# SOIL MECHANICS I

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| **1** | Course Title: | SOIL MECHANICS I | |
| **2** | Course Code: | INTZ205 | |
| **3** | Type of Course: | Compulsory | |
| **4** | Level of Course: | Short Cycle | |
| **5** | Year of Study: | 2 | |
| **6** | Semester: | 3 | |
| **7** | ECTS Credits Allocated: | 3.00 | |
| **8** | Theoretical (hour/week): | 2.00 | |
| **9** | Practice (hour/week): | 2.00 | |
| **10** | Laboratory (hour/week): | 0 | |
| **11** | Prerequisites: | None | |
| **12** | Language: | Turkish | |
| **13** | Mode of Delivery: | Face to face | |
| **14** | Course Coordinator: | Öğr.Gör. ENGİN KALAY | |
| **15** | Course Lecturers: | | |
| **16** | Contact information of the Course Coordinator: | Öğr. Gör. Engin KALAY<br>enginkalay@uludag.edu.tr<br>02247112781-61758 | |
| **17** | Website: | | |
| **18** | Objective of the Course: | Student can determine to engineering characteristics of the soil with using soil mechanical laboratory equipments. | |
| **19** | Contribution of the Course to Professional Development: | The student will be able to work in soil mechanics laboratories as he will graduate with knowledge of ground sampling, soil laboratory and field tests, interpretation of test results, structure-ground interaction, soil improvement. Will be able to inspect and perform soil field tests. | |
| **20** | Learning Outcomes: | | |
| | | **1** | Define to soil |
| | | **2** | Define to material of soil experiment |
| | | **3** | Take to sample from the soil. |
| | | **4** | Determine to physical properties of samples taken. |
| | | **5** | Do to experiment for physical properties of samples taken. |
| | | **6** | Define to soil-water relationship |
| | | **7** | Establish to consistency limits according to soil-water relationship |
| | | **8** | Classify to soil according to grain diameter |
| | | **9** | Use to experimental equipments and device easily. |
| | | **10** | Make report to the results of experiments. |
| **21** | Course Content: | | |

**Course Content:**

| Week | Theoretical | Practice |
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| **1** | The general structure of soils in terms of environmental geotechnics. | Observationof soils |
| **2** | Inspection pits | Open pit inspection |
| **3** | Sampling methods from the ground | Minutes editing |
| **4** | The water content, surface inspection minutes | Minutes editing |

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| **5** | Wet sieve analysis | Arrange of sieves |
| **6** | Fine-grained soils relative density (specific gravity) | Determine to Fine-grained soils |
| **7** | Medium-grained soils relative density (specific gravity) | Determine to Medium-grained soils |
| **8** | Repeating courses and midterm exam | |
| **9** | Natural unit weight (sand cone method) | Sand Cone Experiment |
| **10** | Particle size distribution of fine-grained soils (hydrometer method) | Hidrometer Experiment |
| **11** | Liquid limit test with Casagrande device. | Casagrande Experiment |
| **12** | Liquid limit test with Cone penetration device | Liquid Experiment |
| **13** | Plastic Limit Experiment | Plastic Limit Experiment |
| **14** | Shrinkage limit Experiment | Shrinkage limit Experiment |

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| **22** | Textbooks, References and/or Other Materials: | |
| **23** | Assesment | |

| **TERM LEARNING ACTIVITIES** | **NUMBER** | **WEIGHT** |
|---|---|---|
| Midterm Exam | 1 | 25.00 |
| Quiz | 0 | 0.00 |
| Home work-project | 1 | 15.00 |
| Final Exam | 1 | 60.00 |
| Success Grade | | 100.00 |
| Contribution of Final Exam to Success Grade | | 60.00 |
| Total | | 100.00 |

| **24 ECTS / WORK LOAD TABLE** | | | |
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| Activites | Number | Duration (hour) | Total Work Load (hour) |
| Theoretical | 14 | 2.00 | 28.00 |
| Practicals/Labs | 14 | 2.00 | 28.00 |
| Self study and preperation | 0 | 0.00 | 0.00 |
| Homeworks | 1 | 6.00 | 6.00 |
| Projects | 0 | 0.00 | 0.00 |
| Field Studies | 8 | 1.00 | 8.00 |
| Midterm exams | 1 | 10.00 | 10.00 |
| Others | 0 | 0.00 | 0.00 |
| Final Exams | 1 | 10.00 | 10.00 |
| Total Work Load | | | 90.00 |
| Total work load/ 30 hr | | | 3.00 |
| ECTS Credit of the Course | | | 3.00 |

| **25** | **CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS** | | | | | | | | | | | | | | | |
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| | **PQ1** | **PQ2** | **PQ3** | **PQ4** | **PQ5** | **PQ6** | **PQ7** | **PQ8** | **PQ9** | **PQ10** | **PQ11** | **PQ12** | **PQ13** | **PQ14** | **PQ15** | **PQ16** |
| **ÖK1** | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK2** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK3** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK4** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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| **ÖK5** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK6** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK7** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK8** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK9** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK10** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**LO: Learning Objectives PQ: Program Qualifications**

| **Contribution Level:** | **1 very low** | **2 low** | **3 Medium** | **4 High** | **5 Very High** |
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