ASPHALT PAVEMENT MATERIALS, DESIGN, CONSTRUCTION AND MAINTENANCE (IDM-03)

COURSE OUTLINE

Day 1: Asphalt Pavement Materials and Design

8:00 am   Course Overview and Introductions

8:30 am   Materials Evaluation

- Asphalt Binder
  - o   Source and Manufacture
  - o   Tests and Specifications
  - o   Modification
- SHRP Binder Tests and Specifications
- Aggregate Properties and Gradations

12:00 pm   Lunch (on your own)

1:00 pm   Mix Design

- Volumetrics
- Design Procedures
  - o   Hveem
  - o   Superpave
  - o   Marshall

2:30 pm   Interactive Exercise – Mix Design and Materials

3:30 pm   Caltrans Pavement Design

- Thickness Design
- Overlay Design

5:00 pm   Adjourn

Day 2: Asphalt Pavement Construction and Performance

8:00 am   Announcements and Introductions

8:15 am   Hot Mix Asphalt (HMA) Production

10:00 am   HMA Construction – Delivery

11:00 am   HMA Construction – Surface Preparation

11:30 pm   HMA Construction – Placement

12:00 pm   Lunch

1:00 pm   HMA Construction – Compaction and Joint Construction

1:45 pm   HMA Construction – Operations and Specifications

2:30 pm   Interactive Exercise – Construction

3:00 pm   Pavement Management Concepts

- Technologies and Definitions
- Types and Causes of Distress

5:00 pm   Adjourn

Day 3: Asphalt Pavement Maintenance and Rehabilitation

8:00 am   Announcements and Introductions

8:15 am   Maintenance Strategies

- Cracking Sealing
- Patching

9:30 pm   Maintenance Strategies

- Surface Treatments
  o   Fog Seals
  o   Chip Seals
  o   Slurry Seals
  o   Cape Seals
  o   Asphalt Rubber Aggregate Membrane ARAM
  o   Microsurfacing

12:00 pm   Lunch

1:00 pm   Interactive Exercise – Treatment Selection

1:30 pm   Rehabilitation Strategies

- Overlays (Thick, Thin, Bonded Wearing Course)
- Recycling
  o   Recycled Asphalt Pavement
  o   Cold In-Place Process
  o   Hot In-Place (Surface) Process
  o   Full Depth Recycling

4:30 pm   Course Evaluation and Certificates

5:00 pm   Adjourn