

Course Description Form

1. Course Name:	
Alteration and Leveling of land	
2. Course Code:	
ALLA236	
3. Semester / Year:	
first Semester / 2024-2025	
4. Description Preparation Date:	
1 / 2 / 2025	
5. Available Attendance Forms:	
Attendance + online	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 Theory + 3 practical / 3.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Haees Sayel Jarjes Email: haees_sayel@uomosul.edu.iq	
8. Course Objectives	
<p>Theory :</p> <p>Preparing agricultural cadres capable of dealing with the problems of land settlement and modification, especially the problems resulting from meanders, undulations, rise and fall, digging and backfilling</p> <p>Preparing qualified agricultural cadres to use scientific programs that contribute to removing inert materials from their roots, because their presence negatively affects the construction work subsequent to the leveling process, as the presence of these materials or backfilling on top of them leads to the lack of the filled surface after a period of time</p> <p>3- Follow up on the performance of graduates in fields and lands and the extent to which graduates' specifications match the needs of projects and the extent of implementation and application of what has been studied in the field of work.</p>	<p>Practical :</p> <p>Enabling the student to practically address the problems of land settlement and modification</p> <p>Preparing qualified cadres to use scientific programs and following up on the performance of graduates in fields and lands and the extent to which graduates' specifications match the needs of projects and the extent of implementing and applying what has been studied in the field of work</p>
9. Teaching and Learning Strategies	
Strategy	<ul style="list-style-type: none"> -Interactive lecture -Brainstorming -Dialogue and discussion - Assigning tasks and reporting
10. Course Structure	



Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theory 3 Pract.	Theory: a1 Learns about concept of settlement : land modification - w is the level - number north point - ot definitions. Practical: a11 Familiar with general definitions, including normalization - method for finding relative relationships between heights of different points	Theory: The concept of settlement and adjustment - settlement tables practical : General definitions include normalization - methods for finding relative relationships between the heights of different points	Theory : In-person lectures Practical : In-person lectures with field visits	Discussions and interaction in the lecture and a short test
2	2Theory 3 Pract	Theory: A2 is familiar with drawing natural longitudinal sections practical : b3 Apply how to find levels using the sight line height method	Theory: Drawing natural longitudinal sections practical : Finding levels using height of sight line	Theory : In-person lectures Practical : In-person lectures with field visits	Quotes and interaction in the lecture Short test
3	2Theory 3 Pract	Theory: a 4 Learn about drawing design longitudinal sections practical: b4 Apply how to find levels using the rise and fall method	Theory: Drawing design longitudinal sections practical : Finding levels using method of rise and fall	Theory : In-person lectures Practical : In-person lectures with field visits	Short test Direct drawing
4	2Theory 3 Pract	Theory: c1 Backfill is calculated from longitudinal sections practical : c4 Draw normal longitudinal sections	Theory: Methods of calculating excavation and backfill from longitudinal sections practical : Drawing natural longitudinal sections	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Field evaluation Direct drawing
5	2Theory 3 Pract	Theory: a6,c2 Identify cross sections and calculate earthworks practical : C5 draws the design longitudinal sections	Theory: Cross sections and earthwork calculations practical : Drawing design longitudinal sections	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Short test Direct drawing



6	2Theory 3 Pract	Theory: a 6 Understands what grid settlement is practical : c6 Calculates excavation and backfilling from longitudinal sections	Theory: Soil building practical : Estimation of calcium carbonate in the soil	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Short test Direct drawing
7	2Theory 3 Pract	Theory: a 7 compares the first and second cases of grid regularization practical : C7 Draws cross-section and methods of earthwork calculations therein	Theory: soil temperature practical : determination carbonates bicarbonates in the soil	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Short test Direct drawing
8	2Theory 3 Pract	Theory: a9 Explains grid leveling the second case, the triangle method and the third case practical : C8 applies the square method in grid leveling	Theory: Grid settlement - the second case is the triangle method - the third case excavation and backfilling at the same time practical : The method of squares grid leveling	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Short test Direct drawing
9	2Theory 3 Pract	Theory: a3 Determines the contour lines - the contour interval - the factors on which the choice of the contour interval depends - the specifications of the contour lines practical : a11 Learn about grid leveling - the second case the triangle method - contour lines	Theory: Contour lines - the contour interval - the factors on which the choice of the contour interval depends - specifications of the contour lines Grid leveling - the second case, the method triangles - contour lines	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Short test Direct drawing
10	2Theory 3 Pract	Theory: b1 will work and draw the contour lines in the direct way practical : a12 Familiarizes with the specifications of contour lines	Theory: Preparing contour map first the direct method practical : Specifications of contour lines	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Short test Direct drawing

11	2Theory 3 Pract	Theory: b2 is used and draws contour lines indirectly practical : d1 means preparing contour lines - the direct method	Theory: Preparing contour map second, the indirect method practical : Preparing contour line the direct method	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Short test Direct drawing
12	2Theory 3 Pract	Theory: a8 It is suggested to prepare contour lines practical : d2 is used to prepare contour lines - indirect method	Theory: Filling contour lines practical : Preparation of contour lines - indirect method	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Short test Direct drawing
13	2Theory 3 Pract	Theory: e1 justifies padding of contour lines practical : b5 Applies the Contour Lines - Fill Contour Lines setting	Theory: Uses and benefits of contour lines practical : Setting up contour line filling contour lines	Theory : In-person lectures with field visits Practical : In-person lecture with field visits	Short test Direct drawing
14	2Theory 3 Pract	Theory: c3 Draw contour maps practical : d3,b6 uses and applies contour lines	Theory: Contour mapping with homogeneous gradients Calculating normalization from contour lines Practical:: Applications and uses of contour lines practical :	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Short test Direct drawing
15	2Theory 3 Pract	Theory: A10 Learn how to evacuate lands for the purposes of settlement work practical : a13 Learn about leveling and adjustment equipment - bulldozers scrapers - graders - graders	Theory: Evacuating lands for the purposes of leveling and leveling - leveling and leveling equipment - bulldozers - scrapers - graders - graders Practical: Leveling and adjustment equipment - bulldozers scrapers - graders - graders practical :	Theory : In-person lectures with field visits Practical : In-person lectures with field visits	Semester exam final exam

11. Course Evaluation

Evaluation Methods	Evaluation Date	Degree	Relative weight %
Final report theory + pract. Report	Theory 15 weeks Pract. 1-15 week	7 Theory + 6 pract.	% 13
Short exam (1)	Week (3)	4 Theory + 2 pract.	% 6



Half exam (theory + pract.)	Week (9)	10 Theory + 5 pract.	% 15
Short exam (2)	Week (12)	4 Theory + 2 pract.	% 6
Final exam (practical)	Exam pract.	20	% 20
Final exam (theory)	Exam theory	40	% 40
		100	% 100

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Book (Soil Science) Dr. Abdullah Al-Aani
Recommended books and references (scientific journals, reports...)	Book (Environmental chemistry of Soil) and (Soil Chemistry)
Electronic References, Websites	Sposito, G. (2008). The chemistry of soil. Oxf University Press



مدرس المادة النظري : د. هاني صايل جرجيس

مدرس المادة العملي : م.م. حامد ابراهيم

جامعة الموصل
كلية الزراعة والغابات
المكائن والآلات الزراعية
رئيس قسم المكائن والآلات الزراعية

أ.م. نوفل عيسى محييد




رئيس اللجنة العلمية
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