

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
GE201	ADVANCED 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	: 1. Surveying : Principles and Applications (8 nd edition) Kavanagh B. Prentice Hall. 2008. ISBN : 013236512X. 2. Elementary Surveying-An Introduction to Geomatics Engineering, C.D. Ghilani, P.R. Wolf, Pearson Prentice Hall, 2008. 3. Surveying Theory and Practice, J.M. Anderson, E.M. Mikhail, WCB-McGraw Hill, 1998. Surveying Principals and Applications, B.F. Kavanagh, Pearson Prentice Hall, 2006. Surveying Fundamentals and Practices, J. Nathanson, M.T. Lanzafama, P. Kissam, Pearson Prentice Hall, 2011.					
Planned Learning Activities and Teaching Methods	: 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					
En Son Güncelleme Tarihi:	: 9/21/2023 1:10:22 PM					

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

