FUTURE UNIVERSITY IN EGYPT
جامعة المستقبل

Faculty of Engineering & Technology

Elective 11/ Computer -Aided Information (GIS)

Information :

Course Code :	ARC E11	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Architectural Engineering

Instructor Information :

Title	Name	Office hours
Lecturer	Rana Mostafa Ahmed Hammam	1

Area Of Study :

Upon completion of this course, students should be able to:
1.Understand basic concepts of spatial analysis (raster and vector data) and GIS data management.
2.Skillfully utilize ArcGIS software as one of the most common GIS programs.
3.Solve a real world problems using GIS technology (i.e. urban planning problems or regional planning).

Description :

Data collection : Remote sensed images, Characteristics, Rectification, Spatial and spectral enhancement, Classification and Vectorization ï Data analysis: Features elements (Vector/raster) cleaning, Attributes, Topology and query ï Map production : Data extraction and Symbolizing features.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Understand Architectural physical and computer modeling, simulations, rendering & presentation.
2 -	Understand basic applied and engineering science.
b.Intellectual Skills: :	
1 -	Analyze the solution alternatives and choose the optimum one.
c.Professional and Practical Skills: :	
1 -	Handle, process architectural laboratory devices (manual & Computer Labs).
2 -	Design virtual presentations and Write technical reports.
3 -	Apply some computer programs in the Architectural works.
4 -	Conduct research and collect data from different sources (field work, archival records, interneté etc).
d.General and Transferable Skills: :	
1 -	Work in teams (team work).
2 -	Share ideas and communicate with others.
3 -	Deal with others according to the rules of the professional ethics.
4 -	Raise awareness of professional ethics.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction to remote sensing as spatial data source for the GIS modeling.	4	2	2
Characteristics of satellite raster data as the most important GIS data capture.	4	2	2
Characteristics of satellite raster data as the most.	4	2	2
What is geographic information science and how does it relate to the use of GIS for scientific purposes.	4	2	2
Vector and raster data structures.	4	2	2
Working with database tables, Discrete objects and continuous fields.	4	2	2
Georeferencing, projection and coordinate system.	4	2	2
Geographic data model (raster data model).	4	2	2
Geographic data model (vector data model).	4	2	2
Database management systems (presentation).	4	2	2

Teaching And Learning Methodologies :

Lectures.

Computer applications.

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Attendance and evaluation.	5.00		
Final Exam.	40.00		
First midterm exam.	25.00		
Research.	5.00		
Second midterm exam.	25.00		

Course Notes :

No Course notes

Recommended books :

1-by Longley, Goodchild, Maguire, and Rhind, Geographic Information Systems and Science, 2nd Edition, Wiley or ESRI Press, 2005.
2-Remote sensing and image interpretation by Thomas M. Lillesand.

Periodicals :

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Web Sites :

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