ЦЕНТЪР ЗА ОБУЧЕНИЕ – БАН

1000 София
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Basic Information:
Course Title: INTRODUCTION TO OCEAN ENGINEERING
Lecturer: Prof. Dr. Rumen Kishev
Phone: +359 887 745048
Email: rkishev@yahoo.com
Total Teaching Hours: 24 lecture hours and 6 hours practical training

Annotation (up to 150 words)

The course is intended for basic training of specialists and PhD students in ship theory and design, marine technologies, oceanology as well as extraction and processing of ocean deposited industrial resources.

The course provides acquaintance with:

-The basic types of structures for ocean resources exploration, economical conditions and prospects;

-The basic operations in research, installation and operation of marine engineering structures;

-The fundamentals of design and investigation of the interaction of marine facilities with external conditions;

-Marine renewable energy resources;

-Functions of institutions involved in the utilization of marine resources, current regulations and standards.

Laboratory classes include participation in preparing and carrying out model tests of marine engineering structures in a model tests basin.

Course content (brief description by topics or modules)
Topic / Module 1: Marine environment
Topic / Module 2: Types of ocean engineering structures
Topic / Module 3: Theory of floating structures, computational methods
Topic / Module 4: Mooring
Topic / Module 5: Applications for marine energy conversion

Teaching and assessment methods
Series of 12 thematic presentations covering the course material
Practical training in preparation and carrying out model tests of an offshore structure in waves
Written test multiple choice type

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Competencies acquired as a result of training (3–5 points)

Ability of practical application of statistics and spectral theory for description of marine environment

Acquaintance with various types of offshore structures and specifics of their construction and operation

Practical skills for using specialized computer programs for calculations on floating structure's dynamics

Assessment of applicability and effectiveness of marine (wind and waves) energy converters

Preparation and carrying out of scaled model tests on offshore structures

Literature:

J.M.J. Journée and W.W. Massie - Offshore Hydromechanics, DUT course of lectures, 2001

Subrata Chakrabarti – Hydrodynamics of Offshore Structures, Springer-Verlag 1987

Subrata Chakrabarti - Offshore Structure Modeling, World Scientific, 1994

Additional information (optional) (e.g., special requirements, laboratory equipment, prior knowledge)

Prior knowledge on ship theory and marine structures

Basic knowledge on probabilistic theory and statistics