



# 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**

<b>Date</b>	<b>Day</b>	<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
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	<b>SATURDAY</b>			
7 Aug 2011	<b>SUNDAY</b>			
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

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	<b>Saturday</b>			
14 Aug 2011	<b>Sunday</b>			
15 Aug 2011	<b>Monday- Independence Day</b>			
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**

<b>Date</b>	<b>Day</b>	<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
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	
<b>20 Aug 2011</b>		<b>Saturday</b>		
<b>21 Aug 2011</b>		<b>Sunday</b>		
<b>22 Aug 2011</b>		<b>Janamastmi</b>		
23 Aug 2011	Tuesday	1600-1700hrs	Satellites based Augmentation systems	Sh. PLN Raju
		1700-1730hrs	Feedback/Interaction	
24 Aug 2011	Wednesday	<b>Module 1 – Exam RS &amp; DIA</b>		
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	<b>Eid Holiday</b>		
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	
<b>3 Sept 2011</b>	<b>Saturday</b>			
<b>4 Sept 2011</b>	<b>Sunday</b>			
5 Sept 2011	<b>Module 2 – Exam GPS (Morning Session)</b>			
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"> <li>• Introduction of Open source GIS s/w</li> <li>• Opening Vector and Raster Data</li> <li>• Attribute table</li> <li>• Symbology</li> <li>• Map Layout</li> </ul>	Dr. R. C. Prasad, IIIT 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"> <li>• Digitization</li> <li>• Setting digitizing environment</li> <li>• Adding attributes to layer</li> <li>• Editing digitized layer</li> </ul>	Dr. R. C. Prasad, IIIT 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, IIIT 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, IIIT Hyderabad / Prasun K Gupta
		1700-1730hrs	Feedback/Interaction	
<b>10 Sept 2011</b>	<b>Saturday</b>			
<b>11 Sept 2011</b>	<b>Sunday</b>			

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	
<b>17 Sept 2011</b>	<b>Saturday</b>			
<b>18 Sept 2011</b>	<b>Sunday</b>			
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	
<b>24 Sept 2011</b>	<b>Saturday</b>			
<b>25 Sept 2011</b>	<b>Sunday</b>			
26 Sept 2011	Monday	<b>Module 3- Exam GIS</b>		
27 Sep -9Oct	<b>Holidays for Dusshera</b>			

**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	<b>Saturday</b>			
16 Oct 2011	<b>Sunday</b>			
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	<b>Saturday</b>			
23 Oct 2011	<b>Sunday</b>			
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	
<b>26 Oct 2011</b>	<b>Wed</b>	<b>DIWALI - HOLIDAY</b>		
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	<b>Module 4 – Exam RS &amp; GIS Application</b>		