

Course Syllabus

STRENGTH OF MATERIALS

Emitido por: lualtam

Program: Oceanographic Engineering

1. Course number and name

CIVG1056 – STRENGTH OF MATERIAL

2. Credits and contact hours

3 credits and 4 contact hours

3. Instructor's course or coordinator's name

DAVID ENRIQUE VALVERDE BURNEO

4. Text book, title, autor, and year

- Hibbeler, R. C.. Mechanics of Materials (Décima Edición)
 - a. Other supplemental materials
- Pytel, Andrew & Singer, Ferdinand L.. Resistencia de Materiales (Traducción de cuarta edición en inglés)
- Beer, Ferdinand P; Johnston, E. Russell. Mecánica de Materiales (Sexta edición)
- Mott Robert L.. Resistencia de Materiales - con CD (Spanish Edition) (Perfect Paperback; 2009)

5. Specific course information

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

This intermediate level of professional training course, of Civil Engineering leads basic fundamentals and techniques for the analysis of flexible bodies against external loads, which is vital for structural design. In this course is evaluated the mechanical behavior of isostatic and hyperstatic structures and there are introduced practical methods to determine stresses and deformations.

- b. Prerequisites

VECTOR MECHANICS - MECG1052

- c. This course is: Required

6. Specific goals for the course

- a. Specific outcomes of instruction

1.- Identify stress types on bodies subjected to external loads, by section method and static balance for the analysis of carrying capacity and element dimensioning.

2.- Determine the stresses and strains that occur in bars subjected to axial and torsional loads using stress-strain curves and Hooke's law.

3.- Analyze the combination effect of loads over the transversal section of an element for dimensioning sections.

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4.- Dimension statically determined and indeterminate beams to support different types of external loads.

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.- Simple stress and strain
- 3.- Torsion analysis
- 4.- Stresses and deflections in statically determined beams
- 5.- Combined efforts
- 6.- Statically indeterminate beams
- 7.- Column analysis