Fundamentals of Traffic Engineering (TE-01)

Course Outline

DAY ONE – INSTRUCTOR RAFAT RAIE

CAPACITY ANALYSIS AND TRAFFIC IMPACTS

8:00 – 8:15 am	Registration Wrap Up
8:15 – 8:45 am	Self-Introduction & Class Introduction
8:45 – 9:30 am	Module 1: Geometric Design Concepts
9:30 – 10:00 am	Exercise 1 – Geometric Design
10:00 – 10:15 am	**Break**

PERFORMANCE MEASURES CONCEPTS

10:15 – 10:45 am	Module 2: Capacity & Level of Service General Concepts
10:45 – 11:30 am	Module 2: Level of Service and Vehicle Miles Travelled
11:30 - Noon	Exercise 2 – Performance Concepts
Noon – 1:00	**Lunch (on your own)**
1:00 – 1:45 pm	Module 3: Freeway Capacity
1:45 – 2:15 pm	Exercise 3 – Freeway Capacity
2:15 – 2:30 pm	**Break**
2:30 – 3:00 pm	Module 4: Freeway Operations
3:00 – 3:30 pm	Exercise 4 – Freeway Operations
3:30 – 4:15 pm	Module 5: Signalized Intersection Capacity
4:15 – 4:45 pm	Exercise 5 – Signalized Intersection Capacity
4:45 – 5:00 pm	Wrap UP

DAY TWO – INSTRUCTOR RAFAT RAIE

8:00 – 8:30 am	Module 6: Traffic Impact Studies & Vehicle Mile Travel Terminology
8:30 – 8:45 am	Exercise 6 – Traffic Impact Studies

TRAFFIC OPERATIONS PART I
MAIN STREET CONCEPTS, BIKE AND PEDESTRIAN, INTERSECTION CONTROL.

8:45 - 9:00 am	Q&A on the last six modules
9:00 – 9:15 am	Exercise 7 – Traffic Operations Concepts

PEDESTRIAN AND BICYCLE FACILITIES

9:15 – 9:45 am	Module 7: Main Street and Complete Streets
9:45 – 10:00 am	**Break**
10:00 - 10:30 am	Module 8: Bicycle Considerations
10:30 – 10:50 am	Exercise 8 – Bicycle Considerations
10:50 – 11:45 am	Module 9: Pedestrian Considerations
11:45 – 12:45 pm	**Lunch (on your own)**
12:45 – 1:30 pm	Exercise 9 – Walking Tour - Urban Streets and Intersections
1:30 – 2:15 pm	Report back from Walking Tour
2:15 – 3:00 pm	Module 10: Transportation Data Technology and Smart Cities
3:00 – 3:15 pm	**Break**
3:15 – 3:45 pm	Exercise 10 – Smart City Application
3:45 – 4:45 pm	Module 11: Urban Street Parking
4:45 – 5:00 pm	Questions, Reflections & Course Evaluation for the Day

DAY THREE – INSTRUCTOR CRYSTAL KILLIAN

TRAFFIC OPERATIONS
PART 2 – SIGNAGE, STRIPING, DESIGN CONCEPTS, TRAFFIC SIGNALS

8:00 – 8:15 am	Introductions
8:15 – 8:30 am	Interactive Discussion about different between Design & Operations
8:30 – 9:30 am	Module 1: Traffic Control Devices & Principals
9:30 – 9:45 am	**Break**
9:45 – 10:15 am	Exercise 1 – Engineering and Traffic Survey
10:15 – 11:30 am	Module 2: Traffic Signage, Markings, & Delineation
11:30 – Noon	Exercise 2 – Stop Sign Warrant Analysis
Noon – 1:00 pm	**Lunch (on your own)**

1:00 – 2:15 pm	Module 3: Intersection Design, Control Warrants, Channelization, & Operation
2:15 – 2:45 pm	Exercise 3 – Development meets operations
2:45 – 3:00 pm	**Break**
3:00 – 4:15 pm	Module 4: Traffic Signals & Signal Systems
4:15 – 4:45 pm	Exercise 4 – Traffic Signal Warrant Analysis and Discussion
4:45 – 5:00 pm	Wrap up and Evaluation

DAY FOUR – INSTRUCTOR CRYSTAL KILLIAN

ACCESSIBILITY, TRAFFIC SAFETY, AND PRACTICE

8:00 – 8:15 am	Learn Recap from Day 3
8:15 – 9:30 am	Module 1: Accessibility
9:30 – 10:00 am	Exercise 1 – Crash Report Reviewing
10:00 – 10:15 am	**Break**
10:15 – 11:30 am	Module 2: Tort Liability
11:30 – 12:00 am	Exercise 2 – Roadway Safety Exercise
12:00 – 1:00 pm	**Lunch (on your own)**
1:00 – 2:15 pm	Module 3: Strategic Highway Safety Plan, Roadside Safety, Reducing Collisions
2:15 – 2:45 pm	Exercise 3 – New Roadway Development Exercise
2:45 – 3:00 pm	**Break**
3:00 – 4:15 pm	Module 4: Railroad Crossing Controls
3:45 – 4:45 pm	Exercise 4 – Railroad Crossing Controls and Experiences
4:45 – 5:00 pm	Questions, Reflections & Course Evaluation