



DEPARTMENT OF CIVIL ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	M.Tech. (Transportation Engineering and Management)		
Course Title	Transportation Economics		
Course Code	CE615	No. of Credits	3
Course Code of Pre-requisite subject(s)			
Session	July 2021	Section (if, applicable)	
Name of Faculty	Dr. Marisamynathan S	Department	Civil Engineering
Official Email	marisamy@nitt.edu	Telephone No.	9820481495
Name of Course Coordinator(s) (if, applicable)			
Official E-mail		Telephone No.	
Course Type (please tick appropriately)	<input type="checkbox"/> Core-course	<input type="checkbox"/> Elective course	
Syllabus (approved in BoS)			
<p>Introductory Concepts in Transportation Decision Making: Overall transportation project development, budgeting, financial planning, the process of transportation project development, models associated with transportation impact evaluation.</p> <p>Transportation costs - Classification of transportation costs, transportation agency costs, transportation user costs, general structure and behavior of cost functions and road pricing. Estimating Transportation Demand and Supply - supply equilibration, dynamics of transportation demand and supply, elasticity of travel demand and supply, classification of elasticity.</p> <p>Vehicle operating costs: Fuel costs - Maintenance and spares, Depreciation - Crew costs - Value of travel time savings - Accident costs. Economics of traffic congestion - Pricing policy.</p> <p>Economic analysis of projects - Methods of evaluation - Cost-benefit ratio, first year rate of return, net present value, and internal-rate of return methods; Indirect costs and benefits of transport projects.</p> <p>Financing of road projects - methods – Private Public Partnership (PPP) - Toll collection - Economic viability of Design-Build-Operate-Transfer Schemes – Risk Analysis – Value for Money analysis - Case Studies.</p>			
COURSE OBJECTIVES			
<ul style="list-style-type: none"> • To be aware of the concepts in transportation decision making. • To learn about transportation cost. • To understand the vehicle operating cost • To familiarize with the formulation of project alternatives and applying the economic analysis methods • To understand the principles and procedure of financing of road projects 			



MAPPING OF COs with POs	
Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)
1. Able to understand the concepts of decision making	a, b, c, d, f, i, k
2. Able to calculate transportation demand and supply	a, c, d, g, h, i, k
3. Able to estimate vehicle operation cost and accident cost	a, b, c, d, f, i, k
4. Able to perform economic analysis of a transportation project	a, b, c, d, g, h, i, k
5. Able to apply various financing methods in road projects	a, b, c, d, f, i, k

COURSE PLAN – PART II			
COURSE OVERVIEW			
The course gives the overview of concepts of transportation project development and various techniques on project evaluation. It gives the guidelines to estimate various costs and financing of projects.			
COURSE TEACHING AND LEARNING ACTIVITIES			(Add more rows)
S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	Week 1	Introductory Concepts in Transportation Economics and Significance	<ul style="list-style-type: none"> Online Mode (MS Teams) using PPT, Videos, and Writing Pad
2	Week 2	Project Development Process and Evaluation	
3	Week 3	Class Activity	
4	Week 4	Study on Various Transportation Costs	
5	Week 5	Demand – Supply Concepts, Estimate Demand-Supply	
6	Week 6	Shifting D-S Curve, Elasticity Analysis. Vehicle Operating Costs	
7	Week 7	Accident Costs and Congestion Pricing.	
8	Week 8	Economic analysis of projects - Methods of evaluation (2 Techniques)	
9	Week 9	Methods of evaluation (Remain 2 Techniques)	
10	Week 10	Indirect costs and benefits of transport projects	
11	Week 11	Class Activity	



12	Week 12	Financing of road projects - methods – Private Public Partnership (PPP)	<ul style="list-style-type: none"> Online Mode (MS Teams) using PPT, Videos, and Writing Pad
13	Week 13	Toll collection - Economic viability of Design-Build-Operate-Transfer Schemes	
14	Week 14	Risk Analysis – Value for Money analysis, Case Studies	
15	Week 15	Seminar	

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Mid Semester	Week 10	2 hours	30
2	Quiz	Week 13	20 Min	20
3	Seminar	-	-	20
CPA	Compensation Assessment*	Week 15	2 hours	30
4	Final Assessment *	Week 16	2 hours	30

*mandatory; refer to guidelines on page 4

COURSE EXIT SURVEY (mention the ways in which the feedback about the course shall be assessed)

It is proposed to take feedback from the students, at the end of the semester to evaluate the execution of the course (Week 14).

COURSE POLICY (including compensation assessment to be specified)

The pass marks for this course is 40 out of 100. Students securing below 40% will be treated as fail and “F” grade will be awarded.

COMPENSATION ASSESSMENT POLICY

Retest would only be given to those students who have missed midsemester.

MODE OF CORRESPONDENCE (email/ phone etc)

Mode of Correspondence would be through phone/Email only to the Class Representatives and Vice Versa.

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- At least 75% attendance in each course is mandatory.
- 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.

ACADEMIC DISHONESTY & PLAGIARISM

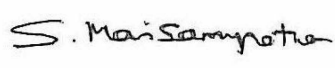
- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental 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.

ADDITIONAL INFORMATION, IF ANY

The Course Coordinator is available for consultation during office hours.

Queries, if any, can also be emailed to the Course Coordinator directly at marisamy@nitt.edu

FOR APPROVAL


Course Faculty _____

CC- Chairperson  _____


HOD  _____



Guidelines

- a) The number of assessments for any theory course shall range from 4 to 6.
- b) Every theory course shall have a final assessment on the entire syllabus with at least 30% weightage.
- c) One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.
- d) The passing minimum shall be as per the regulations.

B.Tech. Admitted in				P.G.
2018	2017	2016	2015	
35% or (Class average/2) whichever is greater.		(Peak/3) or (Class Average/2) whichever is lower		40%

- e) Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.
- f) Absolute grading policy shall be incorporated if the number of students per course is less than 10.
- g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.