

## Course Description Form

1. Course Name:
Surveying
2. Course Code:
SURV120
3. Semester / Year:
Spring semester / 2023-2024
4. Description Preparation Date:
1 / 2 / 2024
5. Available Attendance Forms:
Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
The total number of hours is 75 hours 2 Theoretical + 3 practical / 3.5 units
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Karam Ali Younus ALtaee Email: karam.youns@uomosul.edu.iq Name: Hamed Muhammad Ibrahim

### 8. Course Objectives

<p>theoretical:</p> <ul style="list-style-type: none"> <li>- Developing the student's ability to deal with scientific and technical means</li> <li>- Developing the student's ability to deal with the Internet</li> <li>- Developing the student's ability to deal with multiple media.</li> <li>- Developing the student's ability to dialogue and discuss</li> </ul> <p>Developing the student's ability to deal economically in the field the job.</p>	<p>Practical :</p> <ul style="list-style-type: none"> <li>-Developing the student's ability to deal with multiple media.</li> <li>- Developing the student's ability to dialogue and discuss</li> </ul>
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### 9. Teaching and Learning Strategies

Strategy	<ul style="list-style-type: none"> <li>-Interactive lecture, Brainstorming,</li> <li>- Dialogue and discussion,</li> <li>- Assigning tasks and reporting</li> <li>- Assigning group work to reveal leadership skills</li> </ul>
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### 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2 theoretical 3 practical	<p>theoretical:</p> <p>a1: A historical overview of surveying (the science of surveying is known - what are types of surveying, surveying, and units measurement)</p> <p>practical :</p> <p>a9: Explains (settlement balance)</p> <p>a10: Explains (leveling screws)</p>	<p>theoretical: : space and its importance</p> <p>practical : Identify surveying devices</p>	<p>theoretical : -Auditory methods, -Style of writing on The blackboard. -Direct dialogue</p>	Exams, Homework, Reports



		a11: Explains (the pillar) a12: Understand (endoscope)		style Practical : Assigning tasks and reports	
2	2 theoretical 3 practical	theoretical: a2: Familiar with drawing standards, their types, methods of using them practical : b4: apply (use tape) b5: Use (the measuring wheel) b6: Explains (the use of signs)	Theoretical: drawing scales practical : Tools for direct measuring distances	Theory : -Auditory methods, -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
3	2 theoretical 3 practical	theoretical: c1: Calculates (methods for estimating the lengths of distances - sources of measured distances, direct measurement methods) practical a13: Explains (the use of signs): Explains (the use of signs) a14: Explains (the use of arrows) a15: Explains the use of wedges	theoretical:  Direct measurement distances practical : Direct measuring tools accessories	theoretical : -Auditory methods, -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
4	2 theoretical 3 practical	theoretical: b1: The measurement of distances is applied (what are the types of measuring chain and tape - mention the accessories for direct measurement with the chain or tape)  practical : a16: Concerned with (measuring horizontal distance on flat land)	theoretical: Metal chain and ribbon practical : Measuring horizontal distances	theoretical : -Auditory methods, -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
5	2 theoretical 3 practical	theoretical: c2: Calculates (measuring horizontal distances on land) practical : b7: Contributes to the application of measuring horizontal distance on inclined lands (terraces).	theoretical: Measuring horizontal distances practical : Measuring horizontal distances on	theoretical : -Auditory methods, -Style of writing on The blackboard. -Direct	Exams, Homework, Reports

			sloping terrain	dialogue style Practical : Assigning tasks and reports	
6	2 theoretical 3 practical	theoretical: c3: Calculate the horizontal distance on sloping terrain (angle method – terrace method - right triangle method) practical : b8: Measures (an obstacle that prevents monitoring but does not prevent measurement (ground elevation))	theoretical: Measuring horizontal distances on sloping terrain practical : Measure distances across obstacles	theoretical : -Auditory methods, -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
7	2 theoretical 3 practical	theoretical: a7: Describes (what are its sources, number of types, mention its treatments) practical : b9: measures (an obstacle that prevents measurement, does not prevent monitoring, and cannot be circumvented (river, watercourse))	Theoretical: accuracy and error measuring distances practical : Measure distances across obstacles	theoretical : -Auditory methods, -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
8	2 theoretical 3 practical	theoretical: a5: Explains (an obstacle that prevents monitoring does not prevent measurement (ground elevation) - obstacle that prevents measurement but does not prevent monitoring and can be circumvented (the wide hole, small lakes – the edges of large lakes and ponds)) practical : b10: measures (an obstacle that prevents measurement and monitoring and can be circumvented (rock, lake))	theoretical: Measure distances across obstacles practical : Measure distances across obstacles	theoretical : -Auditory methods, -Style of writing on The blackboard. -Direct dialogue style Practical : Assigning tasks and reports	Exams, Homework, Reports
9	2 theoretical 3 practical	theoretical: a6: Explains (an obstacle that prevents measurement does not prevent monitoring, and cannot be circumvented (river, watercourse, trenches) - obstacle that prevents measurement and prevents monitoring (building, protruding rock))	theoretical: Measuring distances across obstacles practical : Chain scanning	theoretical : -Auditory methods, -Style of writing on The	Exams, Homework, Reports



		<p>practical</p> <p>a17: Explains (exploring the area)</p> <p>a18: Explains (selection of stations)</p> <p>b11: applied (marking stations)</p> <p>b12: Apply to use (measure distances)</p>	steps	<p>blackboard.</p> <p>-Direct dialogue style</p> <p>Practical : Assigning tasks and reports</p>	
10	2 theoretical 3 practical	<p>theoretical:</p> <p>a7: Describes (control and investigation lines, survey steps, field notebook)</p> <p>practical :</p> <p>a19: Identify (a diagram of the survey lines and the name of the site)</p> <p>a20: Verify (date of field work carried out)</p> <p>a21: Write (the names of the field work team)</p>	<p>theoretical:</p> <p>Chain scanning</p> <p>practical :</p> <p>Contents of the field notebook</p>	<p>theoretical :</p> <p>-Auditory methods,</p> <p>-Style of writing on The blackboard.</p> <p>-Direct dialogue style</p> <p>Practical : Assigning tasks and reports</p>	Exams, Homework, Reports
11	2 theoretical 3 practical	<p>theoretical:</p> <p>b2: I implement (series mapping methods – a scientific visit to the Department of Roads Bridges)</p> <p>practical:</p> <p>b13: Draw (straight boundaries with no obstacles within the space)</p> <p>b14: Draw (straight boundaries with an obstacle inside the space)</p> <p>b15: Draw (non-straight boundaries with no obstacles within the space)</p> <p>b16: Draw (non-straight boundaries with an obstacle inside the space)</p>	<p>theoretical:</p> <p>Chain scanning</p> <p>practical :</p> <p>Chain scanning methods</p>	<p>theoretical :</p> <p>-Auditory methods,</p> <p>-Style of writing on The blackboard.</p> <p>-Direct dialogue style</p> <p>Practical : Assigning tasks and reports</p>	Exams, Homework, Reports
12	2 theoretical 3 practical	<p>theoretical:</p> <p>c4: It works (the basis of measurement, what are the optical devices)</p> <p>practical:</p> <p>a22: Learn (the board and the triple rule )</p> <p>a23: Learn (orientation ruler and drawing board)</p> <p>a24: Rivet (leveling bubble and scale ruler)</p>	<p>theoretical:</p> <p>Indirect measurement distances</p> <p>practical :</p> <p>Plane plate parts</p>	<p>theoretical :</p> <p>-Auditory methods,</p> <p>-Style of writing on The blackboard.</p> <p>-Direct dialogue style</p> <p>Practical : Assigning tasks and reports</p>	Exams, Homework, Reports
13	2 theoretical 3 practical	<p>theoretical:</p> <p>c5: implements (measurement basis, electronic devices)</p>	<p>theoretical:</p> <p>Indirect measurement</p>	<p>theoretical :</p> <p>-Auditory methods,</p>	Exams, Homework, Reports

		<p>practical :</p> <p>c1: applied (use tachometer)</p> <p>c2: The use of (theodolite) is applied.</p>	<p>distances</p> <p>practical : Indirect measuring devices and tools</p>	<p>-Style of writing on The blackboard.</p> <p>-Direct dialogue style</p> <p>Practical : Assigning tasks and reports</p>	
14	2 theoretical 3 practical	<p>theoretical: a8: Identify (definitions of leveling devices, uses of leveling devices)</p> <p>practical : a25: Learn (an error in the length of the instrument failure to adjust the measurement times)</p> <p>a26: Identify (non-straightness of the measuring line and non-straightness of the measuring tool)</p> <p>a27: It records (an error in recording data, a difference in the intensity of pulling or tightening the measuring instrument, and a difference in temperature)</p>	<p>theoretical: Settlement</p> <p>practical : Some sources of errors when measuring</p>	<p>theoretical : -Auditory methods,</p> <p>-Style of writing on The blackboard.</p> <p>-Direct dialogue style</p> <p>Practical : Assigning tasks and reports</p>	Exams, Homework, Reports
15	2 theoretical 3 practical	<p>theoretical: b3: Apply (methods for calculating levels)</p> <p>practical : b17: Applies (field visits to some state agricultural departments, such as Nineveh Agriculture, to learn about their surveying tools and benefit from some recent experiences about field measurements and the obstacles they suffer from)</p>	<p>theoretical: Settlement</p> <p>practical : Field and field visits</p>	<p>theoretical : -Auditory methods,</p> <p>-Style of writing on The blackboard.</p> <p>-Direct dialogue style</p> <p>Practical : Assigning tasks and reports</p>	Exams, Homework, Reports

#### 11. Course Evaluation

Evaluation Methods	Evaluation Date	Degree	Relative weight %
Final report theoretical + pract. Report	theoretical 15 weeks Pract. 1-15 week	7 theoretical + 6 pract.	% 13
Short exam (1)	Week (3)	4 theoretical + 2 pract.	% 6
Half exam (theoretical + pract.)	Week (9)	10 theoretical + 5 pract.	% 15
Short exam (2)	Week (12)	4 theoretical + 2 pract.	% 6
Final exam (practical)	Exam pract.	20	% 20
Final exam (theoretical)	Exam theoretical	40	% 40
		100	% 100

#### 12. Learning and Teaching Resources



Required textbooks (curricular books, if any)	Book on the foundations of plane space and topography. Riad Al-Khafaf
Main references (sources)	Books related to flat space
Recommended books and references (scientific journals, reports...)	All sites related to space and topography

Theoretical subject teacher: Dr. Name: Dr. Karam Ali Younus ALtaee

Practical subject teacher: M.M. Hamed Muhammad Ibrahim

Chairman of the Scientific Committee: Dr. Arkan Muhammad Amin Siddiq

Head of Agricultural Machinery and Machinery Department: A. M . Dr. Nofal Muhaimid

