Department of Geomatics Engineering / Department of Geomatics Engineering / Department of Geomatics Engineering

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
GE426	PRINCIPLES OF CARTOGRAPHIC DESIGN	3.00	0.00	0.00	3.00	4.00

Course Detail

Course Language	:	English
Qualification Degree	:	Bachelor
Course Type	:	Optional
Preconditions	:	Not
Objectives of the Course	:	This course provides the student an introduction for Geographic Information Systems database design. The course focuses on data collection by digitization spatial features from an existing map. This process include georeferencing of a raster image and vectorization steps. The course is divided into three sections; GIS database design, digitization of a scanned raster map by georeferencing and output step for producing thematic maps
Course Contents	:	Introduction to GIS database design and producing thematic maps. Exploring MapInfo Pro GIS software interface. Derivation vector data from scanned existing raster maps. Creating geodatabse, layers, attributes and attribute table fields. Selecting appropriate thematic map for data type. Classifying data and preparing color intervals. Map layout design. Creating output maps.
Recommended or Required Reading	:	Slocum, T. A., McMaster, R. B., Kessler, F. C., & Howard, H. H. (2009). Thematic cartography and geovisualization. Arthur Robinson, H. (1958). Elements of cartography. John Wiley And Sons, Inc; New York. Monmonier, M. (2014). How to lie with maps. University of Chicago Press.
Planned Learning Activities and Teaching Methods	:	Theoretical trainings in computer laboratory and term project.
Recommended Optional Programme Components	:	-
Instructors	:	Dr. Öğr. Üyesi Osman Sami Kırtıloğlu
Instructor's Assistants	:	-
Presentation Of Course	:	Presentations for theoretical subjects, hands-on applications for the term project.
En Son Güncelleme Tarihi:	:	

Course Outcomes

Upon the completion of this course a student :

1 LA1: Understand the fundamental concepts of GIS database design

2 LA2: An ability to collect data from scanned raster images by georeferencing and vectorization (digitizing) processes

3 LA3: An ability to preprocess map and database for analysing phase.

4 LA4: An ability to use the techniques, and modern engineering tools necessary for thematic mapping. An ability to perform spatial analysis in a GIS software environment.

5 LA5: An ability to understand data classification and data types for attribute data. Students are expected to have a thorough conceptual and quantitative understanding of GIS.

Preconditions

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS

Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*Introduction to thematic mapping, cartography and GIS concepts.					
2.Week	*Map projections and coordinate systems.					
3.Week	*Color theory and using colors on maps.					
4.Week			*Introduction to MapInfo software and exploring software interface.			
5.Week		*Raster and vector data models, georeferencing and resampling of raster data.				
6.Week			*Basics of map digitizing and vectorization.			
7.Week	*Digital Geographic Information Exchange Standard (DIGEST)					
8.Week			*Digitizing of raster data.			
9.Week			*Digitizing of raster data.			
10.Week			*Digitizing of raster data.			
11.Week			*Creating attribute tables of features.			
12.Week			*Selecting thematic map type and classification of data.			
13.Week			*Selecting thematic map type and classification of data.			
14.Week			*Presentation of created thematic maps. *Map layout and preparing outputs.			

Assesment Methods %

1 Midterms : 40.000

2 Final : 60.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Derse Katılım / Attending lectures	14	8.00	112.00
Proje / Project	1	8.00	8.00
		Total :	120.00
		Sum of Workload / 30 (Hour) :	4
		ECTS :	4.00

Program And OutcomeRelation

	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11
L.O. 1	0	0	4	5	0	0	0	4	0	0	0
L.O. 2	0	0	5	5	0	0	0	5	0	0	0
L.O. 3	0	0	4	5	0	0	0	4	0	0	0
L.O. 4	0	0	4	5	0	0	0	4	0	0	0
L.O. 5	0	0	5	5	0	0	0	5	0	0	0