



Seventh Satellite Based Distance Learning Program Schedule



Basic course on
"Remote Sensing, Geographical Information System and Global Positioning
System"

Time Schedule

| Module | Name of the Module | Duration | |
|--------|---|----------|----------|
| | | From | To |
| 1 | Remote Sensing and Digital Image Analysis | 01-08-11 | 17-08-11 |
| 2 | Global Positioning System | 18-08-11 | 29-08-11 |
| 3 | Geographical Information System | 30-08-11 | 26-09-11 |
| 4 | RS & GIS Applications | 10-10-11 | 28-10-11 |
| | | | |

Conducted by

Indian Institute of Remote Sensing
Indian Space Research Organisation
Department of Space, Government of India
4-Kalidas Road, Dehradun, India

In collaboration with

Consortium for Educational Communication, UGC
Space Application Centre, Ahmedabad
OSGEO India (IIIT Hyderabad)

Under the aegis of

National Natural Resources Management System
July 2011

MODULE 1: REMOTE SENSING & DIGITAL IMAGE ANALYSIS
August 1, 2011 – August 17, 2011

| Date | Day | Time | Topic | Speaker |
|-------------|-----------------|--|---|--------------------------------------|
| 1 Aug 2011 | Monday | 1600-1700hrs | Basic Principles of Remote Sensing | Hina Pande |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 2 Aug 2011 | Tuesday | 1600-1700hrs | Earth Observation Sensors and Platforms | Ashutosh Bhardwaj |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 3 Aug 2011 | Wednesday | 1600-1700hrs | Spectral Signatures of Different Landcover Features and Visual Image interpretation | Hina Pande |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 4 Aug 2011 | Thursday | OFFLINE | RS and Image Interpretation (II) Practical | By respective University Coordinator |
| 4 Aug 2011 | Thursday | 1600-1700hrs | Thermal Remote Sensing | Yogesh Kant |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 5 Aug 2011 | Friday | 1600-1700hrs | Microwave Remote Sensing | Shashi Kumar |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 6 Aug 2011 | SATURDAY | | | |
| 7 Aug 2011 | SUNDAY | | | |
| 8 Aug 2011 | Monday | 1600-1700hrs | Digital Image Processing: Basic Concepts and Rectification and Registration | Minakshi Kumar |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 9 Aug 2011 | Tuesday | 1600-1700hrs | Image Enhancement techniques | Poonam S. Tiwari |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 10 Aug 2011 | Wednesday | 1600-1700hrs | Image Classification Techniques and Accuracy Assessment | Poonam S. Tiwari |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 10 Aug 2011 | Wednesday | Offline - as per computer lab availability | Image Processing Hands-on | By respective University Coordinator |

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|-------------|---------------------------------|--|--|---|
| 11 Aug 2011 | Thursday | Offline - as per computer lab availability | Image Processing Hands-on and Practical Assignment | By respective University Coordinator |
| 11 Aug 2011 | Thursday | 1600-1700hrs | Demonstration: Image Processing | Minakshi Kumar |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 12 Aug 2011 | Friday | 1600-1700hrs | Hyperspectral Remote Sensing | Shefali Agrawal |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 13 Aug 2011 | Saturday | | | |
| 14 Aug 2011 | Sunday | | | |
| 15 Aug 2011 | Monday- Independence Day | | | |
| 16 Aug 2011 | Tuesday | 1600-1700hrs | Overview of Open Source Tools – I | Dr. H.S.Rai, Guru Nanak Dev Eng. College |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 17 Aug 2011 | Wednesday | 1600-1700hrs | Overview of Open Source Tools – II | Dr. H.S.Rai, Guru Nanak Dev Eng. College |
| | | 1700-1730hrs | Interactive Session (Query) | |
| 17 Aug 2011 | Wednesday | Offline - as per computer lab availability | Practical Assignment submission and evaluation. | By respective University Coordinator |

MODULE 2: GLOBAL POSITIONING SYSTEM
MODULE COORDINATOR: Shri Ashutosh Bhardwaj (ashutosh@iirs.gov.in)
August 18, 2011 – August 29, 2011

| Date | Day | Time | Topic | Speaker |
|--------------------|------------|-------------------------------------|---|-------------------------------|
| 18 Aug 2011 | Thursday | 1600-1700hrs | Introduction to GPS and GNSS | Ashutosh Bhardwaj |
| | | 1700-1730hrs | Feedback/Interaction | |
| 19 Aug 2011 | Friday | 1600-1700hrs | GPS receivers, processing methods, errors and accuracy | Ashutosh Bhardwaj |
| | | 1700-1730hrs | Feedback/Interaction | |
| 20 Aug 2011 | | Saturday | | |
| 21 Aug 2011 | | Sunday | | |
| 22 Aug 2011 | | Janamastmi | | |
| 23 Aug 2011 | Tuesday | 1600-1700hrs | Satellites based Augmentation systems | Sh. PLN Raju |
| | | 1700-1730hrs | Feedback/Interaction | |
| 24 Aug 2011 | Wednesday | Module 1 – Exam RS & DIA | | |
| 25 Aug 2011 | Thursday | 1600-1700hrs | GPS signal characteristics, Data formats (broadcast, precise ephemeris) | Sh. S Raghavendra |
| | | 1700-1730hrs | Feedback/Interaction | |
| 26 Aug 2011 | Friday | 1600-1700hrs | Demonstration on Data collection using Geodetic receivers (recorded) | Dr. Anil Kumar PLNR/BDB/AB/SR |
| | | 1700-1730hrs | Feedback/Interaction | |
| 29 Aug 2011 | Monday | 1600-1700hrs | Mobile Mapping | Sh. B D Bharath |
| | | 1700-1730hrs | Feedback/Interaction | |

MODULE 3: GEOGRAPHICAL INFORMATION SYSTEM
MODULE COORDINATORS: Shri P.L.N. Raju (raju@iirs.gov.in) IIRS
Dr. K.S.Rajan (rajan@iiit.ac.in) OSGEO India
30 Aug -26 Sep 2011

| Date | Day | Time | Topic | Speaker |
|---------------------|--|--------------------|--|--|
| 30 Aug 2011 | Tuesday | 1600-1700hrs | Introduction to GIS | PLN Raju |
| | | 1700-1730hrs | Feedback/Interaction | |
| 31 Aug 2011 | Wednesday | Eid Holiday | | |
| 1 Sept 2011 | Thursday | 1600-1700hrs | Geographic Phenomena, Concepts and examples | PLN Raju |
| | | 1700-1730hrs | Feedback/Interaction | |
| 2 Sept 2011 | Friday | 1600-1700hrs | Inputting, editing and topology creation | PLN Raju |
| | | 1700-1730hrs | Feedback/Interaction | |
| 3 Sept 2011 | Saturday | | | |
| 4 Sept 2011 | Sunday | | | |
| 5 Sept 2011 | Module 2 – Exam GPS (Morning Session) | | | |
| 5 Sept 2011 | Monday | 1530-1615 | Spatial Analysis- Introductory Concepts and Overview | Vandita Srivastava |
| | | 1615-1630hrs | Feedback/Interaction | |
| | | 1630-1715hrs | Spatial Analysis- Functionality and Tools | |
| | | 1715-1730hrs | Feedback/Interaction | |
| 6 Sept 2011 | Tuesday | 1600-1700hrs | Demo of GIS S/W 1: <ul style="list-style-type: none"> • Introduction of Open source GIS s/w • Opening Vector and Raster Data • Attribute table • Symbology • Map Layout | Dr. R. C. Prasad, IIT Hyderabad / Kapil Oberai |
| | | 1700-1730hrs | Feedback/Interaction | |
| 7 Sept 2011 | Wednesday | 1600-1700hrs | Demo of GIS S/W 2: <ul style="list-style-type: none"> • Digitization • Setting digitizing environment • Adding attributes to layer • Editing digitized layer | Dr. R. C. Prasad, IIT Hyderabad / Kapil Oberai |
| | | 1700-1730hrs | Feedback/Interaction | |
| 8 Sept 2011 | Thursday | 1600-1700hrs | Demo of GIS S/W 3: Warping and Geo-referencing (ILWIS) | Dr. R. C. Prasad, IIT Hyderabad / Prasun K Gupta |
| | | 1700-1730hrs | Feedback/Interaction | |
| 9 Sept 2011 | Friday | 1600-1700hrs | Demo of GIS S/W 4: Querying and Spatial Analysis | Dr. R. C .Prasad, IIT Hyderabad / Prasun K Gupta |
| | | 1700-1730hrs | Feedback/Interaction | |
| 10 Sept 2011 | Saturday | | | |
| 11 Sept 2011 | Sunday | | | |

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|---------------------|------------------------------|--|---|--|
| 12 Sept 2011 | Monday | 1600-1700hrs | Map Projection Concepts & Use in RS & GS | Maj.Gen.(D.) B.Nagrajan |
| | | 1700-1730hrs | Feedback/Interaction | |
| 13 Sept 2011 | Tuesday | 1600-1700hrs | Database concepts and Spatial Data Models Data formats and structures | Dr.Sameer Saran |
| | | 1700-1730hrs | Feedback/Interaction | |
| 14 Sept 2011 | Wednesday | 1600-1700hrs | Non-Spatial Data Models | Dr.Ram Mohan Rao |
| | | 1700-1730hrs | Feedback/Interaction | |
| 15 Sept 2011 | Thursday | 1600-1700hrs | Open Source GIS- Transparent Governance (Case Study) | Dr. K.S. Rajan – OSGEO |
| | | 1700-1730hrs | Feedback/Interaction | |
| 16 Sept 2011 | Friday | 1600-1700hrs | Cartography and Visualization | Dr.Yogesh Kant |
| | | 1700-1730hrs | Feedback/Interaction | |
| 17 Sept 2011 | Saturday | | | |
| 18 Sept 2011 | Sunday | | | |
| 19 Sept 2011 | Monday | 1600-1700hrs | PostGRE/ PostGIS & Acquainting PostGIS through a mock experience | Santosh Gaikwad – OSGEO with Kapil Oberai |
| | | 1700-1730hrs | Feedback/Interaction | |
| 20 Sept 2011 | Tuesday | 1600-1700hrs | Geoserver Essentials- Open layers, Web Services & mock Demo | Santosh Gaikwad – OSGEO with Dr.Sameer Saran |
| | | 1700-1730hrs | Feedback/Interaction | |
| 21 Sept 2011 | Wednesday | 1600-1700hrs | Catalogue Services- Geonetwork and mock demo | Santosh Gaikwad – OSGEO with Dr.Sameer Saran |
| | | 1700-1730hrs | Feedback/Interaction | |
| 22 Sept 2011 | Thursday | Discussion and Interaction with Universities | | |
| 23 Sept 2011 | Friday | 1600-1700hrs | Data Quality & Policies OGC, NSDI & GSDI initiatives. Discussion on Internet resources | PLN Raju |
| | | 1700-1730hrs | Feedback/Interaction | |
| 24 Sept 2011 | Saturday | | | |
| 25 Sept 2011 | Sunday | | | |
| 26 Sept 2011 | Monday | Module 3- Exam GIS | | |
| 27 Sep -9Oct | Holidays for Dusshera | | | |

MODULE 4: RS AND GIS APPLICATIONS
MODULE COORDINATOR: Shri P.L.N. Raju (raju@iirs.gov.in)
10 Oct- 28 Oct 2011

| Date | Day | Time | Topic | Speaker |
|--------------------|-----------------|---|--|------------------------------|
| 10 Oct 2011 | Monday | 1600-1700hrs | Remote Sensing and GIS Applications in Soil Resource Management | Dr. Suresh. Kumar |
| | | 1700-1730hrs | Feedback/Interaction | |
| 11 Oct 2011 | Tuesday | 1600-1700hrs | RS & GIS Applications in Forestry and Ecology | Dr. S. P. S. Kushwaha |
| | | 1700-1730hrs | Feedback/Interaction | |
| 12 Oct 2011 | Wednesday | 1600-1700hrs | RS & GIS Applications to Water Resources Management | Dr. S. P. Aggarwal |
| | | 1700-1730hrs | Feedback/Interaction | |
| 13 Oct 2011 | Thursday | 1600-1700hrs | Geoinformation Science – Future Trends | Dr. P. S. Roy, Director IIRS |
| | | 1700-1730hrs | Feedback/Interaction | |
| 14 Oct 2011 | Friday | 1600-1700hrs | Remote Sensing an GIS Applications in Inventory & Crop Yield Forecasting | Dr. S. K. Saha |
| | | 1700-1730hrs | Feedback/Interaction | |
| 15 Oct 2011 | Saturday | | | |
| 16 Oct 2011 | Sunday | | | |
| 17 Oct 2011 | Monday | 1600-1700hrs | Biodiversity | Dr. Sarnam Singh |
| | | 1700-1730hrs | Feedback/Interaction | |
| 18 Oct 2011 | Tuesday | 1600-1700hrs | Geology and Geomorphology | Dr. R. S. Chatterjee |
| | | 1700-1730hrs | Feedback/Interaction | |
| 19 Oct 2011 | Wednesday | 1600-1700hrs | Hydrogeology/ Ground Water | Dr. S. K. Srivastav |
| | | 1700-1730hrs | Feedback/Interaction | |
| 20 Oct 2011 | Thursday | 1600-1700hrs | Coastal Zone Management | Dr. D. Mitra |
| | | 1700-1730hrs | Feedback/Interaction | |
| 21 Oct 2011 | Friday | 1600-1700hrs | Marine & Atmospheric Application | Dr. A. K. Mishra |
| | | 1700-1730hrs | Feedback/Interaction | |
| 22 Oct 2011 | Saturday | | | |
| 23 Oct 2011 | Sunday | | | |
| 24 Oct 2011 | Monday | 1600-1700hrs | Engineering Geology with emphasis on landslide studies. | Dr. I. C. Das |
| | | 1700-1730hrs | Feedback/Interaction | |
| 25 Oct 2011 | Tuesday | 1600-1700hrs | Disaster Management | Dr. P. K. C. Ray |
| | | 1700-1730hrs | Feedback/Interaction | |
| 26 Oct 2011 | Wed | DIWALI - HOLIDAY | | |
| 27 Oct 2011 | Thursday | 1600-1700hrs | Human Settlement Analysis High resolution satellite data analysis | Dr. Sandeep Maithani |
| | | 1700-1730hrs | Feedback/Interaction | |
| 28 Oct 2011 | Friday | Module 4 – Exam RS & GIS Application | | |