**Soil Mechanics 2   
Course Description Form**

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| 1. Course Name: | | | | | | | | |
| Soil Mechanics 2 | | | | | | | | |
| 1. Course Code: | | | | | | | | |
| CE3103 | | | | | | | | |
| 1. Semester / Year: | | | | | | | | |
| Second semester / Third year | | | | | | | | |
| 1. Description Preparation Date: | | | | | | | | |
| 1/10/2024 | | | | | | | | |
| 1. Available Attendance Forms: | | | | | | | | |
| In class | | | | | | | | |
| 1. Number of Credit Hours (Total) / Number of Units (Total) | | | | | | | | |
| The. 2 hr Pract. 2 hr Tut.1 hr / 3 Units | | | | | | | | |
| 1. Course administrator's name (mention all, if more than one name) | | | | | | | | |
| Name: Dr. Lubna Abdulrahman Khdier  Email: lubna.abddulrahman@muc.edu.iq | | | | | | | | |
| 1. Course Objectives | | | | | | | | |
| **Course Objectives** | | | | 1. Understand the stress-strain relationships in soils under drained and undrained conditions. 2. Examine the behavior of pore water pressure in undrained soil conditions. 3. Analyze the consolidation process and its effects on settlement in soil structures. 4. Study the shear strength of soils and its application in geotechnical design. 5. Develop an understanding of soil mechanics for both short-term (undrained) and long-term (drained) conditions. | | | | |
| 1. Teaching and Learning Strategies | | | | | | | | |
| **Strategy** | | To provide students with a thorough understanding of soil behavior under various loading conditions, enabling them to apply these concepts in geotechnical design and problem-solving, focusing on stress-strain behavior, consolidation, and shear strength. | | | | | | |
| 1. Course Structure | | | | | | | | |
| **Week** | **Hours** | | **Required Learning Outcomes** | | **Unit or subject name** | | **Learning method** | **Evaluation method** |
|  | 5 | | 1. Describe stress-strain relationships for soils under different drainage condition | | Stress- Strain Relation | | 1. Interactive Learning 2. Experimental Learning 3. Collaborative Learning 4. Technology-enhanced 5. Learning Problem-based Learning | Several Ways (Exams + Assignments) |
|  | 5 | | Stress- Strain Relation | | Several Ways (Exams + Assignments) |
|  | 5 | | Stress- Strain Relation | | Several Ways (Exams + Assignments) |
|  | 5 | | Analyze undrained pore water pressure and its implications in soil stability. | | Undrained Pore Water Pressure | | Several Ways (Exams + Assignments) |
|  | 5 | | Undrained Pore Water Pressure | | Several Ways (Exams + Assignments) |
|  | 5 | | Evaluate consolidation processes and calculate soil settlement. | | Consolidation and Settlement | | Several Ways (Exams + Assignments) |
|  | 5 | | Consolidation and Settlement | | Several Ways (Exams + Assignments) |
|  | 5 | | Consolidation and Settlement | | Several Ways (Exams + Assignments) |
|  | 5 | | Determine shear strength parameters and apply them in geotechnical engineering designs. | | Shear Strength | | Several Ways (Exams + Assignments) |
|  | 5 | | Shear Strength | | Several Ways (Exams + Assignments) |
|  | 5 | | Shear Strength | | Several Ways (Exams + Assignments) |
|  | 5 | | Differentiate between drained and undrained soil behavior and assess their stress-strain relationships. | | Stress-Strain Relationship for Drained and Undrained Soil | | Several Ways (Exams + Assignments) |
|  | 5 | | Several Ways (Exams + Assignments) |
|  | 5 | | Several Ways (Exams + Assignments) |
|  | 5 | | Several Ways (Exams + Assignments) |
| 1. Course Evaluation | | | | | | | | |
| 1. Final Exam: 50% 2. Monthly Exams: 20% 3. Reports and Assignments: 15% 4. Attendance and Daily Participation: 10% 5. Oral Evaluation: 5% | | | | | | | | |
| 1. Learning and Teaching Resources | | | | | | | | |
| Required textbooks (curricular books, if any) | | | | | | PRINCIPLES OF GEOTECHNICAL ENGINEERING Das, Braja M | | |
| Main references (sources) | | | | | | Soil Mehanics  T. William **Lambe**, Robert V. Whitman | | |
| Recommended books and references (scientific journals, reports...) | | | | | |  | | |
| Electronic References, Websites | | | | | |  | | |