SHORT TERM COURSE
Applications of Remote Sensing and GIS for Hydrology and Water Management
15th – 19th July, 2019

Course Coordinators
Prof. J. Indu (indusj@iitb.ac.in)
Department of Civil Engineering (CE)
Prof. Pradip Kalbar (kalbar@iitb.ac.in)
Centre for Urban Science and Engineering (CUSE)

Important Dates and Registration
Last date for online registration: June 30, 2019
Course schedule: July 15 – July 19, 2019 (9:00 AM – 5:30 PM each day)
Venue for Course: VMCC, IIT Bombay
Date & Time of Desk Registration: July 15, 2019, 8:30 AM onwards at course venue, IIT Bombay

Course Fee
Faculty members of AICTE approved Institutes (should register in QIP course): No registration fee.
Other interested participants from industry/government (should register in CEP course)
Faculty members of other Institutes: Rs. 17,700/-
Students: Rs. 8,850/-
Government Organisations: Rs. 17,700/-
Industry Participants: Rs. 23,600/-
Overseas / Foreign Nationals: Rs. 70,800/-

Module wise registration and payment of fees is possible online.

ELIGIBILITY
- Practicing Engineers in Industry and Government sectors
- College Teachers, Researchers, Students and Researcher Scholars.

Office of Continuing Education and Quality Improvement Programme
Indian Institute of Technology Bombay Powai, Mumbai - 400 076

Contact information
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Note: The course fee is for all 5 days and includes applicable taxes. Participants will receive lunch, tea, registration kit and course material.

Only online registrations are allowed. Module wise registration and payment of fees is possible online.

For QIP course details and registration visit:
https://portal.iitb.ac.in/ceqipapp/courseDetails.jsp?c_id=2093

For CEP course details and registration visit:
https://portal.iitb.ac.in/ceqipapp/courseDetails.jsp?c_id=2094
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 II Class railway or BEST bus fare. Few rooms available in guest house on payment basis to be allocated on first come first serve basis. Other participants: Limited paid shared accommodation in IIT Bombay Guest house (AC)/student hostels (non-AC) is available on first come first serve basis. Note: Family members of the participants cannot be accommodated.

**Introduction**

The techniques of Remote Sensing and GIS are being increasingly relied by decision makers for analysis in several sectors like agriculture, water resources, urban planning, transportation etc. Satellite remote sensing is crucial in providing useful information regarding the inherent characteristics in each of the applications while GIS is useful for spatial data manipulation and management. Specifically in hydrology and water management, the different sensors onboard satellites and in-situ networks provide information regarding key hydrological variables (like precipitation, soil moisture) at unprecedented spatial and temporal scales. This course shall provide comprehensive details about several open source platforms (like QGIS, SNAP) used for handling the available remote sensing data. The state of the art applications of satellite remote sensing in hydrological modelling shall also be introduced. GIS is now being widely used for planning and designing of urban infrastructures such as land use planning, roads, water networks, sewerage, etc. In this course specifically, the GIS application to Water Supply networks and demand allocation shall be demonstrated. Application of GIS coupled with Multiple Criteria Decision Making for land use planning will be covered. Overall, the course shall cover the basic and advanced applications of remote sensing and GIS.

**COURSE BENEFITS**

This course is useful for municipal corporations, planning agencies, public health departments, water supply and sanitation departments, practicing engineers, college teachers and researchers. This will be a great opportunity for young engineers interested to enter into Remote Sensing and GIS applications. However, senior experienced engineers will get enhanced with new set of skills and knowledge.

**Software training**

Relevant software products will be demonstrated during the course.

**Course instructors**

The sessions will be delivered by the core faculty members Prof. J. Indu and Prof. Pradip Kalbar. Industry experts shall also deliver lectures. Hands on using open source platforms (SNAP and QGIS) and basic introduction to open source R shall be conducted by the research group of Prof. J. Indu.

**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 will be awarded ‘Course Participant Certificate’ on the last day of the course/module.