

## Urban & Regional Transportation Systems

<b>Code</b> URP 805	<b>Credit Hours</b> 3-0
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### Course Description

The purpose of the course is to provide knowledge on the dimensions of urban transportation systems, and to develop understanding of the data needed for planning urban transportation systems, ability to develop, analyze and apply standard transportation planning models, to evaluate alternative transportation technologies and to apply the methods of transportation planning to a specific real-world projects.

### Reference Book:

1. Meyer, Michael D. and Miller, Eric J., 1984, Urban Transportation Planning: A Decision-Oriented Approach, McGraw Hill.
2. Harvey, G. and Deakin, E., Manual of Regional Transportation Modeling Practice, National Association of Regional Councils, Washington, D.C., July 1993.
3. C.S.Papa Costa, P.D.Prevedovouros, Transportation Engineering and Planning, Third edition.
4. Nustadin G. Goulias, Transportation Systems Planning: Methods and Applications.
5. Kurt W. Bauer,(2010), City Planning for civil engineers, and surveyors, CRC Press
6. • Transportation, Elsevier Scientific Publishing Company, Amsterdam -Printed in The Netherlands 2 (1973) 431-447

### Prerequisites

Nil

### ASSESSMENT SYSTEM FOR THEORY

Quizzes	10-15%
Assignments	5-10%
Mid Terms	25%
ESE	40-50%
Term Project	10%

## Teaching Plan

Week No	Topics	Learning Outcomes
1	Introduction	Introduction to urban and regional transportation systems
2-3	Overview of urban transportation planning	History and evolution of transportation systems Key challenges and opportunities in urban transportation
4-5	Overview of regional transportation planning	Key challenges and opportunities in regional transportation
6-7	Transportation planning data needs and collection techniques	Goals and objectives of transportation planning Planning methodologies and models
9	<b>MID SEMESTER EXAM</b>	
10-11	Travel demand modeling	Trip generation, trip distribution, modal choice and trip assignment.

12-13	Urban transportation technology	<p>Intelligent transportation systems (ITS)</p> <p>Autonomous vehicles and smart mobility</p> <p>Role of data and analytics in transportation</p>
14-15	Transportation systems evaluation.	<p>Evaluation methods and metrics</p> <p>Performance measurement and benchmarking</p>
16	Case studies	<p>Analysis of successful urban transportation projects</p> <p>Lessons learned from global cities</p> <p>Comparative study of different transportation systems</p>
17	Presentation of findings	<p>Group projects on urban transportation issues</p> <p>Presentation and discussion of project findings</p>
18	<b>END SEMESTER EXAM</b>	