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

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Overview

Department of Applied Geology, NIT Raipur in Collaboration of Indian Institute of Remote Sensing, Indian Space Research Organization is organizing 23rd IIRS Outreach Programme on "Basics of RS, GIS & GNSS" August 21 – December 01, 2017. 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 2017.**
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 21 – December 01, 2017

Venue:
Department of Applied Geology
NIT Raipur

Course Co-ordinator

Dr. Himanshu Govil
Phone: +91 - 9927337832
E-mail: hgovil.geo@nitrr.ac.in

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http://www.nitrr.ac.in
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Registration Process:
Apply Online

Sl No.	Module Name	From	To
1	Remote Sensing and Digital Image Analysis	22-08-2017	15-09-2017
2	Global Navigation Satellite System & Geographical Information System	25-09-2017	10-11-2017
3	RS & GIS Applications	13-11-2017	04-12-2017

Module 1: Remote Sensing & Digital Image Analysis
Module/ Course Coordinator: Ms. Minakshi Kumar

Date	Day	Time	Topic	Speaker
21 Aug 17	Monday	1600-1730 hrs	Course Inauguration and Introductory Lecture	Dr. A. Senthil Kumar
22 Aug 17	Tuesday	1600-1730 hrs	Basic Principles of Remote Sensing	Mrs. Manu Mehta
23 Aug 17	Wednesday	1600-1730 hrs	Earth Observation Sensors and Platforms	Mr. Vinay Kumar
24 Aug 17	Thursday	1600-1730 hrs	Thermal Remote Sensing	Dr. Yogesh Kant
25 Aug 17	Ganesh Chaturthi			
26 Aug 17	Saturday			
27 Aug 17	Sunday			
28 Aug 17	Monday	1600-1730 hrs	Spectral Signatures of Different Land cover Features and Visual Image interpretation	Dr. Hina Pande
29 Aug 17	Tuesday	Offline (Morning Session)	RS and Image Interpretation Practical	By University Coordinator
30 Aug 17	Wednesday	BREAK		
31 Aug 17	Thursday	1600-1730 hrs	Digital Image Processing: Basic Concepts Rectification and Registration	Mrs. Minakshi Kumar
01 Sep 17	Friday	1600-1730 hrs	Image Enhancement techniques	Dr. Poonam S. Tiwari
02 Sep 17	Saturday			
03 Sep 17	Sunday			
04 Sep 17	Monday	BREAK-ONAM		
05 Sep 17	Tuesday	1600-1730 hrs	Image Classification Techniques and Accuracy Assessment	Dr. Poonam S. Tiwari
06 Sep 17	Wednesday	1600-1730 hrs	Microwave Remote Sensing	Mr. Shashi Kumar
07 Sep 17	Thursday	1600-1730 hrs	Hyperspectral Remote Sensing	Mrs. Shefali Agarwal
08 Sep 17	Friday	Offline - as per computer lab availability Morning Session	Image Processing Hands-on and Practical Assignment	By University Coordinator
09 Sep 17	Saturday			
10 Sep 17	Sunday			
11 Sep 17	Monday	1600-1730 hrs	Demonstration: Image Processing	Mrs. Minakshi Kumar
12 Sep 17	Tuesday	Offline - as per computer lab availability	Practical Assignment submission by Participants to respective coordinators and evaluation to be done by respective coordinators	
13 Sep 17	Wednesday	1600-1730 hrs	Panel Discussion Moule-1	Faculty of Module-1
14 Sep 17			BREAK For Examination	
15 Sep 17	Friday	9:30 Hrs to 17:00 Hrs	Online Examination of Module-1	Edusat Team

			Module- 2 Global Navigation Satellite System and	
			Geographical Information System□Module/ Course Coordinator: Shri Ashutosh Bhardwaj & Shri Prasun Kumar Gupta	
25 Sep 17	Monday	1600-1730 hrs	Introduction to GPS and GNSS	Er. Ashutosh Bhardwaj
26 Sep 17	Tuesday	1600-1730 hrs	GPS receivers, processing methods, errors and accuracy	Er. Ashutosh Bhardwaj
27 Sep 17	Wednesday	1600-1730 hrs	Satellites based Augmentation systems & GPS Aided and GEO Augmented Navigation (GAGAN)	Er. Ashutosh Bhardwaj
28 Sep 17	Thursday	1600-1730 hrs	GPS signal characteristics, Data formats (broadcast, precise ephemeris)	Shri S. Raghavendra
29 Sep 17			**BREAK**	
30 Sep 17			**Dussehra -Saturday**	
01 Oct 17			**Sunday**	
02 Oct 17	**Monday**		**Gandhi Jayanthi**	
Date	**Day**	**Time**	**Topic**	**Speaker**
03 Oct 17	Tuesday	1600-1730 hrs	Indian Regional Navigation Satellite System (IRNSS)	Er. Ashutosh Bhardwaj & Shri Kamal Pandey
04Oct 17	Wednesday	1600-1730 hrs	DGPS demonstration (Pre-recorded followed by live query session)	Shri S. Raghavendra
05 Oct 17	Thursday	1600-1730 hrs	Mobile Mapping	Dr. Harish Chandra Karnatak
06 Oct 17	Friday		**BREAK**	
07 Oct 17			**Saturday**	
08 Oct 17			**Sunday**	
			Geographical Information System	
			Module/ Course Coordinator: Shri Prasun Kumar Gupta	
09 Oct 17	Monday	1600-1730 hrs	Introduction to GIS	Dr. Sameer Saran
10 Oct 17	Tuesday	1600-1730 hrs	Geographic Phenomena, Concepts and examples	Shri P K Gupta
11 Oct 16	Wednesday		Break	
12 Oct 17	Thursday	1600-1730 hrs	Data Inputting and Editing in GIS	Shri Shiva Reddy
13 Oct 17	Friday	1600-1730 hrs	GIS Data Models (Spatial and Non spatial)	Shri Ashutosh Kumar Jha
14 Oct 17			Saturday	
15 Oct 17			Sunday	
16 Oct 17	Monday	1600-1730 hrs	Map Projection Concepts & Use in RS & GIS	Dr. Ashutosh Srivastav
17 Oct 17	Tuesday	1600-1730 hrs	Spatial Analysis- Introductory Concepts and Overview	Shri Prabhhar Alok Verma
18 Oct 17			**BREAK**	
19 Oct 17			**Diwali**	
20 Oct 17			**BREAK**	
21 Oct 17			**Saturday**	
22 Oct 17			**Sunday**	
23 Oct 17	Monday	1600-1730 hrs	Spatial Analysis- Functionality and Tools	Shri Kapil Oberai
24 Oct 17	Tuesday	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
25 Oct 17	Wednesday	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
26 Oct 17	Thursday	1600-1730 hrs	Open Source S/w Technology & Tools	Shri P K Gupta
27 Oct 17	Friday	1600-1730 hrs	Data Quality &Policies OGC, NSDI & GSDI initiatives. Discussion on Internet resources	Dr. Harish Karnatak
28 Oct 17			**Saturday**	

29 Oct 17	Sunday			
30 Oct 17	Monday	1600-1730 hrs	Spatial Data Management using RDBMS-Demo on PostGRE SQL+ Post GIS	Shri Kapil Oberai
31 Oct 17	Tuesday	1600-1730 hrs	3D GIS and Application including Trivim	Shri Shiva Reddy
01 Nov 17	Break			
02 Nov 17	Thursday	1600-1730 hrs	Geo-Web Services: Technical Concepts and Applications	Dr. Harish Karnatak
03 Nov 17	Friday		Uncertainty in GIS and Error Propagation	Shri Hari Shankar
04 Nov 17	Saturday – Guru Nanak Birthday			
05 Nov 17	Sunday			
06 Nov 17	Monday	1600-1730 hrs	Customization in GIS	Shri Kamal Pandey
07 Nov 17	Tuesday	1600-1730 hrs	Recent Trends in Geoinformatics	Dr. Sameer Saran
08 Nov 17	Wednesday	1600-1730 hrs	Panel Discussion of Module 2	Faculty of Module-2
09 Nov 17	Thursday	Break		
10 Nov 17	Friday	9:30 Hrs to 17:00 Hrs	Online Exam - Global Navigation Satellite System and Geographical Information System	Edusat Team

Module-3 RS & GIS Applications Module/ Course Coordinator: Dr. Arijit Roy				
Date	Day	Time	Topic	Speaker
13 Nov 17	Monday	1600-1730 hrs	Space Technology & its applications in governance	Dr. S. K Srivastav
14 Nov 17	Tuesday	1600-1730 hrs	Remote Sensing and GIS Applications in Soil Resource Assessment	Dr. Suresh Kumar
15 Nov 17	Wednesday	1600-1730 hrs	Remote Sensing Applications in Agriculture- Crop Inventory & Yield Forecasting	Dr. N.R. Patel
16 Nov 17	Thursday	1600-1730 hrs	RS & GIS Applications in Forestry and Ecology	Dr. Sarnam Singh
17 Nov 17	Friday	1600-1730 hrs	Engineering Geology with emphasis on landslide studies	Dr. Shovan Chattoraj
18 Nov 17	Saturday			
19 Nov 17	Sunday			
20 Nov 17	Monday	1600-1730 hrs	Geology and Geomorphology	Dr. R.S. Chatterjee
21 Nov 17	Tuesday	1600-1730 hrs	Space-enabled Products & Services for Disaster Management :Indian Initiatives	Dr. P.K.C.Ray
22 Nov 17	Wednesday	1600-1730 hrs	Geospatial Technology for climate change studies	Dr. Arijit Roy
23 Nov 17	Thursday	1600-1730 hrs	RS & GIS Applications to Water Resources Management	Dr. S.P Aggarwal
24 Nov 17	Friday	1600-1730 hrs	RS & GIS for Coastal Zone Management	Dr. D. Mitra
25 Nov 17	Saturday			
26 Nov 17	Sunday			
27 Nov 17	Monday	1600-1730 hrs	Remote Sensing Application to Atmospheric & Marine Environment	Dr. A.K Mishra
28 Nov 17	Tuesday	1600-1730 hrs	RS & GIS Application in Urban & Regional Planning	Dr. Pramod Kumar
29 Nov 17	Wednesday	1600-1730 hrs	Geo-web Services and mobile GIS in governance	Dr. Harish Karnatak
30 Nov 17	Thursday	1600-1730 hrs	Panel Discussion Module-3	Faculty of Module-3
04 Dec 17	Monday	9:30 Hrs to 17:00 Hrs	Online Examination -RS & GIS Applications	Edusat Team