

Course Syllabus

CLIMATOLOGY AND METEOROLOGY

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Program: Oceanographic Engineering

1. Course number and name

OCEG1030 - CLIMATOLOGY AND METEOROLOGY

2. Credits and contact hours

2 credits and 3 contact hours

3. Instructor's course or coordinator's name

JONATHAN MARCELO CEDEÑO OVIEDO

4. Text book, title, author, and year

• Frederick K. Lutgens, Edward J. Tarbuck.. Atmosphere, The: An Introduction to Meteorology (12)

5. Specific course information

- a. Brief description of the content of the course (catalog description)

The purpose of this course is to provide participants with basic knowledge of weather and climate. They will be able to understand atmospheric processes and make decisions to reduce climate impacts on ecosystems. Students will learn about adaptation and mitigation measures that can be implemented to face climatic variability and change. They will also learn how to minimize negative and take advantage of positive impacts. Relevant topics include the greenhouse effect, the hole in the ozone layer, the El Niño phenomenon, among others; and their effect towards society. Emphasis will be given to the development of critical thinking rather than memorizing basic knowledge. Thus, at the end of the course, students can discuss these issues.

- b. Prerequisites

DESCRIPTIVE OCEANOGRAPHY - OCEG1051

Co - Requisites

FUNDAMENTALS OF OCEANOGRAPHIC ENGINEERING - OCEG1035

- c. This course is: Required

6. Specific goals for the course

- a. Specific outcomes of instruction

1.- Describe the parameters used to measure weather and climate and identify their differences.

2.- Evaluate information in real time using internet, in order to make weather and climate estimates of a particular region.

3.- Conduct internet research to write reports on topics related to Climate Change.

b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course

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- An ability to apply oceanographic engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

7. Brief list of topics to be covered

- 1.- Introduction
- 2.- The atmosphere
- 3.- Meteorological variables
- 4.- Foundations of meteorology
- 5.- Topics of climatology