



Basics of Remote Sensing, Geographical Information System & Global Navigation Satellite System

Overview

Department of Applied Geology, NIT Raipur in Collaboration of Indian Institute of Remote Sensing, Indian Space Research Organization is organizing 18th IIRS Outreach Programme on "Basics of RS, GIS & GNSS" from 22 August 2016. This course is open for:

- Student of Postgraduate course (any year)
- Technical/ Scientific Staff of Central/ State Government Ministries/ Departments
- Faculty / Researchers at university / institutions

Link to register online to the course: http://elearning.iirs.gov.in/edusat_lms/student_registration.php

Classes of this course will be run in the department of Applied Geology NIT Raipur. 70% attendance is compulsory for this course and end of the course certificate would be distributed.

Kindly register the link given above and submit the registration form to the course coordinator.

Registration	Number of participants for the course will be limited to 25. It is mandatory to submit the registration copy to the course coordinator. Last date of registration is 15th August 2016.
You Should Attend If...	- you are an executives, engineers and researchers from Geology, Civil Engineering, Mining engineering, Computer Science and other branches of engineering and sciences and belonging to governmental institutes, consultancy firms, research institutes, and industries - research scholars - faculty from academic institutions and technical institutions.
Fees	This course is free of cost.
Course	Online classes of this course can be attended in the Department of Applied Geology NIT Raipur. Schedule of the online classes is given below.

Period
August 22 – November 22,
2016

Venue:
Department of Applied
Geology
NIT Raipur



Course Co-ordinator

Dr. Himanshu Govil
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<http://www.nitrr.ac.in>
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Registration Process:
Apply Online

Tentative Schedule

Module	Name of the Module	Duration	
		From	To
1	Remote Sensing and Digital Image Analysis	22-08-2016	14-09-2016
2	Global Navigation Satellite System	15-09-2016	26-09-2016
3	Geographical Information System	27-09-2016	30-10-2016
4	RS & GIS Applications	31-10-2016	18-11-2016

Module 1: Remote Sensing & Digital Image Analysis Module Coordinator: Ms. Minakshi Kumar				
Date	Day	Time	Topic	Speaker
22 Aug 16	Monday	1600-1730 hrs	Course Inauguration and Introductory Lecture	Dr. A. Senthil Kumar
23 Aug 16	Tuesday	1600-1730 hrs	Basic Principles of Remote Sensing	Ms. Manu Mehta
24 Aug 16	Wednesday	1600-1730 hrs	Earth Observation Sensors and Platforms	Mr. Vinay Kumar
25 Aug 16	Thursday		Janmashtami	
26 Aug 16	Friday	1600-1730 hrs	Spectral Signatures of Different Land cover Features and Visual Image interpretation	Dr. Hina Pande
27 Aug 16	Saturday			
28 Aug 16	Sunday			
29 Aug 16	Monday	1600-1730 hrs	Microwave Remote Sensing	Mr. Shashi Kumar
30 Aug 16	Tuesday	Offline (Morning Session)	RS and Image Interpretation Practical	By University Coordinator
		1600-1730 hrs	Thermal Remote Sensing	Dr. Yogesh Kant
31 Aug 16	Wednesday	BREAK		
01 Sep 16	Thursday	1600-1730 hrs	Digital Image Processing: Basic Concepts Rectification and Registration	Mrs. Minakshi Kumar
02 Sep 16	Friday	1600-1730 hrs	Image Enhancement techniques	Dr. Poonam S. Tiwari
03 Sep 16	Saturday			
04 Sep 16	Sunday			
05 Sep 16	Monday	GANESH CHATURTHI		
06 Sep 16	Tuesday	BREAK		
07 Sep 16	Wednesday	1600-1730 hrs	Image Classification Techniques and Accuracy Assessment	Dr. Poonam S. Tiwari
08 Sep 16	Thursday	1600-1730 hrs	Demonstration: Image Processing	Mrs. Minakshi Kumar
09 Sep 16	Friday	Offline - as per computer lab availability Morning Session	Image Processing Hands-on and Practical Assignment	By University Coordinator
		1600-1730 hrs	Hyperspectral Remote Sensing	Mrs. Shefali Agarwal
10 Sep 16	Saturday			
11 Sep 16	Sunday			
12 Sep 16	Monday	ID-UL-JUHA(BAKRID)		
13 Sep 16	Tuesday	Offline - as per computer lab availability	Practical Assignment submission by Participants to respective coordinators and evaluation to be done by respective coordinators	
14 Sep 16	Wednesday	ONAM/BREAK		
Module-2 Global Navigation Satellite System Module Coordinator: Shri Ashutosh Bhardwaj				
15 Sep 16	Thursday	1600-1730 hrs	Introduction to GPS and GNSS	Er. Ashutosh Bhardwaj
16 Sep 16	Friday	1600-1730 hrs	GPS receivers, processing methods, errors and accuracy	Er. Ashutosh Bhardwaj
17 Sep 16	Saturday			
18 Sep 16	Sunday			
19 Sep 16	Monday	1600-1730 hrs	Satellites based Augmentation systems	Er. Ashutosh Bhardwaj
20 Sep 16	Tuesday	1600-1730 hrs	GPS signal characteristics, Data formats (broadcast, precise ephemeris)	Er. Ashutosh Bhardwaj
21 Sep 16	Wednesday	BREAK		
22 Sep 16	Thursday	1600-1730 hrs	Indian Regional Navigation Satellite System (IRNSS) & GPS Aided and GEO Augmented Navigation (GAGAN)	
23 Sep 16	Friday	1600-1730 hrs	Demonstration on Data collection using Geodetic receivers)	Er. Ashutosh Bhardwaj
24 Sep 16	Saturday			
25 Sep 16	Sunday			
26 Sep 16	Monday	1600-1730 hrs	GPS/GNSS Radio Occultation	Guest Faculty SAC
Module-3- Geographical Information System Module Coordinator: Shri Prasun Kumar Gupta				
Date	Day	Time	Topic	Speaker
27 Sep 16	Tuesday	1600-1730 hrs	Introduction to GIS	Dr. Sameer Saran
28 Sep 16	Wednesday	1600-1730 hrs	Geographic Phenomena, Concepts and examples	Dr. Sameer Saran
29 Sep 16	Thursday	BREAK		
30 Sep 16	Friday	Exam Module-1 &2		
01 Oct 16	Saturday			

02 Oct 16	Sunday	Mahatma Gandhi Jayant		
03 Oct 16	Monday	1600-1730 hrs	Data Inputting and Editing in GIS	Shri Shiva Reddy
04 Oct 16	Tuesday	1600-1730 hrs	GIS Data Models (Spatial and Non spatial)	Shri Ashutosh Kumar Jha
05 Oct 16	Wednesday	Break		
06 Oct 16	Thursday	1600-1730 hrs	Map Projection Concepts & Use in RS & GIS	Shri Ashutosh Srivastav
07 Oct 16	Friday	1600-1730 hrs	Spatial Analysis- Introductory Concepts and Overview	Shri Kapil Oberai
08 Oct 16	Saturday			
09 Oct 16	Sunday			
10 Oct 16	Monday	1600-1730 hrs	Spatial Analysis- Functionality and Tools	Shri Kapil Oberai
11 Oct 16	Tuesday	DUSSHERA		
12 Oct 16	Wednesday	MUHARRAM		
13 Oct 16	Thursday	1600-1730 hrs	Spatial Data Management using RDBMS-Demo on PostGRE SQL+ Post GIS	Shri Kapil Oberai
14 Oct 16	Friday	1600-1730 hrs	3D GIS and Applications including Trivim	Shri Shiva Reddy
15 Oct 16	Saturday			
16 Oct 16	Sunday			
17 Oct 16	Monday	1600-1730 hrs	Open Source S/w Technology & Tools	Shri P K Gupta
18 Oct 16	Tuesday	1600-1730 hrs	Data Quality &Policies OGC, NSDI & GSDI initiatives. Discussion on Internet resources	Dr. Harish Karnatak
19 Oct 16	Wednesday	1600-1730 hrs	Demo of QGIS Software – Session 01: • Adding GIS Data ,Attribute table & identity tool • Change symbology, Create map composers • Manage plugins, CRS & EPSG • Geo-referencing & Tie-points , RMSE & Rectification	Shri P K Gupta
20 Oct 16	Thursday	1600-1730 hrs	Demo of QGIS Software – Session 02: (Data Creation/Vector Generation) • Digitization ,Setting digitizing environment • Adding attributes to layer, Editing digitized layer • Attribute Queries, Spatial Queries Linking spatial & non-spatial data	Shri P K Gupta
21 Oct 16	Friday	1600-1730 hrs	Geo-Web Services and Mobile Mapping: Technical Concepts	Dr. Harish Karnatak
22 Oct 16	Saturday			
23 Oct 16	Sunday			
24 Oct 16	Monday	1600-1730 hrs	Geoweb Services and Geo Portal Applications	Dr. Harish Karnatak
25 Oct 16	Tuesday	1600-1730 hrs	Uncertainty in GIS and Error Propagation	Shri Hari Shankar
26 Oct 16	Wednesday	BREAK		
27 Oct 16	Thursday	1600-1730 hrs	Customization in GIS	Shri Kamal Pandey
28 Oct 16	Friday	1600-1730 hrs		
29 Oct 16	Saturday			
30 Oct 16	Sunday			
Module-4 RS & GIS Applications Module Coordinator: Dr. Arijit Roy				
Date	Day	Time	Topic	Speaker
31 Oct 16	Monday	1600-1730 hrs	EO Applications for Natural Resources and Disaster Management	Dr. S. K Srivastav
01 Nov 16	Tuesday	1600-1730 hrs	Remote Sensing and GIS Applications in Soil Resource Assessment	Dr.Suresh Kumar
02 Nov 16	Wednesday	BREAK		
03 Nov 16	Thursday	1600-1730 hrs	Remote Sensing Applications in Agriculture- Crop Inventory & Yield Forecasting	Dr. N.R. Patel
04 Nov 16	Friday	1600-1730 hrs	RS & GIS Applications in Forestry and Ecology	Dr.Samam Singh
05 Nov 16	Saturday			
06 Nov 16	Sunday			
07 Nov 16	Monday	1600-1730 hrs	Engineering Geology with emphasis on landslide studies	Dr. P.K.C.Ray
08 Nov 16	Tuesday	1600-1730 hrs	Geology and Geomorphology	
09 Nov 16	Wednesday	1600-1730 hrs	Space-enabled Products & Services for Disaster Management :Indian Initiatives	Dr. S. K Srivastav
10 Nov 16	Thursday	1600-1730 hrs	RS & GIS Applications to Water Resources Management	Dr. S.P Aggarwal
11 Nov 16	Friday	1600-1730 hrs	RS & GIS for Coastal Zone Management	Dr. D. Mitra
12 Nov 16	Saturday			
13 Nov 16	Sunday			
14 Nov 16	Monday	Guru Nanak's Birthday		
15 Nov 16	Tuesday	1600-1730 hrs	Remote Sensing Application to Atmospheric & Marine Environment	Dr. A.K Mishra
16 Nov 16	Wednesday	1600-1730 hrs	RS & GIS Application in Urban & Regional Planning	Dr. Pramod Kumar
17 Nov 16	Thursday	1600-1730 hrs	Examination Module-3 & 4	
18 Nov 16	Friday	1600-1730 hrs	Panel discussion Feedback	