



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

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date																																																																		
Traffic Engineering	xx39401021187	Compulsory Study Program Subjects	T=0	P=0	ECTS=0	3	July 16, 2024																																																																		
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator																																																																			
	R. Endro Wibisono, S.Pd., M.T.		Dr. Ir. Dadang Supriyatno, 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.																																																																							
	PO - 2	Mastering principles, applications, technical references, procedures and work standards (SOP)																																																																							
	PLO-PO Matrix																																																																								
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>P.O</td> <td>PLO-7</td> <td>PLO-11</td> </tr> <tr> <td>PO-1</td> <td></td> <td></td> </tr> <tr> <td>PO-2</td> <td></td> <td></td> </tr> </table>						P.O	PLO-7	PLO-11	PO-1			PO-2																																																											
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PO-2																																																																									
PO Matrix at the end of each learning stage (Sub-PO)																																																																									
	<table border="1" style="margin-left: auto; margin-right: auto;"> <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> <tr> <td>PO-2</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																	PO-2																
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PO-1																																																																									
PO-2																																																																									
Short Course Description	This course studies the results of the interaction between transport demand and transport supply, including: basic concepts of traffic engineering; flow characteristics and performance of road sections; as well as flow characteristics, signal settings and signalized intersection performance.																																																																								
References	Main :																																																																								
	1. [1]. Dirjendat. 1999. Rekayasa Lalu Lintas.Jakarta : Direktorat Bina Sistem Lalu Lintas Angkutan Kota.[2]. Tamin, Ofyar Z. 1992. Perencanaan DanPemodelan Transportasi. Bandung : Penerbit ITB Bandung.[3]. White, P. R. 1976.Planning for Public Transport.London : Hutchinson.																																																																								
	Supporters:																																																																								
	1. Manual Kapasitas Jalan Indonesia 1997																																																																								
Supporting lecturer	Dr. Ir. H. Dadang Supriyatno, 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	Students understand the definition of traffic engineering theory. Characteristics of traffic flows. Growth trends and forecasting.	Students can understand the characteristics of traffic flow and the influencing factors	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Discuss to narrow down the meaning of traffic engineering in 2 X 50 traffic engineering planning		<p>Material: traffic flow characteristics and influencing factors</p> <p>References: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976. Planing for Public Transport. London : Hutchinson.</p>	2%
2	Students understand the characteristics of traffic components: - Facilities - Road Users - Infrastructure	Students can understand the development of traffic trends in land use growth	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Participatory Activities</p>	Discuss traffic growth and efforts to prepare 2 X 50 road infrastructure		<p>Material: characteristics of traffic components: - Facilities - Road Users - Infrastructure</p> <p>Literature: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976. Planing for Public Transport. London : Hutchinson.</p>	2%
3	Students understand the characteristics of highways and the characteristics of intersections	Students understand the components of highways and intersections	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Discuss examples of components that influence the characteristics of 2 X 50 highways and intersections		<p>Material: highway components and intersections</p> <p>References: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976. Planing for Public Transport. London : Hutchinson.</p>	2%

4	Students are able to understand the meaning of traffic counting: - Volume survey - Speed survey - Parking survey	Students can understand various traffic survey techniques and use data for design purposes	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Discuss the traffic survey process to support planning and evaluation of road capacity and 2 X 50 intersections		<p>Material: traffic counting :-</p> <p>Literature volume survey: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976.Planning for Public Transport.London : Hutchinson.</p>	2%
5	Students are able to understand the meaning of traffic counting: - Volume survey - Speed survey - Parking survey	Students can understand various traffic survey techniques and use data for design purposes	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Discuss the methods for calculating 2 X 50 traffic counting		<p>Material: traffic counting :-</p> <p>Literature volume survey: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976.Planning for Public Transport.London : Hutchinson.</p>	2%
6	Students are able to understand the needs/calculations of capacity and service levels for road sections	Students are able to calculate the performance of sections and intersections	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Discuss the calculation method and discuss the results of the 2 X 50 calculation		<p>Material: Calculation of capacity and service levels for road sections</p> <p>Reference: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976.Planning for Public Transport.London : Hutchinson.</p>	2%

7	Students are able to understand capacity calculation planning and service levels for road sections	Students are able to analyze road capacity requirements according to the conditions of the surrounding environment	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Discuss the factors that influence the capacity analysis of the 2 X 50 road section		<p>Material: Calculation of capacity and service levels for road sections</p> <p>Reference: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976. Planing for Public Transport.London : Hutchinson.</p>	2%
8	UTS	UTS	<p>Criteria: UTS</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	UTS 1 X 1		<p>Material: uts</p> <p>References: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976. Planing for Public Transport.London : Hutchinson.</p>	20%
9	Students are able to understand capacity calculation planning and service levels for urban roads and intersections	Students are able to analyze the capacity needs/level of service for roads and intersections according to the conditions of the surrounding environment	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Participatory Activities, Tests</p>	Discuss the factors that influence the analysis of the capacity/service level of roads and intersections 2 X 50		<p>Material: capacity analysis/service level of roads and intersections</p> <p>References: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976. Planing for Public Transport.London : Hutchinson.</p>	2%

10	Students are able to understand capacity calculation planning and service levels for priority intersections	Students are able to analyze the capacity needs of road intersections according to the conditions of the surrounding environment	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Participatory Activities, Practice/Performance</p>	Discuss the factors that influence the capacity analysis of the 2 X 50 priority intersection		<p>Material: capacity and level of service for priority intersections</p> <p>References: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976.Planing for Public Transport.London : Hutchinson.</p>	6%
11	Students understand and comprehend capacity calculations and service levels for intersections with traffic signaling devices	Students are able to explain the need for road transportation infrastructure in the form of APILL	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Practice/Performance, Test</p>	Students discuss the development of 2 X 50 road infrastructure needs		<p>Material: road transportation infrastructure needs in the form of APILL</p> <p>Library: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976.Planing for Public Transport.London : Hutchinson.</p>	6%
12	Students understand and comprehend capacity calculations and service levels for intersections with traffic signaling devices	Students are able to explain the need for road transportation infrastructure in the form of APILL	<p>Criteria: You get full marks if you do the questions and do everything correctly</p> <p>Form of Assessment : Practice / Performance</p>	Students discuss the development of 2 X 50 road infrastructure needs		<p>Material: level of service for intersections with traffic signaling devices</p> <p>References: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976.Planing for Public Transport.London : Hutchinson.</p>	6%

13	Students understand & comprehend capacity calculations and service levels for roundabout and interchange intersections	Students are able to explain the need for road transportation infrastructure in the form of roundabouts	Criteria: You get full marks if you do the questions and do everything correctly Form of Assessment : Practice / Performance	1. Understand the need for roundabout infrastructure2. Understanding 2 X 50 interchanges		Material: capacity and level of service for roundabouts and interchanges Reference: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976.Planing for Public Transport.London : Hutchinson.	6%
14	Students understand & comprehend capacity calculations and service levels for roundabout and interchange intersections.	Students are able to explain the need for road transportation infrastructure in the form of APILL	Criteria: You get full marks if you do the questions and do everything correctly Form of Assessment : Participatory Activities, Practice/Performance	1. Understand the need for roundabout infrastructure2. Understanding 2 X 50 interchanges		Material: capacity and level of service for roundabouts and interchanges Reference: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976.Planing for Public Transport.London : Hutchinson.	6%
15	Motor vehicle parking: Types of parking space requirements. Design of roadside parking	Students are able to understand parking needs and correct parking placement	Criteria: You get full marks if you do the questions and do everything correctly Form of Assessment : Practical Assessment	Discuss about parking design based on available road space for onstreet parking and discuss 2 X 50 parking space units		Material: parking Reference: [1]. Director General. 1999. Traffic Engineering. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. Transportation Planning and Modeling. Bandung: ITB Bandung Publisher.[3]. White, PR 1976.Planing for Public Transport.London : Hutchinson.	4%

16	Students are able to recognize and understand analysis for pedestrians and analysis for cyclists	Students are able to understand the planning stages of pedestrian facilities and bicycle lanes	<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>	Discuss the importance of sustainable transportation in urban areas by implementing 2 X 50 pedestrian and bicycle lanes		<p>Material: uas</p> <p>References: [1]. Director General. 1999. <i>Traffic Engineering</i>. Jakarta: Directorate of City Transport Traffic System Development.[2]. Tamin, Ofyar Z. 1992. <i>Transportation Planning and Modeling</i>. Bandung: ITB Bandung Publisher.[3]. White, PR 1976. <i>Planing for Public Transport</i>. London : Hutchinson.</p>	30%
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Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
1.	Participatory Activities	15%
2.	Project Results Assessment / Product Assessment	50%
3.	Practical Assessment	4%
4.	Practice / Performance	21%
5.	Test	10%
		100%

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.