



COURSE PLAN – PART I			
Name of the Programme and Specialization	M.Tech (Transportation Engineering and Management)		
Course Title	Urban Transportation Systems		
Course Code	CE602	No. of Credits	3
Course Code of Pre-requisite subject(s)	Nil	Semester	II
Session	Jan. 2021	Section (if, applicable)	NA
Name of Faculty	Dr. Marisamynathan S	Department	Civil Engineering
Email	marisamy@nitt.edu	Telephone No.	9820481495
Name of Course Coordinator(s) (if, applicable)	NA		
E-mail	-	Telephone No.	-
Course Type	<input checked="" type="checkbox"/> Core course <input type="checkbox"/> Elective course		
Syllabus (approved in Senate)			
<p>Transport Systems: Urban modes and service types - Technological and operational Characteristics – environmental considerations – relative cost economics – criteria for selection</p> <p>Route Network Design: Transportation Demand estimation, Data requirements, Network planning - Corridor identification - Route Systems and Capacity</p> <p>Scheduling: Components –Scheduling procedure and patterns –Fleet Requirement – Bus and Crew scheduling - Rail operation design – Scheduling – Frequency and Headway</p> <p>Terminal Planning: Planning and design of terminals - Bus stop capacity – Depot location - Depot layout, Parking patterns, Rail Transit: Station Arrangements - Way capacity and Station Capacity</p> <p>Sustainable Urban Transportation: Preferential treatment for high occupancy modes, promoting non-motorized modes of transport - Integrated land use and transport planning – Demand management techniques - Integrated public transport planning; case studies- Smart Cities.</p>			
COURSE OBJECTIVES			
<ol style="list-style-type: none">1. To understand the characteristics of various urban transportation systems2. To learn the concepts of route network design3. To familiarize with scheduling4. To study the planning aspects of terminals5. To be acquainted with sustainable urban transportation systems			

COURSE OUTCOMES (CO)			
Course Outcomes			Aligned Programme Outcomes (PO)
On completion of the course, the students will be able to:			
1. Compare and select suitable urban transportation systems			a, b, c, f, h, k
2. Design route network			a, b, c, d, f, h
3. Schedule the transit units and crew			a, b, c, d, f, g, h
4. Apply the concepts of terminal planning			a, b, c, d, f, g, h, k
5. Have a knowledge of sustainable transportation systems			a, b, c, d, e, I, k
COURSE PLAN – PART II			
COURSE OVERVIEW			
This course is based mainly on an acquiring in-depth knowledge of urban transportation systems and route network.			
COURSE TEACHING AND LEARNING ACTIVITIES			
S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	Week 1	<ul style="list-style-type: none"> • Transport Systems: Urban modes • Service types 	MSTeams (PPT and Videos)
2	Week 2	<ul style="list-style-type: none"> • Technological Characteristics • Operational Characteristics 	
3	Week 3	<ul style="list-style-type: none"> • Environmental considerations • Relative cost economics • Criteria for selection 	
4	Week 4	<ul style="list-style-type: none"> • Route Network Design • Transportation Demand estimation 	
5	Week 5	<ul style="list-style-type: none"> • Data requirements • Network planning 	
6	Week 6	<ul style="list-style-type: none"> • Corridor identification • Route Systems • Capacity 	
8	Week 7	<ul style="list-style-type: none"> • Scheduling • Components • Scheduling procedure and patterns 	
9	Week 8	<ul style="list-style-type: none"> • Fleet Requirement • Bus and Crew scheduling 	
10	Week 9	<ul style="list-style-type: none"> • Rail operation design • Scheduling – Frequency and Headway 	

11	Week 10	<ul style="list-style-type: none"> Terminal Planning: Planning and design of terminals Bus stop capacity
12	Week 11	<ul style="list-style-type: none"> Depot location Depot layout, Parking patterns Rail Transit: Station Arrangements - Way capacity and Station Capacity
14	Week 12	<ul style="list-style-type: none"> Sustainable Urban Transportation: Preferential treatment for high occupancy modes Promoting non-motorized modes of transport
15	Week 13	<ul style="list-style-type: none"> Integrated land use and transport planning Demand management techniques
14	Week 14	<ul style="list-style-type: none"> Integrated public transport planning Case studies- Smart Cities.

COURSE ASSESSMENT METHODS

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Mid-Semester	Week 10	1 Hr 30 Min	30
2	Quiz	-		20
3	Seminar	-	-	20
CPA	Compensation Assessment*	Week 15	1 Hr 30 Min	30
4	Final Assessment*	Week 16	2 Hour	30

COURSE EXIT SURVEY

- Direct feedback from the students by face-to-face meeting individually and as the class as a whole.
- Feedback from the students during class committee meetings
- Exit survey from the students at the end of the session

COURSE POLICY

- Attending all the assessments (Assessment 1 to 4) is MANDATORY for every student.
- If any student is not able to attend Mid-Semester due to genuine reason, student is permitted to attend the respective assessment as compensation assessment (CPA) with the same weightage.
- At any case, CPA will not be considered as an improvement test. A minimum of 30% should be scored in the end assessment for a pass.
- The passing minimum for all the courses shall be the maximum of 35% or Class Average/2.

MODE OF CORRESPONDENCE (email/ phone etc)

- All the correspondence regarding the course will be communicated through webmail or intimated during class hours.

- Queries/ Clarifications (if necessary) may be e-mailed to marisamy@nitt.edu or can be communicated directly during Institute working hours.

ATTENDANCE

- Every student should maintain a minimum attendance of 75% during the contact hours and assessment.
- A maximum of 10% shall be allowed under On Duty (OD) category.
- Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade

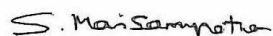
COMPENSATION ASSESSMENT

- If any student is not able to attend any of the assessment due to genuine reason, the student is permitted to attend compensatory assessment with 20% weightage.

ACADEMIC HONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.
- The above policy against academic dishonesty shall be applicable for all the programmes

FOR APPROVAL



Course Faculty _____



CC-Chairperson _____ HOD _____
Dr. R. Gandhimathi