

DEPARTMENT OF CIVIL ENGINEERING

Course Modules of the Subject Taught for the Session Aug - Dec 2026-27 (Odd Semester)

Course Syllabi with CO's

Faculty Name : Bharathi B				Academic Year: 2026-27			
Department: Civil Engineering							
Course Code	Course Title	Core/Elective	Prerequisite	Contact Hours			Total Hrs/ Sessions
				L	T	P	
BCV755A	Road Safety Engineering	Core	Transportation Engineering	3	-	-	40
Objectives	• To provide students with a comprehensive understanding of the principles, strategies, and techniques related to ensuring safety on roadways. • To equip students with the knowledge and skills necessary to analyse road safety issues • To design effective road safety measures, and contribute to the improvement of road safety practices.						
Topics Covered as per Syllabus							
Module -1: Accident Investigations and Risk Management: Collection of Accident Data, Assessment of Road Safety, Methods to Identify and Prioritize Hazardous Locations and Elements, Determine Possible Causes of Crashes, Crash Reduction Capabilities and Countermeasures, Effectiveness of Safety Design Features, Accident Reconstruction, Condition and Collision Diagram.							
Module -2: Traffic Engineering Studies: Statistical Methods in Traffic Safety Analysis – Regression Methods, Poisson Distribution, Chi- Squared Distribution, Statistical Comparisons- Traffic Management Measures and Their Influence on Accident Prevention.							
Module -3: Road Safety in Transport Planning and Geometric Design: Vehicle and Human Characteristics, Road Design and Safety Elements, Redesigning Junctions, Cross Section Improvements, Traffic Control, Traffic Calming Measures, Road Safety Furniture							
Module -4 Role Of Signs and Markings in Safety: Types of Signs – Design Specifications – Guidelines for Installation – Role of Signs in Safety; Types of Road Markings – Design Specifications – Role of Road Markings in Safety.							
Module -5: Traffic Management Systems for Safety: Road Safety Audits and Tools for Safety Management Systems, Road Safety Audit Process, Road Safety Improvement Strategies, ITS And Safety.							
List of Text Books							
Books 1. Traffic Engineering and Transportation Planning – L.R. Kadiyali, Khanna Publishers 2. Fundamentals Of Transportation Engineering - C.S.Papacostas, Prentice Hall India. 3. Transportation Engineering – An Introduction, C.Jotin Khisty, B. Kent Lall 4. Fundamentals Of Traffic Engineering, Richardo G Sigua							

DEPARTMENT OF CIVIL ENGINEERING

5. Handbook Of Road Safety Measures, Second Edition, Rune Elvik, Alena Høy, Truls Vaa, Michael Sørensen

6. Road Safety By NCHRP

CO	After the completion of the course the student will be able to	RBT
Course Outcomes	Analyse road safety data, identify hazardous locations, and assess safety risks on roadways.	L2
	Evaluate the effectiveness of road safety interventions and conduct post-implementation analysis.	L2
	Utilize modelling and simulation techniques to predict and assess the impact of road safety measures.	L2
	Demonstrate knowledge of traffic control devices, traffic management strategies, and their role in enhancing road safety	L2
	Comprehend the legal and policy framework related to road safety engineering and contribute to policy development.	L2

The Correlation of Course Outcomes (CO's) and Program Outcomes (PO's)

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Subject Code:	BCV755A		Title: Road Safety Engineering					Faculty Name:		Bharathi B	
List of Course Outcomes	Program Outcomes										
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO-1	2	-	-	-	-	-	-	-	-	-	1
CO-2	2	-	-	-	-	-	-	-	-	-	1
CO-3	2	-	-	-	-	-	-	-	-	-	1
CO-4	2	-	-	-	-	-	-	-	-	-	1
CO-5	2	-	-	-	-	-	-	-	-	-	1

Note: 3 = Strong Contribution 2= Average Contribution 1 = Weak Contribution - = No Contribution

The Correlation of Course Outcomes (CO's) and Program Specific Outcomes (PSO's)

Subject Code:	BCV755A	Title: Road Safety Engineering	Faculty Name:	Bharathi B
List of Course Outcomes	Program Specific Outcomes			
	PSO1		PSO2	
CO-1	-		2	
CO-2	-		2	
CO-3	-		2	
CO-4	-		2	
CO-5	-		2	

Note: 3 = Strong Contribution 2= Average Contribution 1 = Weak Contribution - = No Contribution