. Morlok, Edward K. 1989. Introduction to Transportation Engineering and Planning. Jakarta: Erlangga Publishers. Nasution, M. Nur. 2004. Transportation Management. Second Edition. Jakarta: Ghalia Indonesia Publishers. Warpani, Suwardjoko. 1990. Planning Transportation Systems. Bandung: ITB Tamin, Ofyar Z. 2000. Transportation Planning and Modeling. 2nd Edition. Bandung: ITB Publisher. Rizky, Adhi. 2012. Mode Choice Preferences in the Movement of Bogor-Jakarta Corridor Commuters Related to Choice of Residence. Jakarta: BPPJT</i>	20%

2	Students understand and master the basic concepts and four-stage model in transportation planning.	Explains the basic concepts of four stages in transportation planning and modeling.	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Participatory Activities</p>	1. Oral question and answer 2. Group discussion 2 X 50		<p>Material: Basic concepts of four stages in transportation planning and modeling.</p> <p>References: - ----- 1999. <i>Proceedings of Symposium I, Inter-University Transportation Study Forum.</i> Bandung: ITB. ----- 2000. <i>Transportation Journal, FSTPT. Volume2 Number 1 13 June 2000.</i> Bandung: ITB. Morlok, Edward K. 1989. <i>Introduction to Transportation Engineering and Planning.</i> Jakarta: Erlangga Publishers. Nasution, M. Nur. 2004. <i>Transportation Management. Second Edition.</i> Jakarta: Ghalia Indonesia Publishers. Warpani, Suwardjoko. 1990. <i>Planning Transportation Systems.</i> Bandung: ITB Tamin, Ofyar Z. 2000. <i>Transportation Planning and Modeling. 2nd Edition.</i> Bandung: ITB Publisher. Rizky, Adhi. 2012. <i>Mode Choice Preferences in the Movement of Bogor-Jakarta Jakarta Corridor Commuters Related to Choice of Residence.</i> Jakarta: BPPJT</p>	0%
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3	Students understand how to calculate simple regression and multiple linear regression for transportation planning and modeling	1. Able to calculate simple linear regression for transportation planning and modeling 2. Able to calculate multiple linear regression for transportation planning and modeling	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	1. Oral question and answer 2. Group discussion 2 X 50		<p>Material: Simple linear regression for transportation planning and modeling, multiple linear regression for transportation planning and modeling.</p> <p>References: - ----- 1999. <i>Proceedings of Symposium I, Inter-University Transportation Study Forum. Bandung: ITB.</i> ----- 2000. <i>Transportation Journal, FSTPT. Volume2 Number 1 13 June 2000. Bandung: ITB. Morlok, Edward K.</i> 1989. <i>Introduction to Transportation Engineering and Planning. Jakarta: Erlangga Publishers. Nasution, M. Nur. 2004. Transportation Management. Second Edition. Jakarta: Ghalia Indonesia Publishers. Warpani, Suwardjoko.</i> 1990. <i>Planning Transportation Systems. Bandung: ITB Tamin, Ofyar Z. 2000. Transportation Planning and Modeling. 2nd Edition. Bandung: ITB Publisher. Rizky, Adhi. 2012. Mode Choice Preferences in the Movement of Bogor-Jakarta Corridor Commuters Related to Choice of Residence. Jakarta: BPPJT</i></p>	15%
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4	Students are able to understand and discuss the trip generation stages.	1. Explain the concept of trip generation and attraction in trip generation.2. Explain the models in trip generation	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	1. Oral question and answer 2. Group discussion 2 X 50		<p>Material: The concept of trip generation and attraction in trip generation, models in trip generation.</p> <p>References: - ----- 1999. <i>Proceedings of Symposium I, Inter-University Transportation Study Forum. Bandung: ITB.</i> ----- 2000. <i>Transportation Journal, FSTPT. Volume2 Number 1 13 June 2000. Bandung: ITB. Morlok, Edward K. 1989. Introduction to Transportation Engineering and Planning. Jakarta: Erlangga Publishers. Nasution, M. Nur. 2004. Transportation Management. Second Edition. Jakarta: Ghalia Indonesia Publishers. Warpani, Suwardjoko. 1990. Planning Transportation Systems. Bandung: ITB Tamin, Ofyar Z. 2000. Transportation Planning and Modeling. 2nd Edition. Bandung: ITB Publisher. Rizky, Adhi. 2012. Mode Choice Preferences in the Movement of Bogor-Jakarta Corridor Commuters Related to Choice of Residence. Jakarta: BPPJT</i></p>	15%
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5	Students are able to understand and discuss the trip production and trip attraction stages	1. Explain trip production case studies and apply regression to obtain modeling 2. Explains the trip attraction case study and the application of regression to obtain modeling	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	1. Oral question and answer 2. Group discussion 2 X 50		<p>Material: Trip production and trip attraction. References: - ----- 1999. <i>Proceedings of Symposium I, Inter-University Transportation Study Forum. Bandung: ITB.</i> ----- 2000. <i>Transportation Journal, FSTPT. Volume2 Number 1 13 June 2000. Bandung: ITB.</i> Morlok, Edward K. 1989. <i>Introduction to Transportation Engineering and Planning. Jakarta: Erlangga Publishers.</i> Nasution, M. Nur. 2004. <i>Transportation Management. Second Edition. Jakarta: Ghalia Indonesia Publishers.</i> Warpani, Suwardjoko. 1990. <i>Planning Transportation Systems. Bandung: ITB Tamin, Ofyar Z. 2000.</i> <i>Transportation Planning and Modeling. 2nd Edition. Bandung: ITB Publisher.</i> Rizky, Adhi. 2012. <i>Mode Choice Preferences in the Movement of Bogor-Jakarta Corridor Commuters Related to Choice of Residence. Jakarta: BPPJT</i></p>	15%
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6	Understand and master the concept of the origin and destination matrix and the basic principles of the trip distribution model.	1. Able to explain the concept of the trip distribution destination origin matrix2. Explain the basic principles of the trip distribution model.	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	1. Oral question and answer 2. Group discussion 2 X 50		<p>Material: The concept of the origin and destination matrix and the basic principles of the trip distribution model.</p> <p>References: - ----- 1999. <i>Proceedings of Symposium I, Inter-University Transportation Study Forum. Bandung: ITB.</i> ----- 2000. <i>Transportation Journal, FSTPT. Volume2 Number 1 13 June 2000. Bandung: ITB. Morlok, Edward K. 1989. Introduction to Transportation Engineering and Planning. Jakarta: Erlangga Publishers. Nasution, M. Nur. 2004. Transportation Management. Second Edition. Jakarta: Ghalia Indonesia Publishers. Warpani, Suwardjoko. 1990. Planning Transportation Systems. Bandung: ITB Tamin, Ofyar Z. 2000. Transportation Planning and Modeling. 2nd Edition. Bandung: ITB Publisher. Rizky, Adhi. 2012. Mode Choice Preferences in the Movement of Bogor-Jakarta Corridor Commuters Related to Choice of Residence. Jakarta: BPPJT</i></p>	15%
7	Students are able to understand various analogy models and synthesis models.	1. Explain the various analogy models (growth factors) 2. Explain the various synthesis models.	<p>Criteria: You get full marks if you do the questions and do everything correctly</p>	1. Oral question and answer 2. 2 X 1 group discussion			0%
8	UTS	UTS	<p>Criteria: UTS</p>	UTS 2 X 50			0%

9	Students understand and master the concept of influencing factors in mode selection.	Explain the concept of mode choice and the factors that influence it.	Criteria: You get full marks if you do the questions and do everything correctly	1. Oral question and answer 2. Group discussion 2 X 50			0%
10	Students understand and master the concept of influencing factors in mode selection.	Explain the concept of mode choice and the factors that influence it.	Criteria: You get full marks if you do the questions and do everything correctly	1. Oral question and answer 2. 2 X 1 group discussion			0%
11	Students understand and master the concept of influencing factors in mode selection.	Explain the concept of mode choice and the factors that influence it.	Criteria: You get full marks if you do the questions and do everything correctly	1. Oral question and answer 2. Group discussion 2 X 50			0%
12	Students know the mode choice model using the stated preference method.	Students know the mode choice model using the stated preference method.	Criteria: You get full marks if you do the questions and do everything correctly	1. Oral question and answer 2. Group discussion 2 X 50			0%
13	Students understand and master the basic concepts of selecting public or private transportation routes.	Explain the basic concept of selecting public or private transportation routes.	Criteria: You get full marks if you do the questions and do everything correctly	1. Oral question and answer 2. Group discussion 2 X 50			0%
14	Students understand the capacity restraint model.	Explain the capacity restraint model in transportation planning systems	Criteria: You get full marks if you do the questions and do everything correctly	1. Oral question and answer 2. 2 X 1 group discussion			0%
15	Students understand the comparative road factor model	Students can explain the comparative road factor model	Criteria: You get full marks if you do the questions and do everything correctly	1. Oral question and answer 2. Group discussion 2 X 50			0%
16	Students understand and master the use of four models in transportation planning.	Students can explain the four uses of models in transportation planning.	Criteria: You get full marks if you do the questions and do everything correctly	1. Oral question and answer 2. Group discussion 2 X 50			0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	20%
2.	Project Results Assessment / Product Assessment	60%
		80%

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.

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.