



Geographical Information Systems Course Specifications

Course Specifications

Program(s) on which the course is given: Bachelor Degree in Computer & Information Sciences

Major or Minor element of program : Information Systems

Department offering the program : Information Systems

Department offering the course : Information Systems

Academic year / Level : Fourth Year/B.Sc.

Date of specification approval : 8/2/2010

A. Basic Information

Title: Geographical Information Systems **Code:** INF 485

Lectures: 4 hrs/week **Practical:** 2 hrs/week **Tutorial:** ---

Credit Hours: --- **Total:** 6 hrs/week

B. Professional Information

1. Overall Aims of Course:

This course gives a complete overview of relevant Geographical Information System (GIS) technologies, evaluation of GIS technology. The course also discusses GIS applications, representation of geographic data, relationships of graphic and non-graphic data. Data: data types, data collection, census data, postcode-based data, data from surveys, customer lists, data from remote sensing, the data collection transformation, data input, vector digitizing, verification,

attribute data input, raster data input, data input transformation. Graphic data storage, data quality, plan metric features, topographic features, cadastral features, Parcel identification, area boundary features. Components of GIS: hardware and software, configurations and data communications. GIS design philosophy, GIS implementation methodologies, hypermedia and GIS, towards a socioeconomic GIS.

Upon completion of the course, students will be able to:

- Identify the various kinds of data in GIS applications.
- Perform data input transformation.
- Enhance input data quality.
- Implement various kinds of data using GIS software.

2. Intended Learning Outcomes of Course (ILOs):

a. Knowledge and Understanding:

Students who complete the course will have the ability to:

- a1- Build a socioeconomic GIS application, illustrating all important features and techniques of GIS.
- a2- State data quality for a GIS application.
- a3- Describe GIS implementation methodologies.
- a4- Illustrate various GIS technologies.

b. Intellectual Skills:

Students who complete the course will have the ability to:

1. Analyze GIS technologies.
2. Analyze vector digitization.
3. Analyze vector verification.

4. Master graphic and non-graphic data for GIS applications.
5. Analyze data types for GIS applications

c. Professional and Practical Skills:

Knowledge of the concepts and material presented in this course will provide the students with practical know-how to:

- c1- Identify area boundary features.
- c2- Configure data communications.
- c3- Implement GIS software packages.
- c4- Handle graphic data storage.

d. General and Transferable Skills:

Knowledge of the concepts and material presented in this course will provide the students with the capability to:

- d1- Implement GIS/GPS methodologies to stored graphic data.
- d2- Present GIS methodologies.
- d3- Present GPS methodologies.

e. Attitude:

- e1- A knowledge and respect of ethics and ethical standards in relation to a major area of study.
- e2- Relationship Emphasis a successful with other students.
- e3- Learn how to make relation with other, and the limit of this relation.

3. Contents:

Topic	No. of hours	Lecture	Tutorial/ Practical
An overview of GIS.	6	4	2
Data: data types, data collection, census data, postcode-based data, data from surveys, customer lists, data from remote sensing, the data collection transformation, data input, vector digitizing, verification, attribute data input, raster data input, data input transformation. -I	6	4	2
Data: data types, data collection, census data, postcode-based data, data from surveys, customer lists, data from remote sensing, the data collection transformation, data input, vector digitizing, verification, attribute data input, raster data input, data input transformation.-II	6	4	2
Graphic data storage, data quality, plan metric features, topographic features, cadastral features, Parcel identification, area boundary features.	6	4	2
GIS applications, representation of geographic data, relationships of graphic and non-graphic data.-I	6	4	2
GIS applications, representation of geographic data, relationships of graphic and non-graphic data.-II	6	4	2
Components of GIS: hardware and software, configurations and data communications.-I	6	4	2
Components of GIS: hardware and software, configurations and data communications.-II	6	4	2
Components of GIS: hardware and software, configurations and data communications.-III	6	4	2
Components of GIS: hardware and software, configurations and data communications.-IV	6	4	2
Components of GIS: hardware and software, configurations and data communications	6	4	2
GIS design philosophy, GIS implementation methodologies, hypermedia and GIS, towards a socioeconomic GIS.-I	6	4	2
GIS design philosophy, GIS implementation methodologies, hypermedia and GIS, towards a socioeconomic GIS.-II	6	4	2