Course Name:
Traffic and Highway Engineering

Course Number:
20120

Credit:
3

Prerequisite:
Surveying, Soil Mechanics

Course Content (outline):

- Traffic Operations (Driver, Pedestrian, Vehicle and Highway Characteristics)
- Traffic Engineering Studies (Speed, Flow and Density)
- Fundamental Principles of Traffic Flow (Macroscopic and Microscopic Flow Characteristics, Shock waves and Gap acceptance)
- Intersection Control (Types of Controls, Signal Timing and Level of Service)
- Capacity and Level of Service for Highway Segments (Freeways, Expressways and Two-lane Rural Highways)
- Highway Survey and Location (Highway Earthwork and Final Plans)
- Geometric Design of Highway Facilities (Horizontal and Vertical Curves)
- Highway Safety (Analysis of Accident Data, Safety Plans for Highways and Intersections, Design of Guardrail and Crash Cushions)

References:

- Traffic and Highway Engineering, N. J. Garber, and L. A. Hole, Fourth Edition, CENGAGE Learning, 2009.
- Transportation Engineering, Planning and Design, P. H. Wright and N. J. Ashford, Planning and Design, John-Wiley and Sons, New York, Latest edition.
- Highway Engineering, P. H. Wright, John Wiley and Sons, Inc., New York, Latest edition.