

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Survey	Module Delivery	
Module Type	Core	<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code	CIV21106		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level			
Administering Department		College	
Module Leader	Dr. Adel Naher	e-mail	adil.abed@muc.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	Ph.D
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p><b>Module Objectives</b> أهداف المادة الدراسية</p>	<ol style="list-style-type: none"><li>1. Have the basic math and science knowledge and technical skills of the Surveying and Geomatics Engineering Technology discipline appropriate to enter careers in the geospatial community, for example, boundary surveying and legal principles, route and construction surveying, survey measurement analysis and adjustments, Global Positioning System (GPS), photogrammetry, geodesy, land/Geographic Information Systems (GIS), cartography, 3D scanning and mapping.</li><li>2. Have the ability to execute surveying/geomatics project activities for delivery in response to the needs of private and public industry.</li><li>3. Have appropriate understanding of standards and specifications of surveying/geomatics practices in analyzing positional accuracy of measurement systems and in preparing land records and plats by meeting legal requirements.</li><li>4. Have the knowledge to pass the national Fundamentals of Surveying examination, and maintain a commitment to lifelong learning.</li><li>5. Have an understanding of the professional, ethical, and social issues with commitment to quality and dependability.</li></ol>
<p><b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"><li>1. Apply introduction and knowledge to Geomatics engineering.</li><li>2. Design and conduct experiments, as well as analyze and interpret data.</li><li>3. Use the techniques, skills, and modern engineering tools necessary for Geomatics practice.</li><li>4. Identify, formulate, and solve Geomatics engineering problems.</li><li>5. Create and manage databases for Contour maps, and Civil 3d program.</li><li>6. Function effectively as individuals within multidisciplinary teams.</li><li>7. Create and use related computer programs in the field of geomatics engineering.</li><li>8. Develop research studies that apply qualitative research methods related to geomatics engineering subjects.</li><li>9. analyze the latest knowledge and concurrent issues in surveying and geomatics engineering efficiently</li><li>10. Apply the traits of good leadership, responsibility, passion, and active engagement in both professional and community assignments.</li></ol>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <ul style="list-style-type: none"><li>- <b>Introduction to Surveying and Geomatics Engineering:</b> Categories of Surveying, Types of Surveys, Brief History of Surveying, Definition of Geomatics, Direct and indirect observations, Errors and Mistakes, Precision</li></ul>

	<p>and accuracy (4 hrs.).</p> <ul style="list-style-type: none"> <li>- <b>Units of Measurement:</b> Standards of Measurement, Length, Area, Volume, Angle (4 hrs.).</li> <li>- <b>Map Elements:</b> Definition of a map, Purpose of a map, Latitude and Longitude, Hemispheres, Compass, Scale, Map Legends, Scale and Distance, Large Scale &amp; Small Scale (4 hrs.).</li> <li>- <b>Distance Measurement:</b> Methods of linear measurements:#, Taping Accessories, Taping Procedures, Sources of error in taping, Other Uses of the Tape, Problems on obstacles in Taping (4 hrs.).</li> <li>- <b>Levelling:</b> Principle of Levelling, leveling methods, Kinds of Levels, Level components, Field Work, Basic definitions, Methods of Reducing Levels (4 hrs.)</li> <li>- <b>Some Types of Levelling:</b> Differential leveling, Check levelling, Profile leveling, Curvature &amp; Refraction Correction, Two Peg Test, Contouring - grid method (4 hrs.)</li> <li>- Solving additional problems: (2 hrs.)</li> <li>- 2 monthly exams (4 hrs.)</li> </ul>
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<b>Learning and Teaching Strategies</b> استراتيجيات التعلم والتعليم	
<b>Strategies</b>	<ul style="list-style-type: none"> <li>• Blended learning: include providing interactive tablets or whiteboards with engaging activities and posting classwork online for easier access.</li> <li>• Cooperative learning: include solving questions together, performing skits as a team or working on group presentations.</li> <li>• Formative assessment: include self-evaluation exercises and summarizing a topic in multiple ways.</li> <li>• Behavior management: include establishing a reward system with an interactive chart where students move up or down depending on their performance and behavior in class.</li> </ul>

<b>Student Workload (SWL)</b> الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	63	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعيا	4
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.4
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	<b>125</b>		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10
	Assignments	2	10% (10)	4 and 11	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	2	10% (10)	6 and 13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr/2	10% (10)	9 and 14	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Surveying and Geomatics Engineering
Week 2	Continue: Introduction to Surveying and Geomatics Engineering
Week 3	Units of Measurement
Week 4	Continue: Units of Measurement (i.e., solving problems)
Week 5	Map Elements
Week 6	Continue: Map Elements (i.e., solving problems)
Week 7	Distance Measurement
Week 8	Continue: Distance Measurement (i.e., solving problems)
Week 9	Monthly Exam 1
Week 10	Levelling
Week 11	Continue: Levelling (i.e., solving problems)
Week 12	Some Types of Levelling
Week 13	Continue: Some Types of Levelling (i.e., solving problems)
Week 14	Monthly Exam 2
Week 15	Solving additional problems
Week 16	Preparatory week before the final Exam

<b>Delivery Plan (Weekly Lab. Syllabus)</b> المنهاج الاسبوعي للمختبر	
	Material Covered
<b>Week 1 and 2</b>	Lab 1: Tape Measurement
<b>Week 3 and 4</b>	Lab 2: Level Instrument
<b>Week 5 and 6</b>	Lab 3: Applications on Level Instrument
<b>Week 7 and 8</b>	Lab 4: Applications on Level Instrument2
<b>Week 9 and 10</b>	Lab 5: Electronic Level Instrument
<b>Week 11 and 12</b>	Lab 6: Applications on Electronic Level Instrument
<b>Week 13 and 14</b>	Lab 7: Reports
<b>Week 15</b>	Lab 8: Exam

<b>Learning and Teaching Resources</b> مصادر التعلم والتدريس		
	Text	Available in the Library?
<b>Required Texts</b>	Elementary Surveying An Introduction to Geomatics Thirteenth Edition CHARLES D. GHILANI, PAUL R. WOLF	Yes
<b>Recommended Texts</b>	Surveying for engineers 5th edition John Uren, Bill Price.	No
<b>Websites</b>		

<b>Grading Scheme</b> مخطط الدرجات				
Group	Grade	التقدير	Marks %	Definition
<b>Success Group (50 - 100)</b>	<b>A - Excellent</b>	امتياز	90 - 100	Outstanding Performance
	<b>B - Very Good</b>	جيد جدا	80 - 89	Above average with some errors
	<b>C - Good</b>	جيد	70 - 79	Sound work with notable errors
	<b>D - Satisfactory</b>	متوسط	60 - 69	Fair but with major shortcomings
	<b>E - Sufficient</b>	مقبول	50 - 59	Work meets minimum criteria

<b>Fail Group (0 – 49)</b>	<b>FX – Fail</b>	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	<b>F – Fail</b>	راسب	(0-44)	Considerable amount of work required

**Note:** Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.