

Code: 16 „, Thermodynamics and Heat Transfer”

ECTS credits: 5	Number of hours per week: 2+0+1
Forms of assessments: Exam	Types of assessment: Exam - test/quiz
Department, providing instruction on the discipline: Department: <i>THERMAL ENGINEERING</i> <i>FACULTY OF SHIPBUILDING</i>	

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Annotation: The aim of the course is to acquaint students with the fundamentals, principles and application of technical thermodynamics and heat transfer. The curriculum includes examining issues related to the transformation of the different forms of energy, the technical means of this transformation, the distribution of heat in the bodies, and examples of modern technical means for transforming energy and utilizing new energy sources. In addition, the course focuses on issues related to the application of technical thermodynamics and heat transfer in the field of shipbuilding.

Main issues of the syllabus content:

- Thermodynamics
- Тема 1. Introductory concepts, definitions and laws of thermodynamics.
- Тема 2. Evaluating properties using ideal gas model. Internally Reversible Steady - State Flow Processes. Internal Combustion Engine.
- Тема 3. Evaluating of thermodynamic processes of real gases and vapors. Vapor Power System.
- Тема 4. Refrigeration and Heat Pump Systems.
- Heat transfer.
- Тема 1. Heat Conduction;
- Тема 2. Convection;
- Тема 3. Radiation Heat Transfer;
- Heat Exchangers.

Content presentation: The curriculum content is presented in the form of lectures and exercises. Existing learning materials use modern learning tools such as multimedia, tests, and assignment of individual tasks