

ANNOTATION

Ship Power Plants 135 h, mandatory	ESTC credits: 9
Department Ship Power Systems	Lectures: Prof. Ph.D. Peycho Tomov Exercises: Assist. Prof . Ph.D. Dragiya Yanulov
<p>Learning objectives: Students SHOULD KNOW:</p> <ul style="list-style-type: none"> - operating principles, theoretical basics and design features of marine hydraulic and pneumatic machinery and systems; - particularities of operating modes and rules for effective operation of machinery and systems; - requirements, criteria for assessment and methods of analysis of technical state and determination of operating modes of marine machinery and systems; - rules for technical operation and marine machinery and system safety regulations; <p>Students SHOULD BE ABLE TO:</p> <ul style="list-style-type: none"> - prepare the equipment for operation, to start it, to serve systems and equipment while they are in operation, to shut it down and carry out maintenance while the equipment is not operating; - compose operational instructions and to keep the documentation of marine systems and equipment; - apply safety regulations during running and maintaining of systems and the equipment; - organize and carry out systems and equipment testing in order to determine their effective mode of operation. 	
<p>Assessment system:</p> <p>The trainees' progress in the acquisition of the material is controlled at the end of each topic. The theoretical knowledge of the trainees is assessed with questionnaires and tests. Their practical knowledge is assessed by the instructor with reports and discussion on each topic.</p> <p>An examination at the end of the 5th and the 6th semester. <i>(Only students who have done and passed the semester tests and tasks successfully are allowed to sit for the examinations.)</i></p>	
<p>SCOPE: This syllabus covers the requirements of the 1995 STCW convention Chapter III, Section A-III/1 Code Competence, Reference 1.6, 1.7, 2.1, 4.1 Operational level competences, Section A-III/2 code competence Reference 1.3, 1.4, 1.5, 3.2 Management level competence and the recommendations in the IMO/ILO Document for Guidance 1999 as prescribed in IMO Model course 7.02, Function 1 Competence 1.1.3.2, 1.1.4.5, 1.2.2.11 to 14, 1.3.1 and Model Course 7.04 Function 1 Competence 1.6.1.24 to 1.6.1.43, 1.7.1.</p>	

Contents:			
No.	Subject Area (modules)	Lectures	Exercises
	PART ONE Section I. Marine hydraulic and pneumatic machines		
1	Introduction	4	0
2	Hydraulic and pneumatic machines – positive displacement type	16	4
3	Hydraulic and pneumatic machines – rotodynamic type	14	6
	Section II. Hydraulic, pneumatic and steam power drive systems onboard ships.		
4	Hydrostatic drive systems.	12	4
5	Hydrodynamic power transmission, pneumatic and steam power drive systems.	8	2
	Total for Part One	54	16
	PART TWO Section III. Marine systems		
6	Classification, requirements, system components and sizing	2	0
7	Systems providing ship functions	5	0
8	Machinery service systems	8	10
9	Systems providing the seaworthiness of the ship	5	5
10	Pollution prevention systems	2	0
11	Systems providing proper living conditions for the staff	13	15
	Total for Part Two	35	30
	Total	89	46