

Branch Name:	Transportation Engineering
ProgramCode:	ET211
CourseName:	Economic Evaluation of Transportation Projects
CourseCode:	2ET2110202T
Pre-requisiteCourse:	Nil

Course Objective:

1. To give basic idea of economic analysis and related terms.
2. To make the students aware of using different methods for economic evaluation.
3. To make the students conversant with economic and financial analysis of transportation projects.

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	Introductions – Demand and Utility.	3	5%
2	Laws of Demand, Utility analysis, Ordinal analysis, Income effect, Price effect, Demand curves, Elasticity of supply.	3	10%
3	National Income, GNP, GDP, Methods of Estimating National Income.	3	10%
4	Project Appraisal – Total Cost, Principles of analysis, Road Users Cost – Factors, Benefits.	5	10%
5	Economic Evaluation – Different Methods, Sensitivity analysis.	5	20%
6	Maintenance Cost – Factors, Methods.	5	5%
7	Traffic System Evaluation.	3	5%
8	Financing Mechanism - Taxes, Tolls, Private Financing.	5	10%
9	Transport Cost – Types, Factors, Cost analysis for Mass Transit System,	5	5%
10	Pricing – Marginal Cost Pricing, National Policy, Fares, Subsidy.	3	10%
11	Economic analysis of transportation projects ownership and financing of transport, economic function of transportation road user and transportation costs, highway finance and taxation, case studies of analysis and evaluation of transportation projects.	5	10%

References:

1. D.M.Mithani, Economic Analysis – (Himalaya)
2. IRC– 30, Manual on Economic Evaluation of Highways In India.
3. Fair and Williams, Economics of Transportation, Harper and Brothers, Publishers, New York, 1959.
4. R.Winfrey, Economic Analysis for Highway International Textbook Co., Pennsylvania. USA,1969
5. G.Harri Clell, A Manual for the Economic Appraisal of Transport Projects, World Bank Report, Washington D.C.1980.

Group work:

Prepare brief report on any recent case study of economic evaluation of transportation project. Give presentation on it with group discussion.

Course Learning Outcomes:

1. Knowledge of basic concepts in transport economics (such as cost-benefit tests, demand flexibility, monopolies and subsidies, externalities, demand management and more).
2. Understand the economic basis of transportation planning and decision-making processes and recognize the actual use of economic tools in these processes.
3. Ability to understand current issues in transport economics in light of the basic concepts learned.

List of Tutorials:

4. Problems based on demand and supply, elasticity analysis.
5. Problems based on estimation of National Income.
6. Problems based on different methods for economic evaluation, like B/C ratio, NPV, IRR etc.
7. Problems based on deriving transport cost.
8. Cost analysis for mass transit system.
9. Problems based on toll fixation.
10. Computer applications for the above problems.

Course Learning Outcomes (CLO):

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

CLO	Description	Bloom's Taxonomy Level
CLO1	Knowledge of basic concepts in transport economics (such as cost-benefit tests, demand flexibility, monopolies and subsidies, externalities, demand management and more).	L-2, L-3, L-4, L-5
CLO2	Understand the economic basis of transportation planning and decision-making processes and recognize the actual use of economic tools in these processes.	L-1, L-3, L-4, L-5, L-6
CLO3	Ability to understand current issues in transport economics in light of the basic concepts learned.	L-1, L-2, L-3, L-5

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	H	M	M	L	M	H	M					M	M	M	H
CLO2	M	H	H	M	M	L	H					M	M	L	M
CLO3	M	M	L	M	L	M	M					M	M	M	H

H: High, M: Medium, L: Low