

Ninth 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	23-07-12	16-08-12
2	Global Positioning System	21-08-12	30-08-12
3	Geographical Information System	03-09-12	01-10-12
4	RS & GIS Applications	08-10-12	29-10-12

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

June 2012

MODULE 1: REMOTE SENSING & DIGITAL IMAGE ANALYSIS
MODULE COORDINATOR: Ms. Minakshi Kumar (minakshi@iirs.gov.in)

Date: 23 July – 16 Aug, 2012

Date	Day	Time	Topic
23 Jul 12	Monday	1600-1700 hrs	Basic Principles of Remote Sensing
		1700-1730 hrs	Interactive Session (Query)
24 Jul 12	Tuesday	1600-1700 hrs	Earth Observation Sensors and Platforms
		1700-1730 hrs	Interactive Session (Query)
25 Jul 12	Wednesday		
26 Jul 12	Thursday	1600-1700 hrs	Spectral Signatures of Different Landcover Features and Visual Image interpretation
		1700-1730 hrs	Interactive Session (Query)
27 Jul 12	Friday	Offline	RS and Image Interpretation (II) Practical
		1600-1700 hrs	Thermal Remote Sensing
		1700-1730 hrs	Interactive Session (Query)
28 Jul 12	Saturday		
29 Jul 12	Sunday		
30 Jul 12	Monday	1600-1700 hrs	Microwave Remote Sensing
		1700-1730 hrs	Interactive Session (Query)
31 Jul 12	Tuesday	1600-1700 hrs	Digital Image Processing: Basic Concepts Rectification and Registration
		1700-1730 hrs	Interactive Session (Query)
1 Aug 12	Wednesday		
2 Aug 12	Thursday	1600-1700 hrs	Image Enhancement techniques
		1700-1730 hrs	Interactive Session (Query)
3 Aug 12	Friday	1600-1700 hrs	Image Classification Techniques and Accuracy Assessment
		1700-1730 hrs	Interactive Session (Query)
4 Aug 12	Saturday		
5 Aug 12	Sunday		
6 Aug 12	Monday	Offline - as per computer lab availability	Image Processing Hands-on
7 Aug 12	Tuesday	Offline - as per computer lab availability	Image Processing Hands-on and Practical Assignment
		1600-1700 hrs	Demonstration: Image Processing
		1700-1730 hrs	Interactive Session (Query)
8 Aug 12	Wednesday		
9 Aug 12	Thursday	1600-1700 hrs	Hyperspectral Remote Sensing
		1700-1730 hrs	Interactive Session (Query)
10 Aug 12	Friday	Janamashtami (Vaisnava)	
11 Aug 12	Saturday		
12 Aug 12	Sunday		
13 Aug 12	Monday	1600-1700 hrs	Overview of Open Source Tools – I
		1700-1730 hrs	Interactive Session (Query)
14 Aug 12	Tuesday	1600-1700 hrs	Overview of Open Source Tools – II
		1700-1730 hrs	Interactive Session (Query)
15 Aug 12	Wednesday	Independence Day	
16-Aug-12	Thursday	Offline - as per computer lab availability	Practical Assignment submission and evaluation.

MODULE 2: GLOBAL POSITIONING SYSTEM
MODULE COORDINATOR: Shri Ashutosh Bhardwaj
Date: 21 Aug – 30 Aug, 2012

Date	Day	Time	Topic
21 Aug 12	Tuesday	Exam - Module 1 (Morning Session)	
21 Aug 12	Tuesday	1600-1700 hrs	Introduction to GPS and GNSS
		1700-1730 hrs	Interactive Session (Query)
22 Aug 12	Wednesday		
23 Aug 12	Thursday	1600-1700 hrs	GPS receivers, processing methods, errors and accuracy
		1700-1730 hrs	Interactive Session (Query)
24 Aug 12	Friday	1600-1700 hrs	Satellites based Augmentation systems
		1700-1730 hrs	Interactive Session (Query)
25 Aug 12	Saturday		
26 Aug 12	Sunday		
27 Aug 12	Monday	1600-1700 hrs	GPS signal characteristics, Data formats (broadcast, precise ephemeris)
		1700-1730 hrs	Interactive Session (Query)
28 Aug 12	Tuesday	1600-1700 hrs	Demonstration on Data collection using Geodetic receivers (recorded)
		1700-1730 hrs	Interactive Session (Query)
29 Aug 12	Wednesday		
30 Aug 12	Thursday	1600-1700 hrs	Mobile Mapping
		1700-1730 hrs	Interactive Session (Query)

MODULE 3: GEOGRAPHICAL INFORMATION SYSTEM
MODULE COORDINATOR: Shri P.L.N. Raju (raju@iirs.gov.in)

Date: 3 Sept – 1 Oct, 2012

Date	Day	Time	Topic
3 Sept 12	Monday	Exam - Module 2 (Morning Session)	
		1600-1700 hrs	Introduction to GIS
		1700-1730 hrs	Interactive Session (Query)
4 Sept 12	Tuesday	1600-1700 hrs	Geographic Phenomena, Concepts and examples
		1700-1730 hrs	Interactive Session (Query)
5 Sept 12	Wednesday		
6 Sept 12	Thursday	1600-1700 hrs	Spatial Analysis- Introductory Concepts and Overview
		1700-1730 hrs	Interactive Session (Query)
7 Sept 12	Friday	1600-1700 hrs	Spatial Analysis- Functionality and Tools
		1700-1730 hrs	Interactive Session (Query)
8 Sept 12	Saturday		
9 Sept 12	Sunday		
10 Sept 12	Monday	1600-1700 hrs	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
		1700-1730 hrs	Interactive Session (Query)
11 Sept 12	Tuesday	1600-1700 hrs	Demo of GIS S/W 2: <ul style="list-style-type: none"> • Digitization • Setting digitizing environment • Adding attributes to layer • Editing digitized layer
		1700-1730 hrs	Interactive Session (Query)
12 Sept 12	Wednesday		
13 Sept 12	Thursday	1600-1700 hrs	Demo of GIS S/W 3: Warping and Geo-referencing (ILWIS)
		1700-1730 hrs	Interactive Session (Query)
14 Sept 12	Friday	1600-1700 hrs	Demo of GIS S/W 4: Querying and Spatial Analysis
		1700-1730 hrs	Interactive Session (Query)
15 Sept 12	Saturday		
16 Sept 12	Sunday		
17 Sept 12	Monday	1600-1700 hrs	Map Projection Concepts & Use in RS & GS
		1700-1730 hrs	Interactive Session (Query)
18 Sept 12	Tuesday	1600-1700 hrs	Database concepts and Spatial Data Models Data formats and structures
		1700-1730 hrs	Interactive Session (Query)
19 Sept 12	Wednesday		
20 Sept 12	Thursday	1600-1700 hrs	Non-Spatial Data Models
		1700-1730 hrs	Interactive Session (Query)
21 Sept 12	Friday	1600-1700 hrs	Open Source GIS- Transparent Governance (Case Study)
		1700-1730 hrs	Interactive Session (Query)
22 Sept 12	Saturday		
23 Sept 12	Sunday		
24 Sept 12	Monday	1600-1700 hrs	Cartography and Visualization
		1700-1730 hrs	Interactive Session (Query)
25 Sept	Tuesday	1600-1700 hrs	PostGRE/ PostGIS & Acquainting PostGIS through a mock experience
		1700-1730 hrs	Interactive Session (Query)
26 Sept 12	Wednesday		
27 Sept 12	Thursday	1600-1700 hrs	Geoserver Essentials- Open layers, Web Services & mock Demo
		1700-1730 hrs	Interactive Session (Query)

28 Sept 12	Friday	1600-1700 hrs	Catalogue Services- Geonetwork and mock demo
		1700-1730 hrs	Interactive Session (Query)
29 Sept 12	Saturday		
30 Sept 12	Sundat		
1 Oct 12	Monday	1600-1700 hrs	Data Quality & Policies OGC, NSDI & GSDI initiatives. Discussion on Internet resources
		1700-1730 hrs	Interactive Session (Query)

MODULE 4: RS & GIS APPLICATION
MODULE COORDINATOR: Shri P.L.N.Raju (raju@iirs.gov.in)
Date: 8 Oct – 29 Oct, 2012

Date	Day	Time	Topic
8 Oct 12	Monday	Exam - Module 3 (Morning Session)	
		1600-1700 hrs	Geoinformation Science – Future Trends
		1700-1730 hrs	Interactive Session (Query)
9 Oct 12	Tuesday	1600-1700 hrs	Remote Sensing an GIS Applications in Inventory & Crop Yield Forecasting
		1700-1730 hrs	Interactive Session (Query)
10 Oct 12	Wednesday		
11 Oct 12	Thursday	1600-1700 hrs	Remote Sensing and GIS Applications in Soil Resource Management
		1700-1730 hrs	Interactive Session (Query)
12 Oct 12	Friday	1600-1700 hrs	RS & GIS Applications in Forestry and Ecology
		1700-1730 hrs	Interactive Session (Query)
13 Oct 12	Saturday		
14 Oct 12	Sunday		
15 Oct 12	Monday	1600-1700 hrs	Biodiversity
		1700-1730 hrs	Interactive Session (Query)
16 Oct 12	Tuesday	1600-1700 hrs	Geology and Geomorphology
		1700-1730 hrs	Interactive Session (Query)
17 Oct 12	Wednesday		
18 Oct 12	Thursday	1600-1700 hrs	Engineering Geology with emphasis on landslide studies.
		1700-1730 hrs	Interactive Session (Query)
19 Oct 12	Friday	1600-1700 hrs	Coastal Zone Management
		1700-1730 hrs	Interactive Session (Query)
20 Oct 12	Saturday		
21 Oct 12	Sunday		
22 Oct 12	Monday	1600-1700 hrs	Marine & Atmospheric Application
		1700-1730 hrs	Interactive Session (Query)
23 Oct 12	Tuesday	1600-1700 hrs	RS & GIS Applications to Water Resources Management
		1700-1730 hrs	Interactive Session (Query)
24 Oct 12	Wednesday		
25 Oct 12	Thursday	1600-1700 hrs	Hydrogeology/ Ground Water
		1700-1730 hrs	Interactive Session (Query)
26 Oct 12	Friday	1600-1700 hrs	Human Settlement Analysis High resolution satellite data analysis
		1700-1730 hrs	Interactive Session (Query)
27 Oct 12	Saturday		
28 Oct 12	Sunday		
29 Oct 12	Monday	1600-1700 hrs	Disaster Management
		1700-1730 hrs	Interactive Session (Query)
5 Nov 12	Monday	Exam - Module 4 (Morning Session)	