****

**Department of Environmental Sciences**

**College of Sciences**

**University of Salahaddin**

**Subject: Meteorology practice**

**Course Book – (2nd Year)**

**Lecturer's name :- Sakar Abdulqadr Saheed**

**Academic Year: 2022/2023**

**Course Book**

|  |  |  |
| --- | --- | --- |
| **1. Course name** | **Meteorology** | |
| **2. Lecturer in charge** | **Sakar Abdulqadr Saheed** | |
| **3. Department/ College** | **Environmental Sciences - Sciences** | |
| **4. Contact** | **e-mail: sakar.saheed@su.edu.krd**  **Tel: (optional) 009647504942040** | |
| **5. Time (in hours) per week** | **4 hours per week** | |
| **6. Office hours** | **Every day before and after the lecture except off day** | |
| **7. Course code** |  | |
| **8. Teacher's academic profile** | \* Graduated at the Department of biology, Salahaddin University/ College of education Science (2005). | |
| **9. Keywords** | **Meteorology, weather, atmosphere, precipitation, clouds** | |
| **10. Course overview:**  **The course will cover principle information about Meteorology, and understanding of atmosphere requires knowledge not only of the earth atmosphere themselves but also of those external influences which directly or indirectly affect them. A suitable environment is necessary for any organism, since life depends upon the continuance of a proper exchange of essential substances and energies between the organism and its surroundings. And the study of the weather or atmospheric factors such as temperature, pressure, wind, precipitation and sun energy and others. The course will give students a better understanding of the Environment that surrounded us** | | |
| **11. Course objective:**  **The course will cover principle information about Climate, temperature, pressure, rainfall as so on and how use some sources of energy as cleaner and safer for organisms especially human on the earth. The course will give students a better understanding of the different type of inland water, and teaching the student how protect the Environment from of pollution** | | |
| **12. Student's obligation**  **When I ask the student for preparing in class, and in the exam, preparing and writing a report and discusses in class, this stimulate the students to become more active and able to learn more things about environment science.** | | |
| **13. Forms of teaching**  **Different forms of teaching will be used to reach the objectives of the course: power point presentations for the head titles and definitions and summary of conclusions, classification of Environmental health and any other illustrations, besides worksheet will be designed to let the chance for practicing on several aspects of the course in the classroom, furthermore students will be asked to prepare research papers on selective topics and summarise articles contents published in English into either Kurdish or Arabic language, those articles need to be from printed media or internet articles. There will be classroom discussions and the lecture will give enough background to translate, solve, analyze, and evaluate problems sets, and different issues discussed throughout the course.**  **To get the best of the course, it is suggested that you attend classes as much as possible, read the required lectures, teacher’s notes regularly as all of them are foundations for the course. Lecture’s notes are for supporting and not for submitting the reading material including the handouts.try as much as possible to participate in classroom discussions, preparing the assignments given n the course.** | | |
| **14. Assessment scheme**  **Your final grade will be derived as follows:**  **Quizzes: About 10 quizzes will be given throughout the semester. They will be given at the beginning of the class period and last 10 minutes.10% of your grade.**  **Exams: There will be two closed book exams given throughout the semester. Each test will be scheduled for 90 minutes.30% of your grade.**  **Final Exam: The Final Exam is Comprehensive in all course outlines.60% of your grade‌**  **Mean of two examinations: 25%**  **Final examination: 35%**  **Final Exam: The Final Exam is Comprehensive in all course outlines.40% of your grade‌**  **Mean of two examinations: 35%**  **Final examination: 40%** | | |
| **15. Student learning outcome**  **Meteorology and Clean Energy is one of the most important lecture in Environmental Sciences Department because the student in this course learn the student many things about Meteorology and Clean Energy that around us and can the student to water management , how pollution control , guideline of safe and health Environment and increase the number of people who not full-time water can understand and apply its general concepts to a broad range of related disciplines all these things can students apply in our daily life for services the community** | | |
| **16. Course Reading List and References‌:**  **Required book:**  **1- The Atmosphere, F.K. Lutgens and E.J. Tarbuck, Ninth (2003) or Tenth Edition (2007) The Weather Cycler for interpreting and forecasting your weather. Optional activity kit. All other course materials are available on the Internet.**  **2- Meteorological Measurement Systems, by Fred V. Brock and Scott J. Richardson, Oxford University Press, 2001.**  **3-Instructor’s Handbook on Meteorological Instrumentation, by Fred V. Brock (Editor) and Carol E. Nicholaidas (Assistant Editor), NCAR/TN-237+IA, 1984.**  **4-Federal Meteorological Handbook No. 1 (FMH-1), by OFCM, 1995.**  **5- National Aeronautics and Space Administration, "The Importance of Understanding Clouds," NASA Facts, FS-2005-0-073-GSFC, http://www.nasa.gov/pdf/135641main\_clouds\_trifold21.pdf.**  **6-Ather, G.D. ( 2005). Essential Meteorology. 3rd Edition. Doubleday and Co., Garden City, NY.**  **7. Prof. R N Singh, Professor, School of Energy and Environmental Studies, Devi Ahilya Vishwavidyalaya, Indore**  **8. Prof. J S Saini, Professor Emeritus, Department of Mechanical and Industrial Engineering, IIT Roorkee**  **9. Dr. R.L. Sawhney, Former Professor, TERI Unievrsity, Delhi; School of Energy and Environmental Studies, Devi Ahilya Vishwavidyalaya, Indore**  **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** |
| **Week 1:**  **Introduction to Meteorology and course book**  **Week 2:**  **Wind speed and wind direction measurement**  **Week 3:**  **Air temperature measurement**  **Week 4:**  **Air humidity measurement**  **Week 5:**  **Stevenson screen**  **Week 6:**  **First exam**  **Week6 :**  **Solar radiation measurement**  **Week 7:**  **Clouds cover measurement**  **Week 8**  **Precipitation measurement**  **Week 9**  **Measurement of evaporation**  **Week 10:**  **Measurement of atmospheric pressure**  **Week 11:**  **Altitude**  **Week 12:**  **Visit weather station**  **Week 13:**  **Second exam** | | **Sakar Abdulqadr**  **ex:(2 hrs)** |
|  | |  |
|  | |  |
| Examination:-   1. What is the difference between cup anemometer and propeller anemometer? 2. Why does the daily temperature vary? 3. What are the scales of temperature? 4. Why Temperature of the air is one of the important factors in crop? 5. What is the principle of action of thermometer? 6. How and why we measure the solar radiation? | | |