Course Outline
SS-131: Fundamentals of RS and GIS
Spring Semester , 2013

INSTRUCTORS Assistant Professor, Dr. Rizwan Bulbul
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Office hrs: Any time when in campus

COURSE ASSISTANT Lecturer, Mrs. Huma Shahzada
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Office hrs:

SCHEDULE Theory – Tuesday 1030AM-1120AM, Wednesday 11:00AM to 11:50AM, CR, Thursday 1200PM to 1250PM
Lab – Thursdays 1:30 PM to 3:50 PM, Lab

TEXT BOOKS

1. Introduction to Geographical Information Systems by Kang-Tsung Chang, 6th Edition
2. Introduction to Remote Sensing by Campbell and Wynne, 5th Edition

PREREQUISITE None

The course on fundamentals of Geographical Information Systems (GIS) and Remote Sensing (RS) offers basic knowledge to the GIS/RS concepts, techniques, applications and research trends. The course is intended to equip students with both theoretical and practical expertise needed for professional training in the emerging fields of GIS and RS. The course will be executed in two phases running in parallel. The first phase will cover theoretical principles of GIS/RS in classroom lectures. The second phase will provide practical hands on training through lab exercises, lab tasks and lab assignments. In addition, students will undertake a group project to demonstrate their GIS/RS knowledge and skills and will present their work at the end end of semester. In order to emphasize the importance and usability of the course, 4-5 guest speakers from academia and industry will deliver lectures at various occasions during the execution of the course.

EXPECTATIONS FROM STUDENTS

The students enrolled for SS-131 are expected to;

1. contribute actively in the class by constructive discussions,
2. frequent quizzes and assignments almost everyday,
3. perform well in quizzes and submit assignments on time,
4. do labs properly and as instructed, and
5. do a presentable course project.

Warning: Plagiarism in deliverables is highly discouraged and will be dealt strictly.

COURSE OUTCOME

At the conclusion of the course, the students;

1. Have deep understanding of the core GIS and RS concepts, principles and techniques.
2. Can develop GIS/RS based solutions for basic problems in various domains.

3. Understand the importance and importance of GIS and RS as an emerging discipline.
4. Get practical expertise in using GIS and RS software.

PRESCRIBED COURSE OUTLINE

The major topics to be covered in the course are;

1. Introduction to GIS
2. GIS principles
3. Spatial data acquisition and preprocessing
4. Spatial data models
5. Spatial data analysis
6. GPS
7. Introduction to RS
8. RS principles
9. RS data acquisition and preprocessing
10. Remotely sensed data analysis
11. GIS and RS applications
12. GIS and RS research trends

TENTATIVE COURSE DISTRIBUTION ON WEEKLY BASIS

Document attached

LABS OUTLINE

The lab exercises will cover following topics;

1. Introduction to GIS RS software
2. Installtion
3.

COURSE GRADING

		No.	**Percentage**
Theory	One hour tests (OHTs)	03	30%
	Final exam	01	50%
	Quizzes	01/class	20%
			100%
Lab	Lab Tasks	At least 01 /lab	10%
	Lab Assignments	5-10	10%
	Course Project	01	80%
			100%

Overall Percentage = 70% of Theory +30% of Lab

CLASS TESTS

OHTs	Week
1	5
2	10
3	15

BOOKS