

Identification	Subject	Surveying	
	Department	Civil Engineering	
	Program	Undergraduate	
	Term	Spring 2017	
	Instructor	Ali Atefi	
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	Classroom/hours		
	Office hours		
Prerequisites	Calculus		
Language	English		
Compulsory/Elective	Compulsory		
Description	The goal of this surveying practical exercise at the undergraduate level is to expose the undergraduate students to an intensive hands-on surveying experience that utilizes qualified survey crews and supervisors to help make the experience as practical as possible. Students will develop an understanding of how surveyors complete their work in the field and how engineers use the results of surveys in their civil engineering activities.		
Required textbooks and course materials	"Elementary Surveying: An Introduction to Geomatics" by Charles D. Ghilani, Paul R. Wolf, 13th Edition published by Prentice Hall (2011), ISBN: 0132554348.		
Course website			
Course outline	Application of land surveying principles; topographic surveying, boundary surveying, and construction staking through field exercises using state-of-the-art equipment and data capture/analysis techniques; preparation of topographic and boundary maps with related documents; presentation of results.		
Course objectives	The objective of this course is that the student acquires the basis of Elasticity and the Strength of Materials. In this way, the student will be able to pre-design different types of elements, for mechanical components, civil engineering structures and buildings. For this purpose, the solid model will be thought of as a continuum material and the stress and strain fields will be computed based on this theory.		
Learning outcomes	<ol style="list-style-type: none"> 1. The student will be able to complete a topographic survey using state-of-the-art equipment and develop a map of the area surveyed using state-of-the-art mapping software. 2. The student will be able to stake a construction site from drawings including tract boundary, streets, utilities, lots, and utility easements. 3. The student will be able to prepare a boundary survey map along with metes and bounds from survey data and deed descriptions using state-of-the-art mapping software. 4. The student will be able to discuss typical problems encountered in surveying and how they affect civil engineering design. 5. The student will be able to discuss the value of surveying to the civil engineering profession. 		
Teaching methods	Lecture		x
	Experiential exercise		x
	Assisted work		x
	Assisted lab work		x
	Others		
Evaluation	Methods	Date/deadlines	Percentage (%)
	Midterm Exam		10
	Class Participation and Attendance		20

	Quizzes		10
	Lab Exercises		-
	Project		30
	Final Exam		30
	Total		100
Policy	<ul style="list-style-type: none"> • NO CELL PHONES are allowed during lecture and lab sessions. PLEASE turn them off before lecture! (Not silent or vibrating mode) • No late assignments will be accepted without prior arrangement with the instructor for acceptable excuses. Medical and family emergency will be considered on case-by-case basis. • No late homework will be accepted. Homework is to be completed on an individual basis. Students may discuss homework with classmates, but students are responsible for your own work. If students have consulted classmates, please note the individuals name on the top of students' assignment. • Quizzes may be given unannounced throughout the term and will count as one homework. There will be no make-up quizzes. • No make-up exams. If students miss an exam, a zero score will be assigned to the missed exam. • If students should miss class due to personal emergency or medical reasons, please notify the instructor by email immediately. A doctor's note will be required for make-up work. • Students are responsible for completing the reading assigned from the textbook related to the covered topics and for checking email regularly for important information and announcements related to the course. • University policy on academic honesty concerning exams and individual work will be strictly enforced. • BE ON TIME! 		

Tentative Schedule			
Week	Date/Day (Tentative)	Topics	Textbook/Assignments
1		Introduction and General Principles	Chapter 1
2		Surveying Methods and equipment	Chapter 2
3		Leveling: theory and methods	Chapter 3
4		Leveling: field procedures and computations	Chapter 4
5		Units, significant figures, and field notes	Chapter 5
6		Theory of errors in observations	Chapter 6
7		Methods for measuring distances	Chapter 7
8		Midterm Exam, Relationship of Angles and Distances	Chapter 8
9		Traversing Procedure	Chapter 9
10		Traversing Computations	Chapter 10
11		Angles, azimuths, and bearings	Chapter 11
12		Methods of Measuring Area	Chapter 12
13		Mapping surveys	Chapter 17
14		Basic Map Plotting Procedures	Chapter 18
15		Project Presentation	
16		Final Exam	

This syllabus is a guide for the course and any modifications to it will be announced in advance.