

## Course Description Form

<b>1. Course Name:</b>	
Engineering Surveying I	
<b>2. Course Code:</b>	
CIV035	
<b>3. Semester / Year:</b>	
Semester	
<b>4. Description Preparation Date:</b>	
23/9/2024	
<b>5. Available Attendance Forms:</b>	
Lectures are in person at the university only	
<b>6. Number of Credit Hours (Total) / Number of Units (Total)</b>	
Number of Credit Hours (Total) 75 / Number of Units (Total) 5	
<b>7. Course administrator's name (mention all, if more than one name)</b>	
1. Name: Asst. Lect. Ali Hassan Ahmed Fatiha Email: ali.hassan@uowa.edu.iq	
<b>8. Course Objectives</b>	
<b>Course Objectives</b>	<ul style="list-style-type: none"> <li>Defining the basics of surveying and how to use measuring tools and avoid measurement obstacles.</li> <li>Defining surveying devices and their uses such as level and theodolite.</li> <li>Measuring and determining levels and determining heights for buildings and land uses.</li> <li>Learning how to record readings in the surveyor's notebook.</li> <li>Learning how to correct levelling errors.</li> <li>Drawing longitudinal and transverse sections and calculating the areas and volumes of regular and irregular shapes.</li> <li>Introducing the student to contour maps and types of surveying and linking them to contemporary technology.</li> <li>Teaching the student to calculate areas and volumes from contour maps.</li> </ul>
<b>9. Teaching and Learning Strategies</b>	

<b>Strategy</b>	<ul style="list-style-type: none"> <li>• Explain the lectures and discussions in the classroom to deliver the scientific information to the student.</li> <li>• Directing questions and inquiries that are distinguished by accuracy.</li> <li>• Developing self-learning by deducing solutions to the problems.</li> <li>• Extracurricular assignments and solving classroom examples.</li> <li>• Field exercises within the university to apply measuring dimensions and levels.</li> <li>• Performing the tests specified for the subject at the times specified for them.</li> <li>• Reviewing the books and references indicated by the subject teacher.</li> </ul>
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10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

15	5	<ul style="list-style-type: none"> <li>• Know the details and methods of surveying and leveling and the steps followed for each type.</li> <li>• The learner will be able to project maps on the ground or transfer the image to a natural location on the map.</li> <li>• Determine the heights of the land above sea level and link them to the height of neighboring buildings .</li> <li>• The learner will be able to calculate areas, quantities and volumes for civil works of projects.</li> <li>• Enabling the student to use surveying and measuring devices.</li> <li>• Increase the ability and engineering sense and speed of decisionmaking.</li> </ul>	<ul style="list-style-type: none"> <li>• Definition of area / Importance of area in civil works / Units of measurement / Tools used in measurement / Errors in measuring distances.</li> <li>• 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</li> <li>• The method of device elevation in recording ruler readings in the surveyor's notebook</li> <li>• Errors in direct differential leveling and correcting the closing error</li> <li>• Obstacles to balancing work and how to avoid them and reading the inverted ruler</li> <li>• 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</li> <li>• Cross sections and calculation methods</li> <li>• Topographic survey and contour lines and their properties</li> <li>• How to make contour lines and methods of fixing them and how to number them</li> <li>• Areas and how to calculate them for regular and irregular shapes</li> <li>• Volumes and how to calculate the volume of work for roads, rivers and sewers • The square network method for calculating areas and volumes</li> </ul>	Lectures are in person at the university only	Quizzes Homework Assignment Reports
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### 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-ياس ني عبيد احم د- 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