Cauraa Cada	Course Mame	Tanving!	Droctics	Loboratora	Cradita	ECTS			
Course Code C	course Name	Teorical	Practice	Laboratory	Credits	ECTS			
GE201 A	DVANCED SURVEYING	2.00	2.00	0.00	3.00	5.00			
Course Detail									
Course Language	: English								
Qualification Degree	: Bachelor								
Course Type	: Compulsory								
Preconditions	: Available								
Objectives of the Course	: Teaching leveling, horizontal positioning, tacheometry, area computation and	coordinate geometry	topics.						
Course Contents		: Definitions in height determination. Differential leveling. Curvature and refraction. Types of surveying levels. Leveling rods. Vertical datum. Vertical control surveys. Profile and cross-section leveling. Grid leveling. Reciprocal leveling. Peg test. Trigonometric leveling. Sources of errors in leveling. Resection. Intersection. Area and land partition computations. Coordinate Geometry.							
Recommended or Required Reading	Geomatics Engineering, C.D. Ghilani, P.R. Wolf, Pearson Prentice Hall, 2008	: 1. Surveying: Principles and Applications (8 nd edition) Kavanagh B. Prentice Hall. 2008. ISBN: 013236512X. 2. Elementary Surveying-An Introduction of Geomatics Engineering, C.D. Ghilani, P.R. Wolf, Pearson Prentice Hall, 2008. 3. Surveying Theory and Practice, J.M. Anderson, E.M. Mikhail, WCB-McC Hill, 1998. Surveying Principals and Applications, B.F. Kavanagh, Pearson Prentice Hall, 2006. Surveying Fundamentals and Practices, J. Nathanson, M Lanzafama, P. Kissam, Pearson Prentice Hall, 2011.							
Planned Learning Activities Teaching Methods	and : Courses and Exams.								
Recommended Optional Programme Components	: -								
Instructors	: Prof. Dr. Mevlüt Yetkin								
Instructor's Assistants	: Lecturer Omer BILGINER								
Presentation Of Course	: Face to Face, Field Study								

Course Outcomes

Upon the completion of this course a student :

- 1 1. Learning field and office works of differential leveling, trigonometric leveling, profile leveling, cross-section leveling and grid leveling in addition to basic concepts of height determination.
- $2\,2.$ Learning the problems and solutions of resection and intersection.
- 3 3. Learning the tacheometry.
- 4.4. Learning the coordinate geometry concepts and various surveying computations.
- $5\,5.$ Learning area and partition of land computations.

Preconditions

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
GE102	ÖLÇMENİN TEMELLERİ	3.00	1.00	0.00	4.00	6.00

Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods	Course Learning Outcomes
1.Week	*Introduction					Ö.Ç.1
2.Week	*Differential Leveling					Ö.Ç.1
3.Week		*Field Survey 1				Ö.Ç.1
4.Week	*Sources of Error in Differential Leveling, Sea Level Measurements, Vertical Datum					Ö.Ç.1
5.Week	*Profile Leveling, Cross Section Leveling, Grid Leveling					Ö.Ç.1
6.Week	*Trigonometric Leveling, GPS Leveling, Laser Levels, Motorized Leveling					Ö.Ç.1
7.Week	*Heights					Ö.Ç.1
8.Week		*Field Surveys 2				Ö.Ç.1
9.Week	*Coordinate Geometry I (Network Densification, Inaccessible Point Problem)					Ö.Ç.4
10.Week	*Coordinate Geoemetry II (2D Conformal Coordinate Transformation)					Ö.Ç.4
11.Week	*Intersection, Resection	*Field Surveys 3				Ö.Ç.2 Ö.Ç.2
12.Week	*Area	*Planimeter				Ö.Ç.5 Ö.Ç.5
13.Week	*Area Cut Off					Ö.Ç.5
14.Week	*Mapping Surveys					Ö.Ç.3

Assesment Methods %

1 Midterms: 40.000

2 Final : 60.000

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ECTS Workload			
Activities	Count	Time(Hour)	Sum of Workload
Vize / Midterms	1	2.00	2.00
Final / Final	1	2.00	2.00
Derse Katılım / Attending lectures	14	4.00	56.00
Ders Öncesi Biresysel Çalışma / Individual study before lecture	14	3.00	42.00
Ders Sonrası Biresysel Çalışma / Individual study after lecture	14	2.00	28.00
Ara Sınav Hazırlık / Preparation for midterm	1	10.00	10.00
Final Sınavı Hazırlık / Preparation for final	1	10.00	10.00

Total: 150.00

Sum of Workload / 30 (Hour): 5

ECTS: 5.00

Program An	d Outcome	Dolation

Frogram And Oddcomercelation											
	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	5	0	0	5	0	0	0	5	0	0
L.O. 2	0	5	0	0	5	0	0	0	0	0	0
L.O. 3	0	5	0	0	0	0	0	0	5	0	0
L.O. 4	0	5	0	0	0	0	0	0	0	0	0
L.O. 5	0	5	0	0	0	0	0	0	0	0	0