HIGHWAY & TRAFFIC ENGINEERING

By

AZLINA BINTI ISMAIL
&
DR.INTAN SUHANA BINTI MOHD RAZLAN

Faculty of Civil Engineering & Earth Resources
azlinai@ump.edu.my
intan@ump.edu.my

Course Synopsis

This course is designed to introduce students on the basic understanding of highway & traffic engineering with an emphasis on the design standards that being used in Malaysia. Topic covers are Road Hierarchy in Malaysia, Traffic Engineering Studies which includes fundamentals principles of traffic volume and speed studies, Traffic Signal System, Road Geometric Design, Pavement Design and Pavement Materials.

Course Outcomes

1. Classifying various types of road and highways within road network system, recognize how different road user groups interact and the consequence for traffic engineering.

2. Explaining speed, volume and density relationship, analyzing volume and speed studies and design signalized intersection.

3. Carry out fundamentals of Road Geometric Design and flexible pavement thickness design allowing for different terrains, horizontal and vertical alignments.

4. Identify the properties of pavement materials, its structural and characteristics, evaluate pavement deterioration and assess alternative maintenance schemes for highways including surface and sub-surface drainage system.

List of Topics

- **Road Classification and Design Standard in Malaysia**
- **Driver, Vehicle and Road Characteristics**
- **Traffic Volume Studies**
- **Speed Studies**
- **Intersection Design Principles & Control System**
- **Highway Material - Aggregate Highway Materials**
- **Introduction to Road Technology**
- **Marshall Mix Design Method**
- **Rigid Pavement**
- **Vertical Alignment**