Course Description Form

1. Course Name:
Alteration and Leveling of land
2. Course Code:
ALLA236
3. Semester / Year:
first Semester / 2023-2024
4. Description Preparation Date:
1 / 4 / 2024
5. Available Attendance Forms:
Attendance
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

Theory :	Practical :
eparing agricultural cadres capable of dealing - h the problems of land settlement and dification, especially the problems resulting m meanders, undulations, rise and fall, digging d backfilling eparing qualified agricultural cadres to use -2 entific programs that contribute to removing nt materials from their roots, because their sence negatively affects the construction work osequent to the leveling process, as the presence hese materials or backfilling on top of them ds to the lack of the filled surface after a period time 3- Follow up on the performance of graduates fields and lands and the extent to which graduat specifications match the needs of projects and extent of implementation and application of w has been studied in the field of work.	**abling the student to practically address the blems of land settlement and modification** **Preparing qualified cadres to use scient programs and following up on the performance graduates in fields and lands and the extent which graduates' specifications match the needs projects and the extent of implementing applying what has been studied in the field of wo**

9. Teaching and Learning Strategies

Strategy	-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 a land modification - w is the level - numbe north point - ot definitions. Practical: a11 Familiar with gene definitions, includ normalization - meth for finding relat relationships between heights of different poi	Theory: The concept of settleme 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 sho 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 lectu with field visits	Quotes and interaction in th lecture Short test
3	2Theory 3 Pract	Theory: a 4 Learn about drawir design longitudinal sections practical: b4 Apply how to find levels using the rise an 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 secti practical : c4 Draw normal longitudinal sections	Theory: Methods of calculating excavation and backfilli from longitudinal sectio 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 excavatio 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	rt test Direct drawing
7	2Theory 3 Pract	Theory: a 7 compares the first a second cases of grid regularization practical : C7 Draws cross-sectior 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 levelir the second case, the triangle method and th third case practical : C8 applies the square method in grid leveling	Theory: Grid settlement - the second case is the trian method - the third case excavation and backfilli 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: a3Determines 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 ca 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 secor practical : 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 t specifications of contou lines	Theory: Preparing contour map first the direct method practical : Specifications of cont 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 prepar contour lines - the dir 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 pa contour lines practical : d2 is used to prep contour lines - indirect method	Theory: Filling contour lines practical : Preparation of cont 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 Lin 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 normalizati from contour lines Practical:: Applications and uses 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 leveli and adjustment equipment - bulldozers scrapers - graders - graders	Theory: Evacuating lands for the purposes of leveling an leveling - leveling and leveling equipment - bulldozers - scrapers - graders - graders Practical: Leveling and adjustmen 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. Abduallah 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. هايس صايل جرجيس

مدرس المادة العملي : م.م. حامد ابراهيم

رئيس اللجنة العلمية
أ.د. أركان محمدأمين صديق

رئيس قسم المكائن والآلات الزراعية
أ.م.نوفل عيسى محيميد