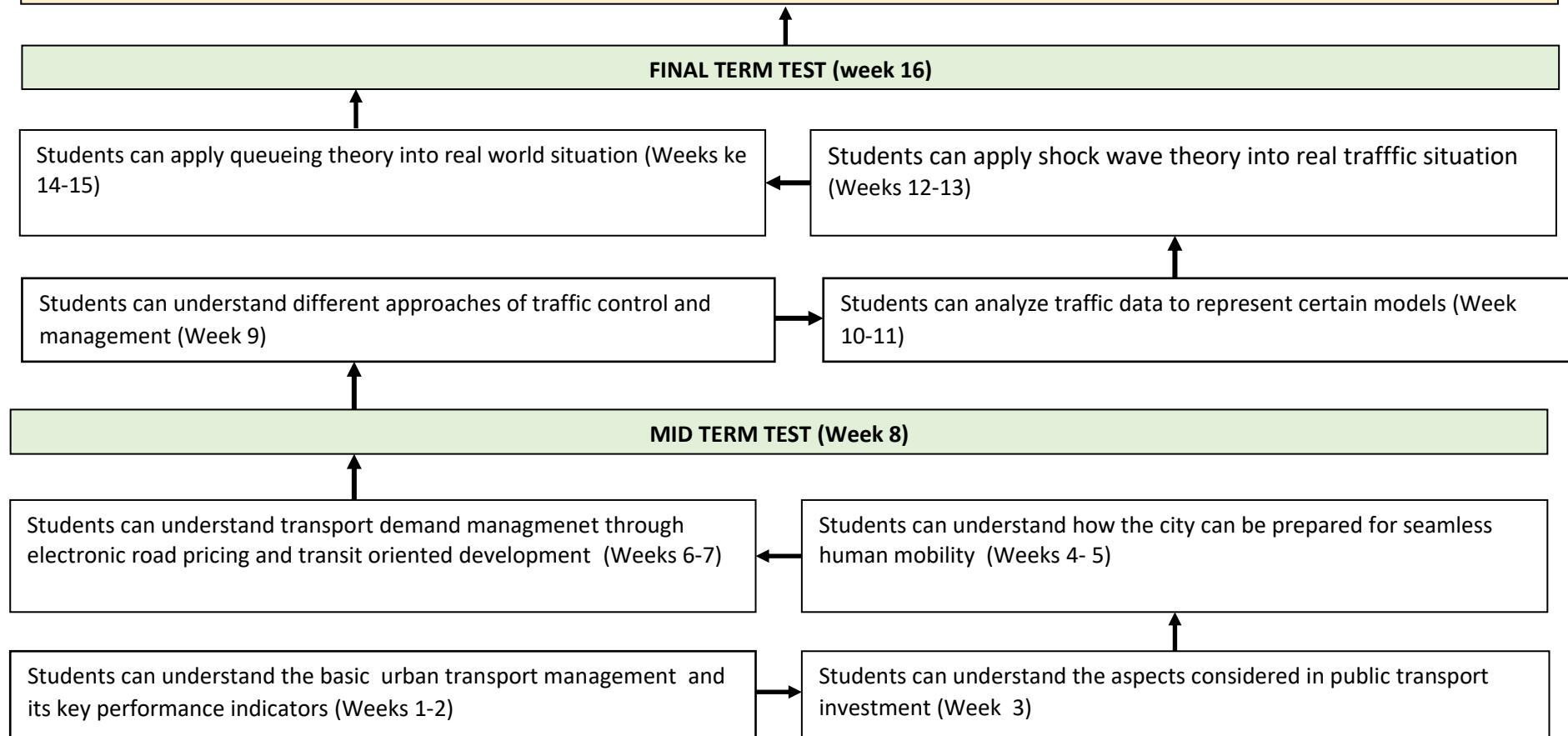## Course: Transportation Management (TS 44006) / 4 credits)

LEARNING OUTCOMES OF Transportation Management Course:

1. Students can understand the basic urban transport management and its key performance indicators (P2, KK3).
2. Students can understand the aspects considered in public transport investment (P2, KK1).
3. Students can understand how the city can be prepared for seamless human mobility (P2, KK1).
4. Students can understand transport demand management through electronic road pricing and transit oriented development (P2, KK1).
5. Students can understand different approaches of traffic control and management (P2).
6. Students can analyze traffic data to represent certain models (KK1, KK2).
7. Students can apply shock wave theory into real trafffic situation (KK1, KK2).
8. Students can apply queueing theory into real world situation (KK1, KK2).

↑

FINAL TERM TEST (week 16)

Students can apply queueing theory into real world situation (Weeks ke 14-15)	← Students can apply shock wave theory into real trafffic situation (Weeks 12-13) ↑
Students can understand different approaches of traffic control and management (Week 9) →	Students can analyze traffic data to represent certain models (Week 10-11) ↑

↑

MID TERM TEST (Week 8)

Students can understand transport demand managmenet through electronic road pricing and transit oriented development (Weeks 6-7) ↑	← Students can understand how the city can be prepared for seamless human mobility (Weeks 4- 5)
Students can understand the basic urban transport management and its key performance indicators (Weeks 1-2) →	Students can understand the aspects considered in public transport investment (Week 3) ↑

Entry Behavio Liner

INSTITUTIONAL LOGO	TARUMANAGARA UNIVERSITY FACULTY OF ENGINEERING DEPARTMENT OF CIVIL ENGINEERING (Undergraduate Program)				
SEMESTERLY LECTURE PLAN					
Course Name		**Course Code**	**Credits**	**Semester**	**Date of Plan Preparation**
Tranportation Management		TS 44006	4	VI	22-12-2020
Authorization		**Course Leader**	**Transport Research Group Head**	**Head of Studi Program**	
		Prof. Ir. Leksmono Suryo Putranto, MT., Ph.D, IPM Dr. Ir. Najid, MT.	Prof. Ir. Leksmono Suryo Putranto, MT., Ph.D	Dr. Widodo Kushartomo	

Learning Outcomes	**Learning Outcomes of Studi Program Assigned to the Course**	
	P2	To understand planning, design, analysis, construction, operation, supervision, operation, maintenance, improvement/ reinforcement and demolition process of civil engineering building considering safety, occupational health, efficiency and environment aspects.
	KK1	Be able to identify all aspects of civil engineering building based on planning data and drawings with comprehension of design principles, be able to guide and choose various solution alternatives in civil engineering field.
	KK2	Be able to plan, design, analyze, construct, supervise, operate, maintain, improve/ reinforce, and demolish civil engineering building using newest technology and software considering safety, occupational health, efficiency and environment aspects.
	KK3	Be able to collect data, measure, test, investigate in the field, construction material test in laboratory and using management concepts in civil engineering design.
	Course Learning Outcomes	
	CPMK1	Understand the basic urban transport management and its key performance indicators (P2, KK3.;
	CPMK2	Understand the aspects considered in public transport investment (P2, KK1);
	CPMK3	Understand how the city can be prepared for seamless human mobility (P2, KK1);
	CPMK4	Understand transport demand managmenet through electronic road pricing and transit oriented development (P2, KK1).
	CPMK5	Understand different approaches of traffic control and management (P2);
	CPMK6	Can analyze traffic data to represent certain models (KK1, KK2);
	CPMK7	Can apply shock wave theory into real trafffic situation (KK1, KK2);
	CPMK8	Can apply queueing theory into real world situation (KK1, KK2).
Peta CPL-CPMK	**Peta matriks CPL terhadap CPMK/ Sub CPMK**	

	S1	P1	P2	KU1	KU2	KU3	KK1	KK2	KK3	JUMLAH
CPMK1			15						10	25
CPMK2			5				3			8
CPMK3			5				4			9
CPMK4			5				3			8
CPMK5								8		8
CPMK6							7	5		12
CPMK7							7	8		15
CPMK8							6	9		15
			30				30	30	10	100

Brief Description of the Course	In this course strudents learn the basic urban transport management and its key performance indicators, urban transport investment and fare, how the city can be prepared for seamless human mobility and transport demand managmenet through electronic road pricing and transit oriented development. Stuents will also learn different approaches of traffic control and management, analyze traffic data to represent certain models, apply shock wave theory into real trafffic situation and apply queueing theory into real world situation.
Course Material	1. Introduction: Explanation regarding lecture plan/ lecture regulation/ test and marking system, basic principles of uran transport system and its key performance indicators 2. Fixed and variable cost in public transport business and fare determination. 3. How the city can be prepared for seamless human mobility. 4. Transport demand managmenet through electronic road pricing and transit oriented development. 5. Different approaches of traffic control and management 6. Traffic flow models. 7. Shock wave theory 8. Queueing theory.
Reference	1. _____Law No. 22 Year 2009 on Road Traffic and Transport. 2. _____Government Regulation No. 74 Year 2014 on Road Transport. 2014. 3. _____ Government Regulation No. 80 Year 2012 on Procedure of on Road Motor Vehivle Inspection and Enfocement on Road Traffic and Transport Law Violation. 2012. 4. _____Government Regulation No. 55 Year 2012 on Vehicle. 5. _____ (1997). Study on Ability to Pay (ATP) and Willingness to Pay (WTP) of Jakarta Bus Passengers. Jakarta. 6. Penalosa, E. (2007). Public Space and Transport for More Socially and Environmentally Sustainable City. Jakarta. 7. Vuchic, V. (1981). Urban Public Transport Sistem and Techonology. 8. Transport Agency of Jakarta (2007). Jakarta Macro Patern of Transportation. 9. Directorate General of Land Transport (2012). Draft Final Report of Project for the Study of Jabodetabek PublicTransportation Policy Implementation Strategy in the Republic of Indonesia (JAPTraPIS). 10. MRT Jakarta Ltd. (2014). Expose of General Description of Jakarta MRT Project.

	11.Direktorat Jenderal Bina Marga. Manual Kapasitas Jalan Indonesia.1997.
	12.Transportation Research Board. Traffic and Highway Engineering, West Publ. 1998.
	13.Putranto. L.S.Rekayasa Lalu Lintas (Edisi 3), Penerbit Indeks, Jakarta. 2016.
	14.Kisty.J.C.,Lall, K.B.Transportation Engineering: An Introduction, Prentice Hall. 1998
	15.Gerlough, D.L., Huber, M.J.Traffic Flow Theory, Transportation Research Board. 1975
Learning Media	**Software:** / **Hardware :**
	Presentation Software / *laptop*
Course Leader	Prof. Ir. Leksmono Suryo Putranto, MT., Ph.D
Pre-requisite (if any)	-

Weeks	Final Learning Outcomes	Learning Material	Learning Format and Method	Time Estimation	Students Learning Experience	Assessment		Weight (%)
						Criteria and Format	Indicator	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1-2	Can understand the basic urban transport management and its key performance indicators [C2, C3, C4. C5]	Introduction: • Explanation on Semesterly Lecture Plan / lecture regulation/ test and marking system. • Basic principles of urban transport system its key performance indicators	• Format: Lecture • Method: Discussion and case study	**L: (4 x50')** **SA: (4x60')** **IA: (4 x60')**	• Read Lecture Note of Transport Management Chapter 1 and 2.	**Criteria**: Accuracy **Non-test format:** Observed public transports performance and make a report **format**: A question in mid term test	Accuracy in explaining basic principles of urban transport system and its key performance indicators.	**25**

3	Can understand the aspects considered in public transport investment [C2, C3, C4, C5]	• Fixed and variable costs in public transport business • Method of fare determination (Transport agency/BEP) • ATP and WTP concepts • Subsidy and service improvement.	• Format: Lecture • Method: Discussion and case studiy	**L: (2 x50')** **SA: (2x60')** **IA: (2 x60')**	Read Lecture Note of Transport Management Chapter 3	**Criteria**: Accuracy and appropriateness **Test format**: A question in mid term test	Accuracy in explaining the aspects considered in public transport investment	**8**
4, 5	Can understand how the city can be prepared for seamless human mobility [C2, C3, C4,C5]	• Cars vs people • Pedestrian and bicycle street network • Sidewalk and bikeshare as part of transit system • Car use restriction • Car free day • Bus Lane	• Format: Lecture • Method: Discussion and case study	**L: (4 x50')** **SA: (4x60')** **IA: (4 x60')**	Read Lecture Note of Transport Management Chapter 4	**Criteria**: Accuracy and appropriateness **Test format**: A question in mid term test	Accuracy in explaining how the city can be prepared for seamless human mobility public transport service	**9**
6,7	Can understand transport demand management through electronic road pricing and transit oriented development [C2, C3, C4,C5]	• Electronic road pricing (ERP) • Transit oriented development (TOD)	• Format: Lecture • Method: Discussion and case study	**L: (4 x50')** **SA: (4x60')** **IA: (4 x60')**	Read Handouts of Transport Management in ERP and TOD	**Criteria**: Accuracy and appropriateness **Test format**: A question in mid term test	Accuracy in explaining transport demand management through electronic road pricing and transit oriented development	**8**
8	**Mid Term Test**							

9	Can understand different approaches of traffic control and management [C2, C3, C4,C5]	• Traffic supply management • Traffic demand management	• Format: Lecture • Method: Discussion and case study	L: (2 x50') SA: (2x60') IA: (2 x60')	Read Rekayasa Lalu-Lintas 3rd Edition (Putranto, 2016) Chapter 8	**Criteria**: Accuracy and appropriateness **Test format**: A question in final term test	Accuracy in explaining different approaches of traffic control and management	**8**
10-11	Can analyze traffic data to represent certain models [C2, C3, C4,C5]	• Underwood model • IHCM-Greenshields modified modl	• Format: Lecture • Method: Discussion and case study	L: (4 x50') SA: (4x60') IA: (4x60')	Read Rekayasa Lalu-Lintas 3rd Edition (Putranto, 2016) Chapter 5 and 6	**Criteria**: Appropriateness and acuity **Test format**: A question in final term test **Non-test format**: Exercise	Accuracy in analyzing traffic data to represent certain models	**12**
12-13	Can apply shock wave theory into real trafffic situation [C2, C3, C4,C5]	Shock wave theory	• Format: Lecture • Method: Discussion and case study	L: (4 x50') SA: (4x60') IA: (4x60')	Read Traffic Flow Theory (Gerlough & Huber, 1975) on shock wave theory	**Criteria**: Appropriateness and acuity **Test format**: A question in final term test **Non-test format**: Exercise	Accuracy in applying shock wave theory into real traffic situation	**15**
14-15	Can apply queueing theory into real world situation C2, C3, C4,C5]	Queueing theory	• Format: Lecture • Method: Discussion and case study	L: (4 x50') SA: (4x60') IA: (4x60')	Read Traffic Flow Theory (Gerlough & Huber, 1975) on queueing theory	**Criteria**: Appropriateness and acuity **Test format**: A question in final term test **Non-test format**: Exercise	Accuracy in applying queueing theory into real world situation	**15**
16	**Final Term Test**							