Continuing Education and Quality Improvement Programme (CE&QIP)

Short Term Course

Analysis and Design of Pavement and Highway Geometry

July 02 – July 06, 2018

Course Coordinators

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Office of Continuing Education & Quality Improvement Programme

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Important Dates
Last date for online registration: June 15, 2018
Course schedule: July 02 – July 06, 2018 (9:00 AM – 5:00 PM each day)
QIP course details can be viewed at https://tinyurl.com/y7nonjle
CEP course details can be viewed at https://tinyurl.com/yb32gtrb

Venue for Course: Department of Civil Engineering, IIT Bombay

Date & Time of Desk Registration: July 02, 2018, 8:30 AM onwards at course venue, IIT Bombay

Registration
All participants have to register online for the course by June 15, 2018 at
QIP course for only faculty members of AICTE approved Institutes:
https://tinyurl.com/y7nonjle
CEP course for all other participants: https://tinyurl.com/yb32gtrb

Course Fee
Faculty members of AICTE approved Institutes: No registration fee. However, a participation confirmation fee of ₹2000/- need to be paid online through the above portal. This amount will be refunded on attending the course but forfeited if not attended.
Faculty members of other Institutes: ₹23600/-
Students: ₹11800/-
Government Organisations: ₹25960/-
Industry Participants: ₹29500/-
Overseas / Foreign Nationals: ₹88500/-

Note: The course fee includes applicable taxes. Participants will receive lunch, tea, registration kit and course materials.

Eligibility
• Practicing Engineers in Industry and Government sectors
• College Teachers and Researchers
• Students and Researcher Scholars

Transport, Boarding & Lodging
Faculty members of AICTE approved Institutes: Entitled for to and fro railway fare in II Class (Sleeper Class) or III AC by the shortest route from their institute to Mumbai and auto fare from nearest railway station to IIT Bombay on the dates of arrival and departure. Also, they can avail free accommodation on a shared basis in IIT Bombay student hostels (non-AC). If the Institute is in Mumbai region, then they are entitled to a II Class railway or BEST bus fare.

Other participants: Limited paid shared accommodation in IIT Bombay student hostels (non-AC) is available on first come first serve basis.

Note: Family members of the participants cannot be accommodated.
Introduction
Economic development of a country greatly depends on the robust highway infrastructure. The Government of India is heavily investing in this sector for improved mobility and safety. The two most important components of highway infrastructure are pavement and geometry features. Cost of a highway project significantly depends on these components. The design of these components is highly influenced by the resilient modulus of materials used in pavement, layer thickness, materials availability, terrain, type of highway design vehicle, etc. Hence, in-depth understanding of these components and its design input parameters is essential for cost-effective and sustainable design. This course would provide exposure to the underlying design philosophies and assist in effectively exploit the properties of input parameters for efficient design of new as well as existing highway infrastructure. Various design procedures and good practices followed in India and abroad would be discussed in the course.

Course outline
- Introduction to geometric design
- Sight distances
- Horizontal and vertical curve design
- Coordination of curves and performance
- Intersection design
- Interchange design
- Analysis and design of flexible pavement
- Analysis and design of rigid Pavement
- Flexible pavement overlay design using BBD data
- Design of flexible pavement overlay using FWD data
- Marshall mix design and performance of bituminous mixes
- Construction and quality control of pavements
- Demonstration of IITPave software for flexible pavements
- Demonstration of AutoCAD Civil 3D highway geometry
- Pavement and Traffic Engineering laboratory visit

Course benefits
For experienced engineers, this can be a refresher course. Further, participants of this course are expected from all over India. Hence, it would provide a platform for participants to meet, network and discuss problems and solutions of mutual interest. Overall, the primary purpose of this course is to disseminate relevant information related to pavement and geometric features. The course content will help to enhance the skill sets of college teachers, practitioners, budding researchers and student making them confident in their roles.

Software training
Hands-on training sessions on pavement design using IITPave and highway geometric design using AutoCAD Civil 3D would be provided to all the participating candidates. In these sessions, the candidates would acquire a basic understanding of the design software and working knowledge of selecting appropriate input parameters for efficient and effective design.

Course instructors
The lectures will be delivered by the experts from the transportation system engineering (TSE) group at IIT Bombay. The core faculty members include Professors Dharamveer Singh and Avijit Maji.

Other details
The lecture notes/slides will be made available to the participants at the end of the course. Participants can also access library facility at IIT Bombay during this course.

Participation certificate
Successful participants would be awarded 'Course Participant Certificate' on the last day of the course.

Contact information
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