

<b>Module Information</b> معلومات المادة الدراسية				
<b>Module Title</b>	<b>Applied Survey 1</b>		<b>Module Delivery</b>	
<b>Module Type</b>	<b>Core</b>		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input checked="" type="checkbox"/> Practical <input type="checkbox"/> Seminar	
<b>Module Code</b>	<b>UOMU0203034</b>			
<b>ECTS Credits</b>	<b>5</b>			
<b>SWL (hr/sem)</b>	<b>180</b>			
<b>Module Level</b>	UGII	<b>Semester of Delivery</b>		3
<b>Administering Department</b>	Technical building and Construction	<b>College</b>	Al-Mustaqbal university	
<b>Module Leader</b>			<b>e-mail</b>	
<b>Module Leader's Acad. Title</b>			<b>Module Leader's Qualification</b>	
<b>Module Tutor</b>	None		<b>e-mail</b>	E-mail
<b>Peer Reviewer Name</b>			<b>e-mail</b>	
<b>Scientific Committee Approval Date</b>			<b>Version Number</b>	1.0

<b>Relation with other Modules</b> العلاقة مع المواد الدراسية الأخرى			
<b>Prerequisite module</b>	Plane surveying	<b>Semester</b>	
<b>Co-requisites module</b>	Applied surveying 1	<b>Semester</b>	

<b>Module Aims, Learning Outcomes and Indicative Contents</b> أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
<b>Module Aims</b>	<ol style="list-style-type: none"> <li>1. Levelling: The students should be able to make a levelling Survey and calculate the results relative to some chosen datum.</li> <li>2. Longitudinal Sections: The students should be able to make a levelling survey along a predetermined line set out on the ground. Process the data and draw longitudinal sections and cross sections from the results.</li> <li>3. Measuring angle: The students should be able to:               <ol style="list-style-type: none"> <li>a- Select the most appropriate method of measuring horizontal and vertical angles.</li> <li>b- Measuring and record these angles and determine their most probable values.</li> </ol> </li> </ol>

	<p>c- Understand the errors that affect angle measurement and minimize their effects.</p> <p>d- <b>Measuring corrected coordinates of points and setting out of different lands.</b></p>
<p><b>Module Learning Outcomes</b></p>	<p>The student will be able to:</p> <ol style="list-style-type: none"> <li>1. An ability to apply knowledge of mathematics, science, and engineering.</li> <li>2. The students should be able to make a levelling Survey and calculate the results relative to some chosen datum.</li> <li>3. The students should be able to make a levelling survey along a predetermined line set out on the ground. Process the data and draw longitudinal sections and cross sections from the results.</li> <li>4. The students should be able to: <ol style="list-style-type: none"> <li>a. Select the most appropriate method of measuring horizontal and vertical angles.</li> <li>b. Measuring and record these angles and determine their most probable values.</li> <li>c. Understand the errors that affect angle measurement and minimize their effects.</li> <li>d. <b>Measuring corrected coordinates of points and setting out of different lands.</b></li> </ol> </li> <li>5. The students should be able to compute the quantities of cut and fill in any kind of sections for Roads</li> <li>6. An ability to communicate effectively</li> <li>7. Skills of using Level Instrument efficiently</li> <li>8. Skills of using theodolite efficiently</li> <li>9. <b>Skills of using Total Station Instrument efficiently</b></li> <li>10. Skills of design longitudinal and cross sections of any kind of Roads</li> <li>11. Using survey instruments effectively</li> <li>12. Critical Thinking</li> <li>13. Analytical methods in solving problems</li> <li>14. Setting out different kind of curves for Roads, Railway and other works.</li> </ol>
<p><b>Indicative Contents</b></p>	<p>Theodolites , Principle of construction [ 2 hrs.]</p> <p>Measuring Horizontal angles [ 2 hrs.]</p> <p>Measuring angles in vertical plane [ 2 hrs.]</p> <p>Directions , Whole circle bearing , Reduce Bearing [ 2 hrs.]</p> <p>Traverse Surveys , Bearings , forward &amp; Back bearing [ 2 hrs.]</p> <p>Close circle traverse, coordinates calculations [ 2 hrs.]</p> <p>Close connected traverse , coordinates calculations [ 2 hrs.]</p> <p>Tacheometry , stadia tacheometry , Inclined sights [ 2 hrs.]</p> <p>Electromagnetic distance measurement( EDM), basic concept, systems [ 2 hrs.]</p>

	<p>Total station, Field Techniques, point location, missing line measurements [ 2 hrs.]</p> <p>Resection , Azimuth, elevation , Layout Positions and area computation [ 2 hrs.]</p> <p>Motorized Total stations, Automatic ,remote control, computerized [ 2 hrs.]</p> <p>Horizontal Curves , Kinds , computations [ 2 hrs.]</p>
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### Learning and Teaching Strategies

#### استراتيجيات التعلم والتعليم

<b>Strategies</b>	<p>Assessment is based on</p> <ol style="list-style-type: none"> <li>1. Exams.</li> <li>2. Student feedback.</li> </ol>
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### Student Workload (SWL)

#### الحمل الدراسي للطالب

<b>Structured SWL (h/sem)</b>	102	<b>Structured SWL (h/w)</b>	7
<b>Unstructured SWL (h/sem)</b>	78	<b>Unstructured SWL (h/w)</b>	5
<b>Total SWL (h/sem)</b>	180		

### Module Evaluation

#### تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	4	20% (20)	3,5,6,10	
	<b>Assignments</b>	2	10% (10)	7, 8	
	<b>Seminar</b>	1	10% (10)	11	
<b>Summative assessment</b>	<b>Midterm Exam</b>	2 hr	10% (10)	12	
	<b>Final Exam</b>	3hr	50% (50)	16	
<b>Total assessment</b>			100% (100 Marks)		

### Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري محتوى كل اسبوع يجب ان يغطي الوقت المحدد

	Material Covered
Week 1	Theodolites , Principle of construction
Week 2	Measuring Horizontal angles , <b>Measuring angles in vertical plane</b>
Week 3	Directions , Whole circle bearing , Reduce Bearing
Week 4	Traverse Surveys , Bearings , forward & Back bearing
Week 5	Close circle traverse, coordinates calculations
Week 6	Close connected traverse , coordinates calculations
Week 7	Tacheometry , stadia tacheometry , Inclined sights
Week 8	Electromagnetic distance measurement( EDM), basic concept, systems
Week 9	Total station, Field Techniques, point location, missing line measurements
Week 10	Resection , Azimuth, elevation , Layout Positions and area computation , <b>Motorized Total stations, Automatic ,remote control, computerized</b>
Week 11	Horizontal Curves , Kinds , computations
Week 12	Horizontal Curves , Kinds , computations
Week 13	<b>Setting out of horizontal curves.</b>
Week 14	<b>Setting out of horizontal curves</b>
Week 15	Preparing to final exam

### Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Measuring horizontal & vertical angles by using different kinds of theodolites.
Week 2	Construct close connected & close circle traverses to survey small area.
Week 3	Computations of the coordinates of stations traverse & plotting a traverse , Problems in inverse computation.
Week 4	Measuring H. distances & vertical distances by using tachometer .
Week 5	<b>Measuring slope , Horizontal &amp; vertical distances, Resection , Azimuth, elevation , Layout Positions and motorized Total stations, Automatic ,remote control, computerized and by using Total station instrument.</b>
Week 6	Measuring area by using total station , Solve problems , Standard deviation.
Week 7	Setting out curves & calculation , Curves field work surveying.

## Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
<b>Required Texts</b>	1. Surveying for construction / William Irvine , FRICS. 2. Text book of surveying / S.K. Husain , M.S. Naga. Raj. 3. Elements of photogrammetry / Wolf , Pual R. 4. المساحة المستوية / د. فوزي الخالصي 5. المساحة المستوية والمائية / د. علي شكري	
<b>Recommended Texts</b>		
<b>Websites</b>		

## Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
<b>Success Group (50 - 100)</b>	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
<b>Fail Group (0 - 49)</b>	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	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.