Course Description Form Lands Levelling and Grading

1. Course Name:
Leveling and Grading
2. Course Code:
LALG216
3. Semester / Year:
Second Semester/ 2024-2025
4. Description Preparation Date:
15/01/2025
5. Available Attendance Forms:
Full time (theoretical lecture and practical lecture) weekly
6. Number of Credit Hours (Total) / Number of Units (Total)
5 hours (2 hours theoretical and 3 hours practical per week) for 14 weeks, number of units 3.5 units
7. Course administrator's name (mention all, if more than one name)
Name: Aidel Kadum Jassim Al-shamary Email: adelkadumalshamary@uodiyala.edu.iq
8. Course Objective

Course Objectives	Getting to know the concept of leveling, the scientific foundations, the equipment used for the leveling process and contour lines, how to calculate the volumes of earthworks resulting from leveling and adjustment operations, and the use of modern technologies in leveling and adjustment work

9. Teaching and Learning Strategies

Strategy	In-person lectures for 15 weeks, including two monthly exams and daily exams.

10. Course Structure

The theoretical part					
Week	**Hours**	**Required Learning Outcome**	**Unite or Subject Name**	**Learning Method**	**Evaluation Method**
1	2	Definition of settlement and basic terms used	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
2	2	Devices used in the settlement and adjustment process	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
3	2	Methods of calculating levels	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
4	2	Semester first exam	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
5	2	Longitudinal sections	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
6	2	Sequential settlement	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
7	2	Cross sections	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
8	2	Sources of error in settlement and mutual settlement work	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
9	2	Contour lines, the contour interval, their specifications, and the direct method for preparing contour lines	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
10	2	The indirect method of preparing contour lines	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
11	2	Volumes, their shapes, and methods of calculating volumes from longitudinal and cross-sections	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
12	2	Calculating volumes from the levels of grid	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports

		settlement points			
13	2	Calculating volumes from contour lines	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
14	2	Laser leveling	Levelling and Grading	Dialogue & discussion Brainstorming	Daily, monthly and final exams and daily reports
Practical part					
Week	**Hours**	**Required Learning Outcome**	**Unite or Subject Name**	**Learning Method**	**Evaluation Method**
1	3	Identify the leveling devices	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
2	3	Practical use of the leveling device	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
3	3	A practical application for calculating	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
4	3	a point level using a leveling device	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
5	3	Extracting several levels of	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
6	3	sequential settlement points	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
7	3	How to use the leveling device to	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
8	3	calculate excavation and backfilling for longitudinal sections	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
9	3	How to use the leveling device to	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
10	3	calculate	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
11	3	Excavation and backfilling of cross	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
12	3	sections	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports

13	3	Exercises and problems for	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports
14	3	preparing settlement tables	Levelling and Grading	Observation Dialogue & discussion	Daily, monthly and final exams and daily reports

11. Course Evaluation

Exams
Daily exams and discussion questions within the lecture
The degree of participation in questions related to the academic subject

12. Learning and Teaching Resources

Required Textbook (curricular books, if any)	1- Riyad Saleh Al-Khafaf. Foundations of plane space and topography. 2000
Mean references (sources)	Soil Survey Laboratory method manual, 2004. Soil survey Investigation report. No. 42, version 4.0, USDA.
Recommended books and references (scientific journals, reports…)	Iraqi academic Journal
Electronic references, Websites	Soil Science Society of America Library Genesis