ESOGU CIVIL ENGINEERING DEPARTMENT

COURSE INFORMATION FORM

Course Name	Course Code
SURVEYING	151414562

Semester	Number of Course Hours per Week		ECTS
	Theory	Practice	
4	3	0	3

Course Category (Credit)				
Basic Sciences	Engineering Sciences	Design	General Education	Social
1	2			

Course Language	Course Level	Course Type
Turkish	Undergraduate	Compulsory

Prerequisite(s) if any	X
Objectives of the Course	To recognize basic land and map measurements and coordinate systems. To be able to calculate and draw from measurement values
Short Course Content	Units of measurement and basic definitions, Basic plane geometry, Scale, Marking of points and lines, Length measurement. Simple land measurements, Error concept, Area calculations, Theodolite and angle measurement, Introduction of coordinate systems and projection information, Basic calculations in perpendicular coordinate system. Polygon, Purchase-aplication, Geometric and Trigonometric height measurements, Plankote, Three-dimensional land measurement, digital terrain model, Extraction of sections.

	Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1	The student learns the terms of measurement knowledge and measurement units and their transformations	1,2,3	1,6,12	A,B,E
2	Students will be able to do plane trigonometry, scale calculations, have basic map reading knowledge	1,2,3	1,6,12	A,B,E
3	The student learns the use of simple measuring instruments and learns to measure length, direction, obstacle measurements in the field with them.	4	1,6,12	A,B,E
4	Students will be able to make drawings and calculations of simple measurements.	3,4,5	1,6,12	A,B,E
5	Students will have knowledge about error theory and coordinate systems	1,2	1,6,12	A,B,E
6	Student learns the applications and calculations of tachymetric acquisition	3,4,5,6	1,6,12	A,B,E
7	Learns to measure and calculate with leveling and trigonometric method from height measurements.	5,6	1,6,12	A,B,E
8	The student learns cross-sectional dimensions, calculations and drawings.	3,4,5,6	1,6,12	A,B,E

***Teaching Methods** **1:**Expression, **2:**Discussion, **3:**Experiment, **4:**Simulation, **5:**Question-Answer, **6:**Tutorial, **7:**Observation, **8:**Case Study, **9:**Technical Visit, **10:**Trouble/Problem Solving, **11:**Induvidual Work, **12**:Team/Group Work, **13**:Brain Storm, **14:**Project Design / Management, **15:**Report Preparation and/or Presentation

****Measuring Methods** **A:**Exam, **B:**Quiz, **C:**Oral Exam, **D:**Homework, **E:**Report, **F:**Article Examination, **G:**Presentation, **I:**Experimental Skill, **J:**Project Observation, **K**:Class Attendance; **L**:Jury Exam

Main Textbook	DİKER S., Ölçme Bilgisi Ders Notları
Supporting References	1- ŞERBETCİ M., SONGU C., GÜLAL E., Ölçme Bilgisi 1-2, Birsen Yay. İst. 2- KOÇ İ., Ölçme Bilgisi 1, YTÜ Yayınları, İst. 1998 3- KOÇ İ., Ölçme Bilgisi 2, YTÜ Yayınları, İst. 2003 ÖZBENLİ E., TÜDEŞ T., Ölçme Bilgisi, KTÜ, Trabzon, 1995
Necessary Course Material	

Course Schedule	
1	Basic concepts. Length, area, angle measurement units.
2	Basic plane trigonometry, the concept of scale, scale types and calculations.
3	Determination of lines with simple measuring instruments, determination of disabled directions, finding the intersection points of the lines
4	Length measurement, Simple length measurements, electronic length measurement, Measurement of disabled lengths
5	Right angle application with meter, Land measurement with simple land surveying methods.
6	Drawing works of simple measurements
7	Error theory, error types and investigation. Errors in length measurement
8	Mid-Term Exam
9	Area calculations
10	Theodolite and angle measurement, error sources and correction of theodolites
11	Coordinate systems and map projections
12	Perpendicular coordinate system and basic calculations, Polygon
13	Geometric and Trigonometric height measurement, tools used and errors, plankote
14	Tachometric measurement
15	Section measurement and calculation
16,17	Final Exam

Calculation of Course Workload			
Activities	**Number**	**Time (Hour)**	**Total Workload (Hour)**
Course Time (number of course hours per week)	14	3	42
Classroom Studying Time (review, reinforcing, prestudy,….)	14	1	14
Homework	1	0	0
Quiz Exam	1	0	0
Studying for Quiz Exam	1	0	0
Oral exam	1	0	0
Studying for Oral Exam	1	0	0
Report (Preparation and presentation time included)	1	0	0
Project (Preparation and presentation time included)	1	0	0
Presentation (Preparation time included)	1	0	0
	1	0	0
Mid-Term Exam	1	1	1
Studying for Mid-Term Exam	1	10	10
Final Exam	1	1	1
Studying for Final Exam	1	15	15
		Total workload	**83**
		Total workload / 30	**2.766**
		Course ECTS Credit	**3**

Evaluation	
Activity Type	**%**
Mid-term	40
Quiz	
Homework	
Bir öğe seçin.	
Bir öğe seçin.	
Final Exam	60
Total	100

RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)

NO	PROGRAM OUTCOME	Contribution
1	Adequate knowledge in mathematics, science and basic engineering subjects; ability to apply theoretical and applied knowledge in these areas to model and solve engineering problems	4
2	Ability to identify, define, formulate and solve complex engineering problems in civil engineering and related fields by selecting and applying appropriate analysis and modeling	3
3	An ability to design a complex system, device or product under realistic constraints and conditions by applying modern design methods to a given objective.	3
4	Ability to develop, select and use modern techniques and tools required for Civil Engineering practice and to utilize information technologies effectively	3
5	Ability to design experiments, conduct experiments, collect data, analyze and interpret results for the investigation of Civil Engineering problems	3
6	Ability to work in disciplinary and interdisciplinary teams	4
7	Effective oral and written communication skills in Turkish and the ability to use/develop foreign language skills	2
8	Awareness of the necessity of lifelong learning; the ability to access information, to follow developments in science and technology and to constantly renew oneself	3
9	Mesleki ve etik sorumluluk bilinci	2
10	Knowledge about business life practices such as project management, risk management and change management; awareness of entrepreneurship, innovation and sustainable	2
11	Knowledge about the global and societal effects of engineering practices on health, environment and safety; awareness of national and international legal regulations and	2
12		

LECTUTER(S)				
Prepared by	Öğr.Gör. Selami DİKER			
Signature(s)				

Date:06.06.2024