

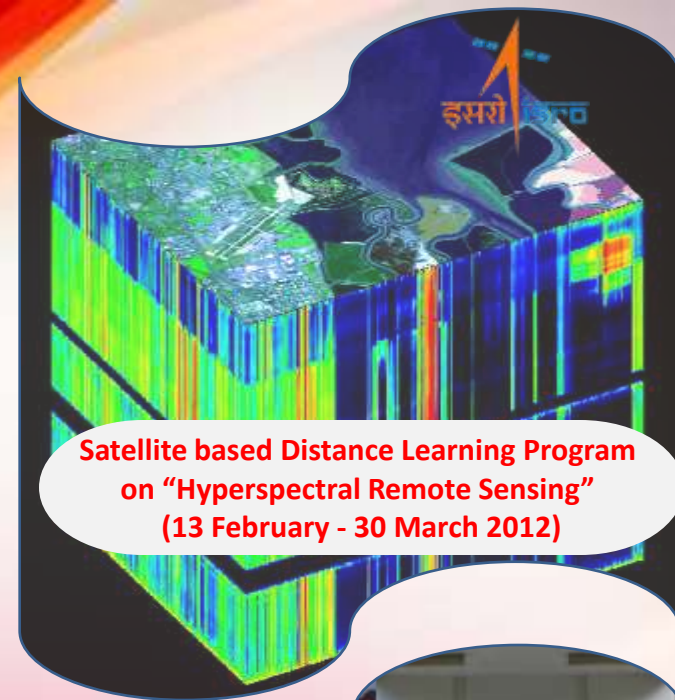
About INSAT 4-CR Satellite

EDUSAT is the first Indian satellite built exclusively for serving the educational sector and was launched successfully by GSLV-F01 on 20-9-2004. It was mainly intended to meet the demand for an interactive satellite based distance education system for the country. It strongly reflects India's commitment to use space technology for national development, especially for the development of the population in remote and rural locations.

The current course will be conducted using the INSAT-4CR satellite through National Beam. The content (ppt) will be converted to HTML using "Course Builder" software and will be uploaded to the student end systems using "Push Server" software.

About IIRS

The Indian Institute of Remote Sensing (IIRS) is a Unit of Indian Space Research Organisation, Department of Space, Government of India. Established in 1966, it is the premier training and education institute dealing with Remote Sensing, Geo-Information Science & GPS Technology and their applications. IIRS endeavour has been to bring thematic experts from user community including academic institutions and train them in technology & applications at Postgraduate level with the overall goal of 'technology transfer.' Institute has gained rich experience over the last 46 years in capacity building and implemented many innovative programs tuned to the different needs of various target groups. Satellite based Distance Learning Programs are primarily launched for university students.



**Satellite based Distance Learning Program
on "Hyperspectral Remote Sensing"
(13 February - 30 March 2012)**

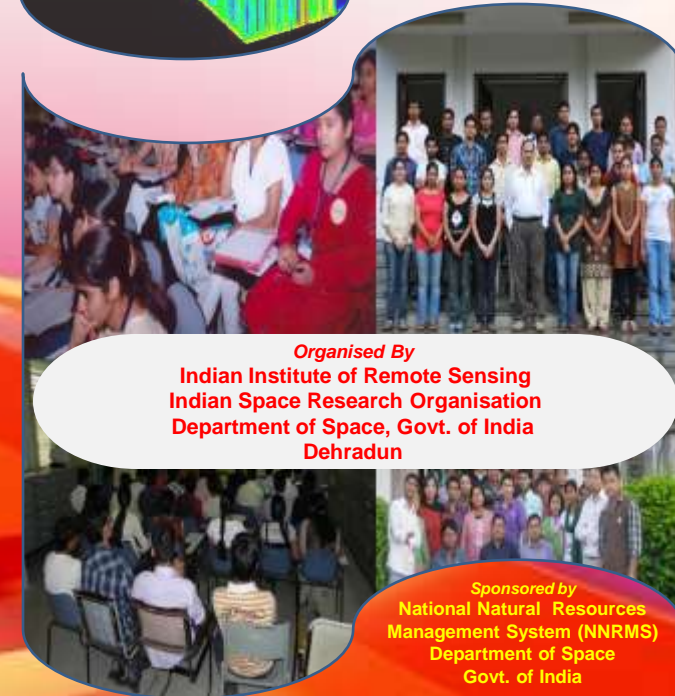
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About the Course

The use of Remote Sensing (RS), Geographic Information System (GIS), Global Positioning System (GPS) and associated geo-spatial technologies is increasing rapidly, creating an urgent demand for trained manpower. IIRS utilizes the Ku-Band facility of INSAT-4CR, an ISRO Satellite, for conducting Distance Learning Program to primarily complement the educational programs of the Indian universities. The target group includes students at undergraduate (final year)/ postgraduate level and faculty/ researchers at different universities/ institutions that have established similar facility. IIRS has successfully conducted 7 such courses so far with participation of over 5700 students from 60 Indian Universities. An advanced course on "Hyperspectral Remote Sensing" of 7 weeks duration is announced for the participants who have already attended the IIRS Basic Course on RS, GIS & GPS earlier.

Curriculum

The course structure is spread into 7 weeks of teaching on:

- Hyperspectral Remote Sensing & Spectroscopy
- Hyperspectral image pre-processing & calibration
- Hyperspectral processing & classification algorithms
- Applications of Hyperspectral Remote Sensing

The lectures will be delivered via satellite through the latest LMS based "TrainNet" software, or through the VLC based streaming enabling the participants to listen to the video lectures, clear their doubts in real-time using Chat, Email and Live Video Chat interaction. The lectures will also be broadcast on Internet using A-VIEW software, developed by Amrita University.

Course Topics

- Hyperspectral RS & Spectroscopy
- Spectral characteristics & generation of spectral library
- Hyperspectral image pre-processing and retrieval of atmospheric parameters
- Hyperspectral data calibration, Image segmentation, Data dimensionality reduction
- Hyperspectral data image processing techniques
- Hyperspectral image classification algorithms
- Hyperspectral remote sensing applications in Geo-exploration, Planetary exploration, Snow, Ice and Glacier studies, Water quality etc.

Who can Participate

The participants who are registered as final year undergraduate or postgraduate students and faculty/ researchers at university/ institutions are entitled to apply for this course. Only those participants are eligible for this course who have attended IIRS basic RS, GIS & GPS Training Course conducted through Distance Learning Program.

Applications of participants have to be duly sponsored by university/institute and forwarded through coordinators from respective centres. It is possible to accommodate individuals who have good internet facility and have basic knowledge of RS, GIS & GPS. Users receiving programs under CEC-UGC/CIET networks can also participate. Institutions on high speed National Knowledge Network (NKN) can also participate using A-VIEW software.

Sponsors & Technical Support

The program is sponsored by National Natural Resources Management System, Department of Space, Government of India and is conducted with due technical help from Consortium for Educational Communication - University Grants Commission; Central Institute of Educational Technology - National Council of Educational Research and Training, New Delhi; A-VIEW - National Mission on Education through Information and Communication Technology; Development and Educational Communication Unit/ Space Application Centre Ahmedabad.



Feedback Mechanism

IIRS has conducted three workshops in 2007, 2009 and 2010 to gather feedback from participating universities to help improve the quality of future courses. IIRS is planning to conduct fourth workshop in third week of March 2012.