

## Eleventh Satellite Based Distance Learning Program Schedule



Basic course on

“Remote Sensing, Geographical Information System and Global Navigation Satellite System”



### Time Schedule

Module	Name of the Module	Duration	
		From	To
1	Remote Sensing and Digital Image Analysis	05-08-2013	27-08-2013
2	Global Navigation Satellite System	03-09-2013	10-09-2013
3	Geographical Information System	16-09-2013	11-10-2013
4	RS & GIS Applications	14-10-2013	04-11-2013

#### 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  
Development and Educational Communication Unit (DECU)  
Space Application Centre, Ahmedabad  
Amrita E Learning Research Lab

#### Under the aegis of

National Natural Resources Management System

May 2013

**MODULE 1: REMOTE SENSING & DIGITAL IMAGE ANALYSIS MODULE**  
**COORDINATOR: Ms. Minakshi Kumar (minakshi@iirs.gov.in) Date: 05**  
**Aug – 27 Aug, 2013**

Date	Day	Time	Topic	Speaker
05 Aug 13	Monday	1600-1700 hrs	Basic Principles of Remote Sensing	Ms. Manu Mehta
		1700-1730 hrs	Interactive Session (Query)	
06 Aug 13	Tuesday	1600-1700 hrs	Earth Observation Sensors and Platforms	Shri Vinay Kumar
		1700-1730 hrs	Interactive Session (Query)	
08 Aug 13	Thursday	1600-1700 hrs	Spectral Signatures of Different Land cover Features and Visual Image interpretation	Ms. Hina Pande
		1700-1730 hrs	Interactive Session (Query)	
<b>09 Aug 13</b>	<b>Idu'l Fitr</b>			
<b>10 Aug 13</b>	<b>Saturday</b>			
<b>11 Aug 13</b>	<b>Sunday</b>			
12 Aug 13	Monday	Offline	RS and Image Interpretation (II) Practical	Shri Shashi Kumar
		1600-1700 hrs	Microwave Remote Sensing	
		1700-1730 hrs	Interactive Session (Query)	
13 Aug 13	Tuesday	1600-1700 hrs	Thermal Remote Sensing	Dr. Yogesh Kant
		1700-1730 hrs	Interactive Session (Query)	
14 Aug 13	Wednesday	1600-1700 hrs	Digital Image Processing: Basic Concepts Rectification and Registration	Ms. Minakshi Kumar
		1700-1730 hrs	Interactive Session (Query)	
<b>15 Aug 13</b>	<b>Independence Day</b>			
16 Aug 13	Friday	1600-1700 hrs	Image Enhancement techniques	Ms. Minakshi Kumar
		1700-1730 hrs	Interactive Session (Query)	
<b>17 Aug 13</b>	<b>Saturday</b>			
<b>18 Aug 13</b>	<b>Sunday</b>			
19 Aug 13	Monday	1600-1700 hrs	Image Classification Techniques and Accuracy Assessment	Ms. Poonam S Tiwari
		1700-1730 hrs	Interactive Session (Query)	
20 Aug 13	Tuesday	<b>Offline - as per computer lab availability</b>	Image Processing Hands-on	
22 Aug 13	Thursday	<b>Offline - as per computer lab availability</b>	Image Processing Hands-on and Practical Assignment	Ms. Minakshi Kumar
		1600-1700 hrs	Demonstration: Image Processing	
		1700-1730 hrs	Interactive Session (Query)	
23 Aug 13	Friday	1600-1700 hrs	Hyperspectral Remote Sensing	Ms. Shefali Agrawal / Shri Vinay Kumar
		1700-1730 hrs	Interactive Session (Query)	
<b>24 Aug 13</b>	<b>Saturday</b>			
<b>25 Aug 13</b>	<b>Sunday</b>			
26 Aug 13	Monday	1600-1700 hrs	Overview of Open Source Tools – I	Dr. Harish Karnatak
		1700-1730 hrs	Interactive Session (Query)	
27 Aug 13	Tuesday	1600-1700 hrs	Overview of Open Source Tools – II	Dr. Harish Karnatak
		1700-1730 hrs	Interactive Session (Query)	
29 Aug 13	Thursday	<b>Offline - as per computer lab availability</b>	Practical Assignment submission and evaluation.	

**MODULE 2: GLOBAL NAVIGATION SATELLITE SYSTEM**  
**MODULE COORDINATOR: Shri Ashutosh Bhardwaj (ashutosh@iirs.gov.in)**  
**Date: 03 Sep – 10 Sep, 2013**

<b>Date</b>	<b>Day</b>	<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
02 Sep 13	Monday	1600-1700 hrs	Introduction to GPS and GNSS	Er. Ashutosh Bhardwaj
		1700-1730 hrs	Interactive Session (Query)	
03 Sep 13	Tuesday	1600-1700 hrs	GPS receivers, processing methods, errors and accuracy	Er. Ashutosh Bhardwaj
		1700-1730 hrs	Interactive Session (Query)	
05 Sep 13	Thursday	1600-1700 hrs	Satellites based Augmentation systems	Er. Ashutosh Bhardwaj
		1700-1730 hrs	Interactive Session (Query)	
06 Sep 13	Friday	1600-1700 hrs	GPS signal characteristics, Data formats (broadcast, precise ephemeris)	Er. Ashutosh Bhardwaj
		1700-1730 hrs	Interactive Session (Query)	
<b>07 Sep 13</b>	<b>Saturday</b>			
<b>08 Sep 13</b>	<b>Sunday</b>			
<b>09 Sep 13</b>	<b>Monday</b>	<b>Exam – Module 1 (Morning Session)</b>		
09 Sep 13	Monday	1600-1700 hrs	Demonstration on Data collection using Geodetic receivers (recorded)	Er. Ashutosh Bhardwaj
		1700-1730 hrs	Interactive Session (Query)	
10 Sep 13	Tuesday	1600-1700 hrs	Mobile Mapping	Dr. B.D. Bharath
		1700-1730 hrs	Interactive Session (Query)	Dr. B.D. Bharath/ Er. Ashutosh Bhardwaj/ Er. P.L.N.Raju

**MODULE 3: GEOGRAPHICAL INFORMATION SYSTEM**

**MODULE COORDINATOR: Shri P.L.N. Raju (raju@iirs.gov.in)**

**Date: 16 Sept – 11 Oct, 2013**

<b>Date</b>	<b>Day</b>	<b>Time</b>	<b>Topic</b>	<b>Speaker</b>
16 Sep 13	Monday	1600-1700 hrs	Introduction to GIS	P L N Raju
		1700-1730 hrs	Interactive Session (Query)	
17 Sept 13	Tuesday	1600-1700 hrs	Geographic Phenomena, Concepts and examples	P L N Raju
		1700-1730 hrs	Interactive Session (Query)	
19 Sept 13	Thursday	<b>Exam – Module 2 (Morning Session)</b>		
19 Sept 13	Thursday	1600-1700 hrs	Map Projection Concepts & Use in RS & GS	P L N Raju
		1700-1730 hrs	Interactive Session (Query)	
20 Sept 13	Friday	1600-1700 hrs	Non-Spatial Data Models	Dr. Harish Karnatak
		1700-1730 hrs	Interactive Session (Query)	
<b>21 Sep 13</b>	<b>Saturday</b>			
<b>22 Sep 13</b>	<b>Sunday</b>			
23 Sep 13	Monday	1600-1700 hrs	Database concepts and Spatial Data Models Data formats and structures	Dr. Sameer Saran
		1700-1730 hrs	Interactive Session (Query)	
24 Sept 13	Tuesday	1600-1700 hrs	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>	Kapil Oberai
		1700-1730 hrs	Interactive Session (Query)	
26 Sept 13	Thursday	1600-1700 hrs	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>	Kapil Oberai
		1700-1730 hrs	Interactive Session (Query)	
27 Sept 13	Friday	1600-1700 hrs	Demo of GIS S/W 3: Warping and Geo-referencing (ILWIS)	P K Gupta
		1700-1730 hrs	Interactive Session (Query)	
<b>28 Sep 13</b>	<b>Saturday</b>			
<b>29 Sep 13</b>	<b>Sunday</b>			
30 Sept 13	Monday	1600-1700 hrs	Spatial Analysis- Introductory Concepts and Overview	Vandita Srivastava
		1700-1730 hrs	Interactive Session (Query)	
01 Oct 13	Tuesday	1600-1700 hrs	Spatial Analysis- Functionality and Tools	Vandita Srivastava
		1700-1730 hrs	Interactive Session (Query)	
03 Oct 13	Thursday	1600-1700 hrs	Demo of GIS S/W 4: Querying and Spatial Analysis	P K Gupta
		1700-1730 hrs	Interactive Session (Query)	
04 Oct 13	Friday	1600-1700 hrs	PostGRE/ PostGIS & Acquainting PostGIS through a mock experience	Kapil Oberai
		1700-1730 hrs	Interactive Session (Query)	
05 Oct 13	<b>Saturday</b>			
06 Oct 13	<b>Sunday</b>			
07 Oct 13	Monday	1600-1700 hrs	Geoserver Essentials- Open layers, Web Services & mock Demo	Dr. Harish Karnatak
		1700-1730 hrs	Interactive Session (Query)	
08 Oct 13	Tuesday	1600-1700 hrs	Catalogue Services- Geonetwork and mock demo	Dr. Sameer Saran
		1700-1730 hrs	Interactive Session (Query)	
09 Oct 13	Wednesday	1600-1700 hrs	Cartography and Visualization	Dr. Yogesh Kant
		1700-1730 hrs	Interactive Session (Query)	
10 Oct 13	Thursday	1600-1700 hrs	Open Source GIS- Transparent Governance (Case Study)	Dr. Harish Karnatak
		1700-1730 hrs	Interactive Session (Query)	
11 Oct 13	Friday	1600-1700 hrs	Data Quality & Policies OGC, NSDI & GSDI initiatives. Discussion on Internet resources	P L N Raju
		1700-1730 hrs	Interactive Session (Query)	
<b>12 Oct 13</b>	<b>Saturday</b>			
<b>13 Oct 13</b>	<b>Sunday</b>			

**MODULE 4: RS & GIS APPLICATION**  
**MODULE COORDINATOR: Shri P.L.N.Raju ([raju@iirs.gov.in](mailto:raju@iirs.gov.in))**  
**Date: 14 Oct – 04 Nov, 2013**

Date	Day	Time	Topic	Speaker
14 Oct 13	Monday	1600-1700 hrs	Operational Remote Sensing Dissemination and societal benefits	Dr. Y.V.N Krishnamurthy Director, IIRS
		1700-1730 hrs	Interactive Session (Query)	
15 Oct 13	Tuesday	1600-1700 hrs	Coastal Zone Management	Dr. D. Mitra
		1700-1730 hrs	Interactive Session (Query)	
17 Oct 13	Thursday	1600-1700 hrs	Remote Sensing and GIS Applications in Soil Resource Management	Dr. Suresh Kumar
		1700-1730 hrs	Interactive Session (Query)	
18 Oct 13	Friday	1600-1700 hrs	RS & GIS Applications in Forestry and Ecology	Dr. Sarnam Singh
		1700-1730 hrs	Interactive Session (Query)	
<b>19 Oct 13</b>	<b>Saturday</b>			
<b>20 Oct 13</b>	<b>Sunday</b>			
<b>21 Oct 13</b>	Monday	1600-1700 hrs	Biodiversity	Dr. Sarnam Singh
		1700-1730 hrs	Interactive Session (Query)	
<b>22 Oct 13</b>	Tuesday	1600-1700 hrs	Geology and Geomorphology	Dr. R.S Chatterjee
		1700-1730 hrs	Interactive Session (Query)	
<b>23 Oct 13</b>	<b>Wednesday Exam – Module 3 (Morning Session)</b>			
<b>24 Oct 13</b>	Thursday	1600-1700 hrs	Engineering Geology with emphasis on landslide studies.	Dr. P.K.C.Ray
		1700-1730 hrs	Interactive Session (Query)	
<b>25 Oct 13</b>	Friday	1600-1700 hrs	Remote Sensing an GIS Applications in Inventory & Crop Yield Forecasting	Dr. S K Saha
		1700-1730 hrs	Interactive Session (Query)	
<b>26 Oct 13</b>	<b>Saturday</b>			
<b>27 Oct 13</b>	<b>Sunday</b>			
<b>28 Oct 13</b>	Tuesday	1600-1700 hrs	Marine & Atmospheric Application	Dr. A.K Mishra
		1700-1730 hrs	Interactive Session (Query)	
<b>29 Oct 13</b>	Wednesday	1600-1700 hrs	RS & GIS Applications to Water Resources Management	Dr. S.P Aggarwal
		1700-1730 hrs	Interactive Session (Query)	
<b>31 Oct 13</b>	Thursday	1600-1700 hrs	Hydrogeology/ Ground Water	Dr. S.K. Srivastav
		1700-1730 hrs	Interactive Session (Query)	
<b>01 Nov 13</b>	Friday	1600-1700 hrs	Human Settlement Analysis High resolution satellite data analysis	Dr. Sandeep Maithani
		1700-1730 hrs	Interactive Session (Query)	
<b>02 Nov 13</b>	<b>Saturday</b>			
<b>03 Nov 13</b>	<b>Sunday</b>			
<b>04 Nov 13</b>	Monday	1600-1700 hrs	Disaster Management	Dr. S.K Srivastav
		1700-1730 hrs	Interactive Session (Query)	
		<b>Exam - Module 4 (1500-1730 hrs)</b>		