

**Ministry Of Higher Education and Scientific Research**



**Mustansiriyah University/College of Science/Dept. of Atmospheric Sciences**

**(الخطة الدراسية للمساق)**

**Course Plan**

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| **Course No.: 1 st.** |  |
| **Course Name: Laboratory Weather Instruments and Observation** | **Time Division:** |
| **Course Website: https://uomustansiriyah.edu.iq/e-learn/profile.php?id=136** | **Semester & Year:**   1 , **2018 /2019** |

**Course Description**

1 credit hours, Prerequisite [1]

The course provides an introduction to the World Weather Watch Program and its cores, observations types, weather instruments that used in observing some atmospheric parameters such as temperature, pressure, wind etc. Also it provides the types of errors in the observations and how to process data, and finally the Weather Maps and how to represent Weather Phenomena on surface and upper air maps .

**Intended Outcomes:**

At the end of the course, students are expected to learn: the fundamentals of Global Observing System This course aims to build a scientific base of physical principles of how the instruments work and how observations be made and what are the concept of the expected errors associated with the observations and which instruments are more suitable and what their advantages and disadvantages, in addition to analyze the weather codes and plot the observation on weather maps.

**Course Outline:**

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| --- | --- | --- | --- |
| **Week** | **Topes Covered** |  |  |
| 1 | Explanation of various aerobic devices | 6 hours |  |
| 2 | Visit the ground station and identify the existing devices and how to work and the way of taking measurements from different devices in practice | 6 hours |  |
| 3 | Explanation of the surface station codes in detail and how to draw them on the map (1) | 6 hours |  |
| 4 | Explanation of the surface station codes in detail and how to draw them on the map (2) | 6 hours |  |
| 5 | Explanation of the surface station codes in detail and how to draw them on the map (3) | 6 hours |  |
| 6 | Apply real cods on the surface map | 6 hours |  |
| 7 | First exam | 6 hours |  |
| 8 | Explain the codes of the upper atmosphere layers of all levels and how to draw them on map (1) | 6 hours |  |
| 9 | Explain the codes of the upper atmosphere layers of all levels and how to draw them on map (2) | 6 hours |  |
| 10 | Analysis of the map data by drawing contour lines and determining the air systems of the surface map | 6 hours |  |
| 11 | Analysis of map data by plotting contour lines and determining air systems of 850 mb | 6 hours |  |
| 12 | Analysis of map data by plotting contour lines and determining air systems of 700 mb | 6 hours |  |
| 13 | Analysis of map data by plotting contour lines and determining air systems of 500 mb | 6 hours |  |
| 14 | Analysis of map data by plotting contour lines and determining air systems of 300 mb | 6 hours |  |
| 15 | Second exam | 6 hours |  |

**Textbooks:**

R. G. Harrison, 2015: Meteorological Measurements and Instrumentation, Wiley Blackwell, 278 p.

**Suggested references:**

1. S. Burt, 2012: The Weather Observer's Handbook. Cambridge University Press, 458 p.
2. F. V. Brock and S. J. Richardson, 2001: Meteorological Measurement Systems. Oxford University Press, 305p.

**Marking:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Course** | | | | | **Final Exam** | **Final Mark** |
| **1st exam** | **2nd exam** | **Practical** | **Activity** | **Total** |  |  |
| **12** | **12** | **5** | **7** | **12** | **20** | **32** |
|  |  |  |  |  |  |  |

**Assignments and/ or Projects:**

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| --- | --- | --- | --- |
| **Assignment/ Project** | **Description** | **Due Date** | **Marking** |
| **Homework in each lecture** | **Question about the previous lecture** | **The next lecture** | **2** |
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**Instructor(s) information[معلومات الأستاذ]**

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| **Section:    Atmospheric Sciences building** | | **Lecture Room: [ Laboratory of Analytical** | **[ Office No.: 9** | |
| **Instructor's Name: A L. hassan Mahmood aziz**  E-Mail: **hassan.m.a7878@uomustansiriyah.edu.**iq | | | |  |
| **Office Hours: 2** | **day. : (08:30-2:30)**  **NOTES:**  **-Office Hour: Other office hours are available by appointment.**  **-The content of this syllabus not be changed during the current semester.**  **Lecturer Signature Chairman Signature** | | | |