Information Systems Department

Course Syllabus

IS396 - Geographic Information Systems

Catalog Description: This course is an introduction to the principles, techniques, and applications of Geographic Information Systems (GIS). It combines lectures with a substantial practical component. The lectures cover the nature of geo-spatial data, spatial data models, technical issues in GIS data acquisition, data storage and retrieval, geo-referencing and geo coding, spatial query, GIS analytical functions, and various visualization methods. The practical component, involving lab activities, will give students hands-on experience in using proprietary GIS software packages, ArcGIS, to handle geo-spatial information.

Credit Hours: 3 Credit hours:　　1 Lectures per week　　2 Labs. per week　　0 Recitation per week
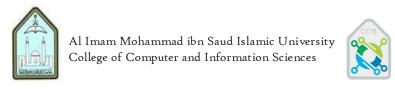
Prerequisites: IS395

Course Learning Outcomes:

1. Describe the GIS field along with the fundamental types of GIS data, including raster and vector data models.
2. Recognize the different coordinate systems and related issues
3. Design GIS poster with a commercially available GIS software package in both individual and team environment.
4. Create spatial and attribute data
5. Analyze vector and raster data using GIS operators after understanding of requirements.
6. Function effectively on teams to accomplish a common goal.
7. Present a topic in a compelling manner.

Major Topics:

- Introduction to GIS field (Theory)
- Getting to know ArcMap (Lab)
- Exploring Arc Catalog (lab)
- Symbolizing features and Raster (Lab)
- Geo-relational Vector Data Model (Theory)
- Classifying feature and Raster(Theory + Lab)
- Object-based Vector Data model (Theory)
- Labelling features (Lab)
- Raster Data Model in detail(Theory)
- Getting information about features and analyzing feature relationship (Lab)
- Coordinate System (Theory + Lab)
- Analyzing Vector and Raster Data(Theory + Lab)
- Presenting Data and Project Demos

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Text Books:
- Introduction to Geographic Information Systems, 8th Edition, Chang, K., McGraw-Hill Education, 2015, ISBN 978-0078095139.
- Getting to Know ArcGIS Desktop 2nd Edition updated for ArcGIS 10, Tim Ormsby,Eileen J Napoleon, Robert Burke, ESRI Press, 2010, ISBN 978-1589482609.

Grading:

◉ The grading scale for this course is:

95 - 100	A+	Passing
90 - 94	A	Passing
85 - 89	B+	Passing
80 - 84	B	Passing
75 - 79	C+	Passing
70 - 74	C	Passing
65 - 69	D+	Passing
60 - 64	D	Passing
0 - 59	F	Failing

◉ Final grades will be determined based on the following components:
- 60% Semester Work
- 40% Final Exam

◉ Students may not do any additional work for extra credit nor resubmit any graded activity to raise a final grade.

◉ Late submissions will not be accepted for any graded activity for any reason.

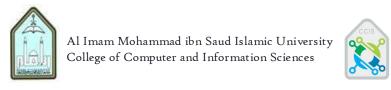◉ Students have one week to request the re-grading of any semester work.

Attendance Policy:

Students should attend 80% of the overall course hours taught in the semester as per the University regulations.

If a student fails to achieve this portion, he/she shall not be allowed to appear in the final exam and shall be awarded "DN" grade and repeat the course.

Cheating and Plagiarism Policy:

The instructor will use several manual and automated means to detect cheating and/or plagiarism in any work submitted by students for this course.

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When a student is suspected of cheating or plagiarism, the instructor raises the issue to the disciplinary committee.

Communications: Registered students will be given access to a section of the Learning Management System (LMS) for this course. LMS will used as the primary mechanism to disseminate course information, including announcements, lecture slides, assignments, and grades.

Communication with the instructor on issues relating to the individual student should be conducted using CIS email, via telephone, or in person.