UNIVERSITY OF SARGODHA

DEPARTMENT OF SOIL & ENVIRONMENTAL SCIENCES, UNIVERSITY COLLEGE OF AGRICULTURE

COURSE OUTLINE SPRING 2020

Course Title: Soil Classification

Course Code: SAES-7105

Credit Hours: 3(2-1)

Instructor: Dr. Noor-us-Sabah

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| **DESCRIPTION & OBJECTIVES** |

The course is aimed to develop relation among different soil categories and their importance for particular use. The students should be able to classify soils and devise strategic and efficient land use.

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| **READINGS** |

1. Eswaran, H., Rice T., Ahrens R. and Stewart B. A. 2003. Soil Classification. A Global Desk Reference. CRC Press, Boca Raton, Florida, USA.
2. Bashir, E. and R. Bantel. 2001. Soil Science. National Book Foundation, Islamabad.
3. Brady, N.C. and R.R. Weil. 2007. The Nature and Properties of Soils. 14th Ed. Pearson Education, Upper Saddle River, NJ, USA.
4. Brady, N.C. and R.R. Weil. 2009. Elements of the Nature and Properties of Soils. 3rd Ed. Pearson Education, Upper Saddle River, NJ, USA.
5. Hillel, D. 2008. Soil in the Environment: Crucible of Terrestrial Life. Elsevier Inc., Burlington, MA, USA.
6. Singer, M.J. and D.N. Munns. 2002. Soils - An Introduction. 5th ed. Prentice-Hall, Inc., Upper Saddle River, NJ, USA.

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| **CONTENTS** |

**Theory**

1. Concepts and importance.
2. Introduction to soil taxonomy.
3. Criteria of classification.
4. Properties diagnostic to categories.
5. Diagnostic horizons and other diagnostic properties.
6. Soil moisture regimes: Classes and importance.
7. Soil temperature regimes: Classes and importance.
8. Categories and nomenclature.
9. Keys to categories: Order, suborder, great group and sub group FAO and other systems of classification.
10. Agro ecological zones and soils of Pakistan.

**Practical**

1. Profile description representing important soil orders.
2. Classify research farm soil to sub group level.
3. Designation of genetic horizons found in Pakistan.
4. Identification of taxonomic names: orders, suborders, great groups, subgroups, families and series.

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| **COURSE SCHEDULE** | | |
| **Week** | **Topics and Readings**: *Give Reading No from your list of readings above and its Page Nos. relevant to the topic(s) covered each week* | **Dates** |
| 1 | Concepts and importance. Profile description.  Soil Classification, Chapter 4, Page 27-41. | 02-03-2020 to  06-03-2020 |
| 2 | Introduction to soil taxonomy.  Soil Classification, Chapter 3, Page 19-26. | 09-03-2020 to  13-03-2020 |
| 3 | Criteria of classification. Classify research farm soil to sub group level.  Soil Classification, Chapter 7, Page 57-64. | 16-03-2020 to  20-03-2020 |
| 4 | Properties diagnostic to categories.  The Nature and Properties of Soils, Chapter 3, 47-89. | 23-03-2020 to  27-03-2020 |
| 5 | Diagnostic horizons. Designation of genetic horizons found in Pakistan.  Soil Science. National Book Foundation, Islamabad. | 30-03-2020 to  03-04-2020 |
| 6 | Diagnostic properties use in soil classification.  The Nature and Properties of Soils, Chapter 3, 47-89. | 06-04-2020 to  10-04-2020 |
| 7 | Soil moisture regimes: Classes and importance.  The Nature and Properties of Soils, Chapter 3, 47-89. | 13-04-2020 to  17-04-2020 |
| 8 | Soil moisture regimes: Classes and importance.  The Nature and Properties of Soils, Chapter 3, 47-89. | 20-04-2020 to  24-04-2020 |
|  | Mid Test | 27-04-2020 to  01-05-2020 |
| 9 | Soil temperature regimes: Classes and importance.  The Nature and Properties of Soils, Chapter 3, 47-89. | 04-05-2020 to  08-05-2020 |
| 10 | Soil temperature regimes: Classes and importance.  The Nature and Properties of Soils, Chapter 3, 47-89. | 11-05-2020 to  15-05-2020 |
| 11 | Categories of soil classification system.  The Nature and Properties of Soils, Chapter 3, 47-89. | 18-05-2020 to  22-05-2020 |
| 12 | Keys to categories: Order, suborder, great group and sub group.  The Nature and Properties of Soils, Chapter 3, 47-89. | 25-05-2020 to  29-05-2020 |
| 13 | Nomenclature for soil classification system.  The Nature and Properties of Soils, Chapter 3, 47-89. | 01-06-2020 to  05-06-2020 |
| 14 | FAO and other systems of classification.  Soil Classification, Chapter 12, Page 147-157. | 08-06-2020 to  12-06-2020 |
| 15 | Identification of taxonomic names: orders, suborders, great groups, subgroups, families and series.  The Nature and Properties of Soils, Chapter 3, 47-89. | 15-06-2020 to  19-06-2020 |
| 16 | Agro ecological zones and soils of Pakistan  Soil Science. National Book Foundation, Islamabad. | 22-06-2020 to  26-06-2020 |
| **RESEARCH PROJECT** | | | |

Collection of soil profile from different locations

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| Attendance | Presentation | Projects | Quiz test | Total |
| 2.0 | 2.0 | 2.0 | 2.0 | **8.0** |
| Mid Test | Sessional | Theory | Total Marks | |
| 12 | 8.0 | 20 | **60.0** | |
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* *Students are evaluated throughout the semester using tools such as assignments, projects, presentations, tests, quizzes and lab practical etc., according to the necessity of the course and concerned instructor.*
* *At the end of semester, final examination of the course is also held which account for a certain percentage towards the course.*
* *A minimum of 75% attendance is required by the students to be eligible to sit in the final examination. A student having less than 75% of the attendance shall be dropped from the course and have to repeat the course whenever the course is offered again.*
* *In case a student remains absent from the class for seven consecutive lectures, his/her name shall be dropped from the course.*