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**Department of Soil and Water Science**

**College of Agriculture**

**University of Salahaddin**

**Subject: Watershed Managements**

**Course Book *For*  4th Year**

**Lecturer's name: Dr. Tariq H. Karim**

**Academic Year:  2021/2022**

**Course Book**

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| **1. Course name** | **Watershed management** | |
| **2. Lecturer in charge** | **Dr. Tariq H.Karim** | |
| **3. Department/ College** | **Forestry / Agriculture** | |
| **4. Contact** | **e-mail : solavtariq@yahoo.com**  **Tel: 07504426174** | |
| **5. Time (in hours) per week** | **Theory: 2**  **Practical: 3** | |
| **6. Office hours** | **2 hours per week** | |
| **7. Course code** |  | |
| **8. Teacher's academic profile** | **Webpage** | |
| **9. Keywords** |  | |
| **10. Course overview:**  **To make the students be familiar watershed problems, watershed characteristics and strategic plan to rehabilitate watershed** | | |
| **11. Course objective:**  **To make the student be acquainted with proper methods of watershed managements to improve the rural areas** | | |
| **12. Student's obligation**  **The attendance of the students is below our ambition level, but they react and respond to the lectures with little interest . They are eager to learn new information about the topics to a medium extent. They have taken the first examination and more than 50% of the students passed it. The grades ranged from a minimum of 30 to a maximum of70%.** | | |
| **13. Forms of teaching**  **Both data show and the white board are used during teaching. The data show is used for presenting charts, figures, plates, while the white board is used for performing calculations and further illustrations** | | |
| **14. Assessment scheme**  **I will give two examinations before the final one. The grade is distributed among the theoretical examination,(70%), at least two quizzes (15%), class activity(10%) and student attendance(5%).**  ‌ | | |
| **15. Student learning outcome:**  **The students will be acquainted with methods watershed rehabilitation** | | |
| **16. Course Reading List and References‌:**  ▪ Key references:  Linsley. 1972. Applied Hydrology. John Wiley and Sons  ▪ Useful references:  Khalid, T. 2000. Hydrology of Goizha Dabashan watershed. MSc. thesis submitted to the College of Agriculture University of Suilamani.  ▪ Magazines and review (internet):  On line papers | | |
| **17. The Topics:** | | **Lecturer's name** |
| 1. Definitions of watershed, natural resources, classification of watersheds , watershed synonyms 2. Watershed delineation principles 3. Watershed problems and disasters 4. Watershed management objectives and rehabilitation program stages 5. Basin morphology 6. Basin relief and drainage network 7. Water Balance in watersheds, water availability and demand 8. Calculation of water requirement for domestic and agricultural use 9. Estimation of runoff volume using SCS method 10. Semi-quantitative methods estimating sediment yield 11. Application of USLE to estimate erosion in watersheds 12. Soil and Water management in watersheds. 13. Forest management 14. Grazinglands and marginal lands management 15. Cropland management 16. Overview     Examination date: 11 /4/2022 | | T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)    T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs)  T.H. Karim, (2 hrs) |
| **18. Practical Topics (If there is any)** | |  |
| **It will be given by my colleague who lectures the practical part** | | Lecturer's name: karwn Sabir  ex: (3-4 hrs)  ex: 14/10/2015 |
| **19. Examinations:**  **Q1) Specify the problem category for land tenure and channel silting?**  **A1) Land tenure can be put under socioeconomic problems while channel silting can be put under end problems**  **Q2) Mention the impact f man on drainage network**  **A2) Man can affect drainage network through: reforestation, deforestation, dam construction, and cultivation** | | |
| **20. Extra notes:**  **There is no extra notes** | | |
| **21. Peer review**  **Approved by Dr. Raad George Micha** | | |