

## Course Syllabus

### EARLY WARNING SYSTEMS

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Program: Oceanographic Engineering

#### 1. Course number and name

OCEG1041 – EARLY WARNING SYSTEMS

#### 2. Credits and contact hours

3 credits y 3 contact hours

#### 3. Instructor's course or coordinator's name

JONATHAN MARCELO CEDEÑO OVIEDO

#### 4. Text book, tittle, author, and year

- Zschau, Jochen, Andreas N. Kiippers (Eds.). Early Warning Systems for Natural Disaster Reduction (1st Edition)

a. Otro material suplementario

- Michel, Gladys T.; I. Beltrán, J. Gonzáles, I. Arana, O. Paz. Guía para la conformación de Sistemas Municipales de Alerta Temprana ()

- Rogers, David; Vladimir Tsirkunov. Implementing Hazard Early Warning Systems (GFDRR WCIDS Report 11-03)

- Basher, Reid. Global Early Warning Systems for natural hazards: systematic and people-centred ()

- IFCR. Community Early Warning Systems: guiding principles ()

#### 5. Specific course information

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

This professional training course (itinerary) details the 4 components of an Early Warning System (EWS), its methods, monitoring tools and skills required to perform an evaluation, communication, and preparation of responses to different types of threats such as floods, droughts, landslides, earthquakes, volcanoes and tsunamis.

b. This course is: Complementary

#### 6. Specific goals for the course

a. Specific outcomes of instruction

1.- Understand the different elements of an early warning system (EWS) and mechanisms for planning, prevention and development of contingency and response plans.

2.- Understand the risk analysis approach based on threats, exposure, susceptibility and adaptive capacity of human systems.

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3.- Develop the ability to articulate, communicate and contribute with key actors and communities in the development of prevention, contingency and response plans against extreme climatic and non climatic events.

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

#### **7. Brief list of topics to be covered**

- 1.- Evaluation activities
- 2.- Introduction to Early Warning Systems for risk and climatic hazards
- 3.- Early Warning Systems elements
- 4.- Hydro-meteorological Early Warning Systems: floods, droughts, landslides
- 5.- Early Warning Systems for non climatic events and multi-threat
- 6.- Sistema de Alerta Temprana basado en comunidades
- 7.- Visit to an Early Warning System: monitoring station, communication and response system