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**Department of Environmental Science and Health**

**College of Science**

**University of Salahaddin**

**Subject: Environmental indices - Practical**

**Course Book (2nd Year)**

**Lecturer's name: M.Sc. Sayran Yousif Jalal**

**Academic Year: 2022-2023**

**Course Book**

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| **1. Course name** | Environmental Indices (Practical) |
| **2. Lecturer in charge** | Sayran Yousif Jalal |
| **3. Department/ College** | Environmental Science and Health/Science |
| **4. Contact** | e-mail: Sayran.jalal@su.edu.krd  Tel: (optional) |
| **5. Time (in hours) per week** | Practical: 2 hours per week |
| **6. Office hours** | 3 hours per week |
| **7. Course code** |  |
| **8. Teacher's academic profile** | * I graduate from Salahaddin University in 2011 (Ranked 2nd in Environmental sciences department). In 2016 I finished M.Sc degree in solid waste management. Finally, I became lecturer assistant in 2018. * I teach under graduate student like, soil science, engineering drawing, principles of environmental sciences, computer science, ecostatistics and academic debate. * I worked as a member of the examination committee for college of science in (2017-2018). |
| **9. Keywords** | Frequency, mean, median |
| **10. Course overview:**  The course offers methodology & practice in Ecostatistics. Participant is introduced to the standard of ecostatics applied in the environmental applications. Upon completion of this course, participants will be able to:  • Able to know the statics in environment. | |
| **11. Course objective:**  This course involves an introductory experience in excel and data analysis in environmental problems. | |
| **12. Student's obligation**  A typical class will be to start with quiz. Every student must have two examinations, the attendance and classroom activities.   * Mean of two practical examinations: 30% * Daily quizzes: 5% | |

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| **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, drawing steps and summary of conclusions, 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 summarize 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 hand outs. Try as much as possible to participate in classroom discussions, preparing the assignments given the course given in 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 end of the class. 5% of your grade.  Exams: There will be two closed book exams given throughout the semester. Each test will be scheduled for 30 minutes. 30% of your grade‌. | |
| **15. Student learning outcome:**  by the end of the course, students should be able to:   1. Ability to relate and apply fundamental sciences to learning the essential environmental ecostatistics concepts and theories of different branches. 2. Ability to define clearly and analyse the environmental problems by applying the introduced ecostatics concepts and theories of the related branch. 3. Ability to use decision-making skills and perform design calculations correctly for the solution of the defined problem/project by applying the introduced theories of the related ecostatics branch. 4. Ability to participate in team-works in a harmonized manner for the solution of the targeted problem. | |
| **16. Course Reading List and References‌:**   1. Andy, F. (2009). Discovering statistics using SPSS, third edition, (and sex and drugs and rock ’n’ roll), Washinton DC. 2. Badriyah, M. (2010). Environmental Statistics, (Department of Statistics – Jordan). | |
| **17. week** | **Topic** |
| 1 | An introduction, Course outline |
| 2 | AQI |
| 3 | DWQI |
| 4 | SQI |
| 5 | IWQI |
| 6 | BI |
| 7 | Frequency |
| 8 | Arithmetic mean |
| 9 | Median and Mode |
| 10 | First Practical Exam |
| 11 | Range and Variance |
| 12 | Standard Deviation |
| 13 | Standard error and CV% |
| 14 | Designs of Experiment |
| 15 | Z- test of hypothesis |
| 16 | Z- test |
| 17 | t- test |
| 18 | t- test |
| 19 | Correlation |
| 20 | Correlation |
| 21 | Regression |
| 22 | Regression |
| 23 | Chi- square test |
| 24 | CRD |
| 25 | BRD |
| 26 | Factorial |
| 27 | Lab review and preparation for the final Exam |
| **18. Practical Topics (If there is any)** | |
| **19. Examinations:**  **Q1/ The height and weight of ostrich are given below. Calculate the coefficient of correlation.**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Height (inches)** | **65** | **68** | **62** | **70** | **65** | **72** | **67** | **66** | **68** | **70** | | **Weight (pounds)** | **128** | **140** | **120** | **152** | **138** | **160** | **135** | **130** | **125** | **165** | | |
| **20. Extra notes:** | |
| **21. Peer reviewپێداچوونه‌وه‌ی هاوه‌ڵ** | |