

Course Description Form

1. Course Name:	
Engineering Surveying I	
2. Course Code:	
CIV035	
3. Semester / Year:	
Semester	
4. Description Preparation Date:	
23/9/2024	
5. Available Attendance Forms:	
Lectures are in person at the university only	
6. Number of Credit Hours (Total) / Number of Units (Total)	
Number of Credit Hours (Total) 75 / Number of Units (Total) 5	
7. Course administrator's name (mention all, if more than one name)	
1. Name: Asst. Lect. Thaer Taher Atshan Email: thaer.taher@uowa.edu.iq	
2. Name: Asst. Lect. Fatima Jamal Hussain Email: Fatima.jamal@uowa.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> Defining the basics of surveying and how to use measuring tools and avoid measurement obstacles. Defining surveying devices and their uses such as level and theodolite. Measuring and determining levels and determining heights for buildings and land uses. Learning how to record readings in the surveyor's notebook. Learning how to correct levelling errors. Drawing longitudinal and transverse sections and calculating the areas and volumes of regular and irregular shapes. Introducing the student to contour maps and types of surveying and linking them to contemporary technology. Teaching the student to calculate areas and volumes from contour maps.
9. Teaching and Learning Strategies	
Strategy	<ul style="list-style-type: none"> Explain the lectures and discussions in the classroom to deliver the scientific information to the student. Directing questions and inquiries that are distinguished by accuracy. Developing self-learning by deducing solutions to the problems. Extracurricular assignments and solving classroom examples. Field exercises within the university to apply measuring dimensions and levels. Performing the tests specified for the subject at the times specified for them. Reviewing the books and references indicated by the subject teacher.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
15	5	<ul style="list-style-type: none"> • Know the details and methods of surveying and leveling and the steps followed for each type. • The learner will be able to project maps on the ground or transfer the image to a natural location on the map. • Determine the heights of the land above sea level and link them to the height of neighboring buildings. • The learner will be able to calculate areas, quantities and volumes for civil works of projects. • Enabling the student to use surveying and measuring devices. • Increase the ability and engineering sense and speed of decision-making. 	<ul style="list-style-type: none"> • Definition of area / Importance of area in civil works / Units of measurement / Tools used in measurement / Errors in measuring distances. • Leveling Identify the leveling device and its components and types, the ruler, types of rulers and how to read them • The method of rising and falling in recording ruler readings in the surveyor's notebook • The method of device elevation in recording ruler readings in the surveyor's notebook • Errors in direct differential leveling and correcting the closing error • Obstacles to balancing work and how to avoid them and reading the inverted ruler • The method of wedges to correct the line of sight in the leveling device (Level) • Applications on leveling • Longitudinal sections and drawing them and finding the depth of excavation and burial height and calculation methods • Cross sections and calculation methods • Topographic survey and contour lines and their properties • How to make contour lines and methods of fixing them and how to number them • Areas and how to calculate them for regular and irregular shapes • Volumes and how to calculate the volume of work for roads, rivers and sewers • The square network method for calculating areas and volumes 	Lectures are in person at the university only	Quizzes Homework Assignment Reports

11. Course Evaluation

Quizzes = 5%

Assignments= 5%

Projects\Lab.=20%
Report= 10%
Midterm Exam= 10%
Final Exam= 50%

12. Learning and Teaching Resources

Main references (sources)	1-المساحة الهندسية -ياسين عبيد احمد- كلية الهندسة – جامعة البصرة – وزارة التعليم العالي والبحث العلمي العراقية - 1990
	2- هندسة المساحة – للدكتور عباس زيدان – قسم البناء والانشاءات –الجامعة التكنولوجية – الطبعة الاول - 2009
	3- A text Book of Surveying and Leveling, R. Agor, 2012,Delhi