Course Code	Course Title	ECTS Credits
OGEE-524DL	GIS System for Energy	7.5
Department	**Semester**	**Prerequisites**
Engineering	Fall, Spring	None
Type of Course	**Field**	**Language of Instruction**
Elective	Oil, Gas and Energy Engineering	English
Level of Course	**Year of Study**	**Lecturer(s)**
2nd Cycle	1st/2nd	Dr Ioannis Mertzanides
Mode of Delivery	**Work Placement**	**Co-requisites**
Distance Learning	N/A	None

Objectives of the Course:

The main objectives of the course are to:

- expose the students to the concepts behind organizing and analyzing data spatially using GIS
- teach the students skills and techniques to develop meaningful, effective maps and create and analyze spatial patterns
- provide the students with the insights to effectively interpret GIS-generated maps and the results of GIS-derived spatial analysis;
- emphasize the larger urban planning context in which an effective GIS can be used; and
- connect GIS skills and tools to planning concepts and theories, with an emphasis on Cyprus-area issues and data.

Learning Outcomes:

After completion of the course students are expected to:

- use computer cartography
- query databases and manage relational databases using GIS's spatial analysis tools
- identify appropriate data sources via the Internet and offline
- understand GIS metadata (e.g., a data set's spatial precision, attribute accuracy, currency/vintage, format, spatial extent, and projection/coordinate system); and

Course Contents:

- Course overview - What is GIS?
- Spatial data models
- Geo-referencing
- Vector GIS
- Raster GIS
- Data acquisition and data quality

- Spatial data analysis and modeling

Learning Activities and Teaching Methods:

Lectures, Online Questions, Projects, Discussion

Assessment Methods:

Assignments, Online Exercises, Final Exam

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Longley, P., Goodchild, M., Maguire, D., and Rhind, D	Geographic Information Systems and Science, 3rd edition	John Wiley and Sons,	2011	
Ormsby, T., et al.	Getting to Know ArcGIS Desktop, 2nd Edition	ESRI Press	2010	9781589482609

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Mitchell, Andy	The ESRI Guide to GIS Analysis, Volume 1, Geographic Patterns and Relationships.	ESRI Press	1999	978-1-879102-06-4