

Branch Name:	Transportation Engineering
ProgramCode:	ET211
CourseName:	Regional and Mass Transportation System Planning
CourseCode:	2ET2110205T
Pre-requisiteCourse:	Urban Transportation System Planning

Course Objective:

1. To identify the role of various modes of Mass Transportation like Bus and Rail and its Planning and Management.
2. To impart the techniques of developing models for the regional transportation planning.
3. To understand the various issues related to mass transportation planning at regional level.

Credit	Teaching Scheme				Evaluation Scheme (Marks)								
	Hours per week				Theory (Marks)				Practical (Marks)				Total (Marks)
					SEE		CCA		SEE		CCA		
	L	T	P	Total	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
5	3	2	-	5	24	60	16	40	-	-	-	-	100

Sr.No.	Topics	Teaching Hrs.	Module Weightage
1	Demographic and Employment Forecasting Models: Demographic models -linear, exponential and logistic models; cohort survival models - birth, aging and migration models; employment forecasting models - economic base mechanism; input and output models - dynamic models of population and employment, multiregional extensions.	12	30%
2	Regional Transportation Development - Delineation of Planning Regions: Concept of region and space – types of regions, rural road network development approach, regional freight transportation- issues & approach, demand assessment, various models.	15	30%
3	Urban Mass Transit Planning & Modelling: Transit classification, transit network design, classification of routes, prediction of transit usage, evaluation of network, scheduling principles & methodology, urban freight transportation: freight demand, spatial distribution of goods.	18	40%

References:

1. Hutchinson, B.G., Principles of Urban Transportation System Planning, Mc-Graw Hill 1974.
2. Oppenheim, N., Applied Models in Urban and Regional Analysis, Prentice-Hall, NJ.
3. Khisty C J., Lall B.Kent, Transportation Engineering – An Introduction, Prentice-

Hall, NJ, 2005

4. Chand Mahesh, Puri U. K., Regional in India, Allied Publishers, New Delhi, 1983.
5. Glassion John, Introduction to regional planning, Hutchinson and MIT Press, Cambridge, 1996.
6. Ortuzar J. D., Willumsen L.G., Modeling Transport, John Wiley & Sons, 1994
7. Vukan R. Vuchic, Urban Transit : Operations, Planning and Economics, Wiley SonsPublishers.

Course Learning Outcomes:

1. Understand the basic concepts of mass transportation system, development strategies & policies
2. Evaluate the performance of rail transit, construct terminal layout design & capacity forecasting.
3. Inspect the public transport System performance, ridership & route planning.

Field visit:

4. Visit to the urban mass transit system depot, terminal and management office.
5. Visit to the truck terminal area.
6. Review the existing urban mass transit system and freight transportation system.
7. The suggestions for the improvements should be presented with group discussion.

Tutorials:

1. Problems based on population and employment forecasting by different methods.
2. Problems based on cohort analysis.
3. Problems based on regional and rural road network development concept.
4. Problems based on urban mass transit routing and scheduling procedure.
5. Problems based on freight demand and goods transportation.
6. Planning and design of truck terminal.

Course Learning Outcomes (CLO):

After successful completion of the course the students shall be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Understand the basic concepts of mass transportation system, development strategies & policies	L-1, L-2
CLO2	Evaluate the performance of rail transit, construct terminal layout design & capacity forecasting.	L-2, L-3, L-4, L-5, L-6
CLO3	Inspect the public transport System performance, ridership & route planning.	L-1, L-2, L-3

L1- Remember, L2- Understand, L3- Apply, L4- Analyze, L5- Evaluate, L6- Create

Mapping of CLOs with Pos & PSOs

	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
Course Learning Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1	M	H	H	L	M	H	M					M	M	H	M
CLO2	M	H		M		H				L		M	H	M	L
CLO3	M		M	H	L		M		M			M	M	H	M

H: High, M: Medium, L: Low