

QIP Short term Course on
PRINCIPLES AND APPLICATIONS OF GIS
AND REMOTE SENSING
28th February – 4th March 2011

REGISTRATION FORM

(Please mail to reach before 5th February 2011)

Name: _____

Office Address: _____

Permanent Address _____

E Mail: _____

Tele (+ STD Code): _____

Fax (+ STD code): _____

Date of Birth: _____

Sex : Male / Female

Highest Academic Qualification and subject
(with proof) _____

Professional Experience: _____

Teaching / Research Interest: _____

Accommodation required: YES / NO

Caution deposit (teachers) / Course fee (non-
teachers)

Demand Draft No: _____ Rs. _____

dated: _____ Bank: _____

I agree to abide by the rules of the QIP courses.
If selected I shall participate in the course for
the entire duration [28th February to 4th March
2011].

Date

Place

Signature

Name:

(Photocopy of this form may be used).

The applicant Mr. / Ms. _____

_____ from
our institution will be permitted to attend the
QIP short term course on 'GIS and Remote
Sensing Applications in Environmental
Management' to be held during 28th February
to 4th March 2011 at CCE, Indian Institute of
Science, Bangalore, if selected for the same.

Date

Place

Signature of the Head of the
institution with seal.

Last date for submission of application form
5th February 2011.

***Please mail the application form along with
demand draft to***

Deputy Registrar, CCE

Centre for Continuing Education

Indian Institute of Science

Bangalore 560 012

Tel: 91-080-23600988 / 2293 2491

Fax: 080-23600 911

E Mail: office@cce.iisc.ernet.in

Web: <http://cce.iisc.ernet.in>

QIP SHORT TERM COURSE

**PRINCIPLES AND
APPLICATIONS OF GIS
AND REMOTE SENSING
28th February – 4th March 2011**

Co-ordinator

Dr. T.V. Ramachandra

Energy & Wetlands Research Group

Centre for Ecological Sciences

Indian Institute of Science

E Mail: cestvr@ces.iisc.ernet.in

Tel: 080-2293 3099/ 23600985

URL: <http://ces.iisc.ernet.in/energy>

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Centre for Continuing Education

INDIAN INSTITUTE OF SCIENCE

Bangalore 560 012, India.

<http://cce.iisc.ernet.in>

PRINCIPLES AND APPLICATIONS OF GIS AND REMOTE SENSING

28th February – 4th March 2011

COURSE OVERVIEW

Remote sensing, geographic information system (GIS) and global positioning system (GPS) provides extremely useful tools for environmental and natural resources management. They are widely recognized as supporting tools for the planning, monitoring, and management of the appropriate utilization of resources at the country, regional and global levels.

This course provides an overview of the key concepts and principles in ecosystems and environmental management, areas of global and national environmental concern, and strategies and tools for effective environmental management. Attempt to understand the genesis of environmental problems, the concerns that leads to various international and national initiatives to tackle them have been made in this course. Various tools, which can be used to address environmental problems and the role that the professionals can play in managing environment in their respective areas would be discussed.

COURSE CONTENT

- **Geographical information systems:** Introduction, historical development, from the real world to GIS, basic data models, Geo-references and co-ordinate systems, basic spatial analysis and modeling, GIS implementation and project management, GIS issues and prospects, **Data models and data quality** : Problems and prospects, **GIS in Environmental modeling** : Hydrological modeling, atmospheric modeling, landsurface-subsurface modeling, biological/ecological

modeling, infrastructure development planning , disaster management and risk modeling.

- **Physical aspects of remote sensing**, spectral characteristics of earth's surface and of atmosphere, Sensors and their characteristics: multi-spectral scanners Aerial and satellite platforms. Visual and machine interpretation of imagery. Ground truth data. Digital image processing and image classification. Concept of environment, economic benefits of remote sensing, the geographical uses of remote sensing, sensors for environmental monitoring.
- **Remote sensing and GIS integration**, Applications to resources inventorying, monitoring and management.
- **Open Source GIS: Principles**
- **Application of Remote Sensing** : Water in environment, Soil and landforms, Ecology, conservation and resource management, Landuse/landcover dynamics, Urban sprawl analysis, Hazards and disasters, Coastal zone management.
- **Laboratory sessions:** Principles of GIS and remote sensing: - digitization of vector layers, creation of thematic layers, remote sensing data analysis (everyday during 3 -6.30PM).

Lectures: lab sessions: 65:35

Faculty: IISc Faculty and Research Scholars will deliver the lectures of the course and lab sessions will be handled by research scholars and project staff.

Venue: CCE seminar hall, IISc campus.

Course schedule: 9 30 am to 6.30 pm

ELIGIBILITY:

The course is meant for faculty of AICTE – recognized engineering colleges in India. Selected teachers will be paid TA at actuals subject to the limit of three-tier AC train / bus fare by the shortest route from the place of work to IISc, Bangalore and back. Participants will be paid daily allowance

towards boarding and lodging charges as per QIP rule (DA as per norm for 5 days). The lodging charges at Hoysala house is Rs.100 per day (for teachers - sponsored by an education institution)

Few seats are available for **practicing engineers and scientists** from R & D organisations, industries, government agencies and others interested in this course. **A course fee of Rs. 15,000 will be charged to these non-teacher participants.** The course fee entitles the candidates to participate in the course and receive the course materials.

Accommodation: Single room accommodation is available at the Hoysala house on the campus. The participants have to request in advance along with the registration form for such accommodation. The lodging charges will be Rs. 150 per day subject to the availability of the accommodation for non-teachers.

Application Submission: Intending applicants may use the attached application form (or a photocopy of the same). Applicants from AICTE recognized colleges are required to submit their applications sponsored by their colleges. A caution deposit of Rs.500 by demand draft drawn in favour of **‘Registrar, Indian Institute of Science, Bangalore 560 012** (payable at Bangalore) should accompany each application. This amount will be refunded to those not selected and at the end of the course to those selected. Non-teacher applicants should send their application along with a DD for Rs.15,000 drawn in favour of Registrar, Indian Institute of Science, Bangalore 560 012 (payable at Bangalore).

Deadlines: Completed Application form (with DD and other enclosures): 5th February 2011

Intimation of Selection: 10th February 2011.