Course Name:
Highway and Traffic Engineering

<table>
<thead>
<tr>
<th>Course Number: 20-120</th>
<th>Credit: 3</th>
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<tbody>
<tr>
<td>Program: Undergraduate</td>
<td>Course Type: Technical required</td>
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<tr>
<td>Prerequisite: Surveying</td>
<td>Corequisite: -</td>
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Course Description (Objectives):

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: