ADMISSION

B. Borooah College, Guwahati

CERTIFICATE COURSE ON REMOTE SENSING & GIS AND ITS APPLICATIONS

Duration: One Month (Starts from 13th June, 2016)

Eligibility

College Teachers and any candidate having Post Graduation or Graduation in Geography / Geology / Planning / Forestry /Environmental Science/Disaster Management /Agriculture/Botany/Zoology/Architecture/computer science with basic computer Knowledge.

Course Fees: Rs 7500/-
Seat Availability: 12
Last Date of Admission: 05/06/2014
Software Package: ArcGIS 10.1 & Erdas Imagine 2015
Application form will be available from 30th May, 2016 at the Department of Geography, B.Borooah College, Guwahati.
Contact Numbers: 9859570881, 9435087938, 9435556147

Sd/-
Principal
B.Borooah College, Guwahati

One Month Certificate Course on

Remote Sensing & GIS and its Applications

Department of Geography

B Borooah College, Ulubari

Guwahati-781007, Assam

Introduction

B Borooah College of Guwahati, Assam is one of the prestigious colleges of Assam located in the heart of Guwahati City. Undergraduate and Graduate courses in Geography is being conducted in the department since the inception of the department in 1964. In degree level courses, geography is incorporated both in the Science as well as in Arts streams. Besides the regular courses the department has organized several training courses, workshops etc. The department has a well equipped GIS lab with modern GIS and Remote Sensing software and few GPS sets. The faculties of the department are from the various disciplines of geography including Geinformatics, Cartography, Regional Planning and Geomorphology. All faculties are capable of teaching Geoinformatics and few of the faculties have many years of experiences of working with different Geoinformatics software.

Geoinformatics includes the study of multiple disciplines, namely Geographic Information System, Remote Sensing, Photogrammetry, Cartography, Global Positioning System and Geodesy. It is fundamental of all the disciplines, which use data identified by their locations. Geoinformatics deals with spatial and non-spatial data, their methods of acquisition, management, analysis, display and dissemination. Applications of Geoinformatics are mainly oriented to real world management problems pertaining to natural and man-made environments.

The certificate course in Geoinformatics aim to provide conceptual knowledge on GIS, remote sensing, GPS and related fields, and hands-on training on GIS, remote sensing data interpretation, digital image processing, Photogrammetry, digital Cartography and GPS. The course contents have been designed keeping in view the emerging trends in the field of Geoinformatics and the increasing needs of skilled manpower.

Course Outline

The duration of this certificate course is one month (4 weeks) and will comprise of 1 hr theory lectures followed by 2 hrs hands-on lab session at the newly constructed GIS Lab. The main focus of the course will be on laboratory session to equip participants to effectively handle the GIS & Remote Sensing software and different types of GPS devices.

Admission Requirement

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Course Fee

The total course fee for the certificate course is Rs 7,500/- (Seven thousand five hundred only) per participant which includes cost of course materials.

Course Syllabus

The contents of this Certificate Course have been covered in week 1, 2, 3 & 4. The week 1 covers Fundamentals of Geographic Information System (GIS), Week 2 covers Fundamental of Remote Sensing including Photogrammetry, Week 3 covers Global Positioning System (GPS) and Open Source GIS and Application of Geoinformatics and Week 4 includes a individual small Project Work The detailed syllabus of the course with the total hours involved for each category is given below.

Week	Subject	Lectures (hrs)	Tutorials and Practical (hrs)	Total (hrs)
1	**Geographic Information System**	6	12	18
2	**Remote Sensing**	6	12	18
3	**GPS, Open Source GIS, Application of Geoinformatics**	6	12	18
4	**Application of Geoinformatics and Project Work**	0	24	24
	Total (hrs)	18	60	78

Week 1: Geographic Information System

(Lecture 6)

Lecture	Description	Lectures (hrs)
Lecture 1	GIS : An Overview	1
Lecture 2	Data Models (Vector and Raster)	1
Lecture 3	Databases (DBMS a7 RDBMS)	1
Lecture 4	Projection & Georeferencing	1
Lecture 5	Geodatabase, Digitising and Editing	1
Lecture 6	Introduction to Spatial Analysis	1

(Tutorials and Practical 12 hrs)

Lecture	Description	Practical (hrs)
Exercise 1	GIS Software: An Overview	2
Exercise 2	Working with GIS Software (ArcGIS 10)	2
Exercise 3	Georeferencing and Projection	2
Exercise 4	Geodatabase	2
Exercise 5	Digitising and Data Entry & Query and Analysis	2
Exercise 6	Editing, Map Composition and Layout	2

Week 2: Remote Sensing

(Lecture 6)

Lecture	Description	Lectures (hrs)
Lecture 1	Remote Sensing : Introduction	1
Lecture 2	Image Interpretation: Introduction	1
Lecture 3	Interpretation of Satellite Imageries (Visual & Digital Interpretation)	1
Lecture 4	Digital Image Processing, Rectification and Registration	1
Lecture 5	Image Enhancement Techniques	1
Lecture 6	Classification	1

(Tutorials and Practical 12 hrs)

Lecture	Description	Practical (hrs)
Exercise 1	Study of Satellite Image Information of Different Sensors and Referencing Scheme (Analog and Digital)	2
Exercise 2	Preparation of Base map from toposheets	2
Exercise 3	Study of Satellite Imageries in different bands and visual interpretation	4
Exercise 4	Image Processing System (DIP Software)	4
Exercise 5	Working with Satellite Images in Digital Image Processing Software	4
Exercise 6	Image Registration	10

Week 3: GPS, Open Source GIS and Application of Geoinformatics

(Lecture 6)

Lecture	Description	Lectures (hrs)
Lecture 1	Fundamentals of GPS	2
Lecture 2	Different Add Ons in GIS Software for GPS	2
Lecture 3	Introduction to Open Source GIS	2
Lecture 4	Download, Upload & Editing of GPS data	2
Lecture 5	Open Source GIS Software & Application of Google Earth for Mapping	2
Lecture 6	Application of Geoinformatics	2

(Tutorials and Practical 12 hrs)

Lecture	Description	Practical (hrs)
Exercise 1	Familiarization with different GPS Systems	2
Exercise 2	GPS Data Collection, Real Time Monitoring	2
Exercise 3	Survey of Small Area with help of Handheld GPS (Field Work)	2
Exercise 4	Upload and Download GPS Data, Editing, Imports and Exports GPS Data to Different GIS Software	2
Exercise 5	Different Open Source GIS Software (Download, Installation)	2
Exercise 6	Open Source Data, Source and Download	2

Week 4: Project Work (Presentation)

(Project Works and Presentation 24 hrs)

Lecture	Description	Practical (hrs)
Exercise 1	Project Works (Self Study, Supervised)	4
Exercise 2	Project Works (Self Study, Supervised)	4
Exercise 3	Project Works (Self Study, Supervised)	4
Exercise 4	Project Works (Self Study, Supervised)	4
Exercise 5	Presentation of Project Works	4
Exercise 6	Presentation of Project Works and Valediction	4