

Code: 49 „Design of Ships and Marine Structures - part 1”

ECTS credits: 4

Number of hours per week: 2+0+1

Forms of assessments: Continuous assessment

Types of assessment: Continuous assessment mark - Achievement tests

Department, providing instruction on the discipline:

Department: *NAVAL ARCHITECTURE AND MARINE ENGINEERING*
FACULTY OF SHIPBUILDING

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Annotation: The subject "Design of ships and marine equipment" summarizes the knowledge of the students gained during their study in the specialty. The lectures on the first and second part chronologically follow the ship design process by providing the theoretical foundations that are modelled in the laboratory exercises with modern and accessible software products (MS Excel and AutoCAD)

The first part clarifies the main methodological features of the theory of ship design and the links with the other disciplines studied. The main focus is on the initial stages of design, which are characterized by their highly creative character and which decide for the efficiency of the designed vessel. There are "recipes" given for ship design, rather a special attention is paid to the study of the basic laws linking the general characteristics of the ship with her operation qualities

In the first part of the course, the main stages of design are studied, starting with the assignment. The design-specific methods for calculating the ship's load and for determining the load capacity are considered. From the basic equations of the ship design theory the equation of masses and buoyancy are studied in details. The requirements of International Convention on Load Lines are demonstrated by example calculation of minimum free board during the laboratory exercises

Main issues of the syllabus content:

- Subject and tasks of the discipline
- Theory and methods for design of floating structures
- Organization of ship design activities
- Weight calculation of the ship
- Equation of masses and buoyancy
- Ship capacity and Rules for draft marks

Content presentation:

- Lectures
- Laboratory exercises