

Ministry of Higher Education and Scientific research



Department of Forestry

College of Agriculture

University of Salahaddin

Subject: Forest soil

Course Book – (2nd Year)

Lecturer's name Dr. Muslim Rasul A. Khoshnaw

Academic Year: 2021/2022

Course Book

1. Course name	Fall semester
2. Lecturer in charge	Dr. Muslim Rasul Arab
3. Department/ College	Soil & water / Agriculture engineering Science
4. Contact	gmail: muslim.khoshnaw @ su.edu.krd Tel: 0750 4538564
5. Time (in hours) per week	Theory: 2 Practical: 3
6. Office hours	Availability of the lecturer to the student during the week
7. Course code	1
8. Teacher's academic profile	2006 - BSc – Salahaddin Univ. Agriculture College –Soil And water Science Dept. 2011- MSc – Salahaddin Univ. Agriculture College – Soil and Water Dept. 2020- PhD. – Salahaddin Univ. College –Agriculture engineering Science
9. Keywords	
10. Course overview:	<ul style="list-style-type: none"> Collecting the information about of all the forest soil properties in the world in (15) lectures were declared in the syllabus. At the definition of Environmental sciences with all sides have the relations with the contain or essentials contents of the environment (Weather and Climate). Studying all the affects surrounding the forest environment and the cycle of most of the metals and nutrients and the level of environmental safety. The relationships between soil forests with other different related sciences.
11. Course objective:	Collecting the suitable information for all different (Soil)s Protecting the green and safety environment and all the elements which have the relation with our environment and its specially cycle of them with its effects on the human life good or bad effect.
12. Student's obligation	<ol style="list-style-type: none"> The student must be already in the lecture. The student must success in the average of the two examination were must be done. Prepare the report and presentation about one of the titles were taken the lectures or syllabus. Quizzes must be done weekly.
13. Forms of teaching	1- Data show and power point.

- 2- White board.
- 3- Papers (Which collected some headline)

14. Assessment scheme

final grade will be derived as follows:

- **Quizzes and homework's:** About 10 quizzes will be given throughout the semester. They will be given at the beginning of the class period and last 10 minutes.3-5% of your grade.
- **Exams:** There will be two closed book exams given throughout the semester. Each test will be scheduled for 90 minutes.20 % of grade.
- **Final Exam:** The Final Exam is Comprehensive in all course outlines. 40% of your grade.

Mean of two examinations (Theoretical Part) - 15% Practical part - 35% = 50%

Final examination: 50% Theory = 50%

15. Student learning outcome:

- 1-Taking knowledge about the main characteristics of the environment.
- 2-The impotency of environment.
- 3-Personal ability and its responsibility against the environment.
- 4-All processes were happened of the station meteorology like rainfall quantity and the period of sunshine and evaporation rate -----, and at the end must the student feel what's the duty of one of them, like each academic person and take the information of development countries.

16. Course Reading List and References:

▪ Key references:

1. Soil Forest / Michael J Tyler 1983
2. McFee WW, Kelly JM., 1995. Carbon forms and functions in forest soils. Madison, soil Science Society of america. 594 p
3. Bowen GD, Nambiar EKS., 1984. Nutrition of plantation forests. London: Academic

▪ Useful references:

1- تربة الغابات 1988 د. عصام عبدالستار

▪ Magazines and review (internet):

The core materials of the course consists of the above book, articles from media and internet, and lecture's notes, make sure you read all the materials and prepare well before going for the examinations. Students are encouraged to search for any other materials that may help improve their English language ability in reading, writing, listening and speaking plant communities' texts.

17. The Topics:	Lecturer's name
<p>1- Introduction: soil forest, soil weathering, weathering of rocks and minerals, weathering processes types of weathering.</p> <p>2- Chemical processes weathering carbonation , oxidation ,solution,</p> <p>3- Soil formation, factors of soil formation.</p> <p>4- Vegetation’s (trees) effect on soils .Vegetation advantages effect s and disadvantages effect.</p> <p>5- Agriculture soils and Forest soil comparison..(1st exam)</p> <p>6- Forest soil importance , physical properties of forest soils</p> <p>7- Soil bulk and real density, and its effects.</p> <p>8- Soil compaction effects on forest soils.</p> <p>9- Soil horizons, Soil structure.</p> <p>10- Erosion of forest soils, stages and processes of soil erosion. Types of soil erosion. Factors effect of soil erosion .soil erosion control. .(2nd exam)</p> <p>11- Organic matter in forest soil. Soil organic matter, main pools of SOM.</p> <p>12- Types of Humus, Mor, Molder, Mull. Factors affecting on Decomposition and accumulation of Organic matter. The role of OM.</p> <p>13- Biomass in forest soil, Heterotrophy, Autotrophy.</p> <p>14- Most microorganisms in forest soil, Bacteria, Fungi, Kind of mycorrhizae.</p> <p>15- Earthworms, Importance's.</p>	<p>Dr. Muslim Rasul Arab Khoshnaw</p> <p>Weekly (2)hrs</p>
18. Practical Topics (If there is any)	
<p>19. Examinations:</p> <p style="text-align: center;"><u><i>Example of Semester Examination:-</i></u></p> <p>Q1// Draw forest soil profile then mention only (O) horizon in details.</p> <p>Q2// Explain how pH effected on availability of Phosphorus in forest soil.</p> <p>Q3// A- Fill the following blanks:-</p> <p>1- The most harmful of forest tree on soil are:- -----and -----.</p> <p>2- The bulk density increase with ----- the soil depth.</p> <p>3- Soil erosion is -----</p> <p>B// Define soil forest, and compare between forest and agriculture soils.</p>	
20. Extra notes:	
21. Peer review:	