Ministry Of Higher Education and Scientific Research

Mustansaria University/College of Science/Department of Atmospheric science

(الخطة الدراسية للمساق)

Course Plan

Course No.:

Academic Year: 2021-2022

Course Name: meteorological statistics

Time Division: 2hr Practical

Course Description :

 In this course, the Students are introduced to fundamental concepts of meteorological statistic which include discripted and inferential statistic, data organised ,Measures of central tendency and Measures of variation or dispersion.
These topics are covered broadly but in depth to introduce students to the methods atmospheric scientists use to describe and the atmospheric phenomena.

Course Intended Outcomes :

At the end of the course, students are expected to learn:

- develop statistical thinking in atmospheric science .
- Use real and row data in meteorological statistics.
- understanding and analyzing atmospheric data.

Course Outline:

Week	Description depends on the Timing table (Theoretical & Practical)
1	What Is Statistics?, What is meteorological Statistics? Descriptive and Inferential Statistics. Uncertainty about the meteorological statistics.
2	Population and sample, continuous and discrete variable, Raw data, frequency distribution, frequency histogram, relative-frequency distribution, cumulative frequency
3	arithmetic mean of ungrouped data, arithmetic mean of grouped data. properties of arithmetic mean.
4	weighted arithmetic mean, The geometric mean, The harmonic mean, The relation between the arithmetic, geometric and harmonic mean.
5	Quartiles, deciles and percentiles. Solved Problems
6	EXAM 1
7	Median of ungrouped data, median of grouped data.
8	Mode of ungrouped data , mode of grouped data. The relation between the mean, median and mode, Solved Problems.
9	The range, The mean deviation, standard deviation, properties of standard deviation.Solved Problems.

10	The variance, short methods for computed standard deviation.
11	quartile deviation, The percentile range, The relation between the measures of dispersion.
12	absolute dispersion, coefficient of variation, standard scores. Solved Problems.
13	Moment, moment for grouped data, moment for ungrouped data, Skewness, Kurtosis, percentile coefficient of kurtosis. Solved Problems.
14	**EXAM 2**

Textbooks:
1. Statistical Methods in the Atmospheric Sciences, Second Edition, D.S. Wilks, Elsevier Inc., 2006.
2. Statistical Analysis in Climate Research by Hans von Storch, Francis W. Zwiers, Cambridge University Press, 2002.

Suggested references:
1. Introductory statistics , ninth Edition, Neil A. Weiss, 2012.
2. Elementary Statistics :A Step by Step Approach, seventh Edition, Allan G. Bluman, 2007
3. Introductory statistics , seventh Edition, PREM S. MANN, John Wiley & Sons, 2010.

Marking:

First Semester				Final Exam
1st exam	2nd exam	Practical	Activity	
12	12	7	5	20

Assignments and/or Projects:

Assignment/Project	Description	Due Date	Marking
H.W	answering a series of questions with the end of each a week semester	During the course	1
Quizzes	Two or more quizzes	During the course	1

Instructor information:

Lecture Room No.: **4**   Time: **Sunday**

Instructor's Name L. Ruaa mazin ibrahim   Office hour.: **(8:30,2:30)**

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NOTES:
- *Office Hours: Other office hours are available by appointment.*
- *The content of this syllabus not be changed during the current semester.*

       Lecturer Signature   **Chairman Signature**