Course Syllabus

DREDGING PLANNING

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Program: Oceanographic Engineering

1. Course number and name

OCEG1040 - DREDGING PLANNING

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, tittle, author, and year

• Bray, Richard N.. Dredging, a handbook for engineers (2nd Edition)

a. Other supplemental material

• Abbott, Michael M.. Coastal, estuarial, and harbour engineers' reference book ((alk.paper))

5. Specific course information

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

This professional training course reviews dedging state of the art, some definitions and stages that define it. It studies the application of hydrography and acoustics as an indispensable support in a necessary bathymetry in a dredging in estuarine environments and coastal zone. The objectives of each one of the stages of dredging planning are analyzed, the factors that affect their performance and the design of a dredging area is practiced. Finally, the knowledge of the types of dredges in general is presented. The course is strengthened with observation practices of field work aboard a dredge and the elaboration of a technical report of the field visit.

b. Prerequisites

MARINE GEOLOGY- OCEG1036

c. This course is: Required

6. Specific goals for the course

a. Specific outcomes of instruction

1.- Recognize the need for dredging works in channels and ports of Ecuador with published data, and relate them to the hydraulic-sedimentary conditions of the site.

2.- Planned organization of dredging projects integrating project needs and local resources as elements of the dredging equipment selection process

3.- Support in the decision making and planning of a dredging with engineering and environmental techniques for the "solution" of lack of depth

4.- Relate the necessary dredging equipment according to the physical and environmental characteristics of the dredging and deposit site.

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

- An ability to recognize the need to undertake, and the skills to become an entrepreneur.

7. Brief list of topics to be covered

1.- Evaluation activities
2.- Index properties and classification of soils
3.- Soil Compaction
4.- Filtration and permeability
5.- Stress in a soil mass and compressibility
6.- Shear strength
7.- Mechanical behavior of rock masses and slope stabilities