Hellenic Naval Academy

ENGINEER CADETS SYLLABUS

Academic Year: 2024 – 2025

Fall Semester	Hours	ECTS
A' YEAR		
SINGLE VARIABLE CALCULUS	4	5
GENERAL & APPLIED PHYSICS - A	4	5
LINEAR ALGEBRA	3	4
INTRODUCTION TO COMPUTER SCIENCE	2	2
MECHANICAL DESIGN	3	4
ANCIENT AND MEDIEVAL NAVAL HISTORY	3	3
FOREIGN LANGUAGES I	3	3
PHILOSOPHY	2	2
GENERAL CHEMISTRY	2	2
Subtotal	**26**	**30**

Spring Semester	Hours	ECTS
VECTOR ANALYSIS	4	4
ANALYTIC GEOMETRY – GEOMETRY OF CURVES AND SURFACES	3	3
GENERAL & APPLIED PHYSICS -B	3	3
SOCIAL PSYCHOLOGY	3	3
EARLY MODERN NAVAL HISTORY	3	3
FOREIGN LANGUAGES II & IMO	5	6
COMPUTER PROGRAMMING	2	2
FUNDAMENTALS OF NAVIGATION – NAVAL SKILLS	5	6
	28	**30**

Fall Semester	Hours	ECTS
B' YEAR		
DIFFERENTIAL EQUATIONS	3	3
INTRODUCTION TO ELECTRIC CIRCUITS THEORY	3	3
THERMODYNAMICS	3	4
THEORETICAL AND APPLIED ELECTROMAGNETISM	4	5
FLUID MECHANICS	3	4
FOREIGN LANGUAGES III	3	3
PROBABILITIES	2	2
FUELS & LUBRICANTS TECHNOLOGY	3	4
COMPUTER ARCHITECTURE	2	2
Subtotal	**26**	**30**

Spring Semester	Hours	ECTS
SYSTEM ANALYSIS AND INTRODUCTION TO CONTROL SYSTEMS	3	3
NUMERICAL ANALYSIS	2	2
AUXILIARY SYSTEMS AND SHIP NETWORKS	3	3
APPLIED THERMODYNAMICS	5	6
THEORETICAL MECHANICS - STATICS	4	4
ELECTRIC CIRCUITS THEORY & APPLICATIONS	4	4
MODERN NAVAL HISTORY	2	2
FOREIGN LANGUAGES IV	2	2
STATISTICS	2	2
DATABASES	2	2
	29	**30**

Fall Semester	Hours	ECTS
C' YEAR		
INTRODUCTION TO ELECTRICAL MACHINES	3	3
OPERATIONAL RESEARCH – LINEAR PROGRAMMING	2	2
APPLIED MECHANICS I	2	2
ELECTRONICS I	5	6
THEORETICAL MECHANICS - DYNAMICS	4	4
QUANTUM PHYSICS – IR APPLICATIONS AND LASER	2	2
HEAT TRANSFER	3	3
MARINE GAS TURBINES	5	6
FOREIGN LANGUAGES V	2	2
Subtotal	**28**	**30**

Spring Semester	Hours	ECTS
ELECTRICAL POWER SYSTEMS	3	3
SPECIAL TOPICS ON APPLICATIONS OF MODERN PHYSICS	2	2
MATERIALS SCIENCE	3	3
APPLIED MECHANICS II	3	3
ELECTRONICS II	5	6
MATHEMATICAL MODELING AND APPLICATIONS	2	2
MARINE PISTON ENGINES	5	6
FOREIGN LANGUAGES VI	3	3
ARTIFICIAL INTELLIGENCE	2	2
	28	**30**

Fall Semester	Hours	ECTS
D' YEAR		
COMPUTER NETWORKS - NETWORK PROGRAMMING	3	3
INTRODUCTION TO FINITE ELEMENTS	3	3
LEADERSHIP AND MANAGEMENT	2	2
NAVAL ARCHITECTURE A	5	5
MACHINE ELEMENTS I	3	3
COMMUNICATION SYSTEMS I	5	5
NAVAL MATERIALS TECHNOLOGY	3	3
THESIS		6
Subtotal	**24**	**30**

Spring Semester	Hours	ECTS
INFORMATION SECURITY - CRYPTOGRAPHY - COMPUTATIONAL INTELLIGENCE	2	2
LAW OF THE SEA	3	3
APPLIED MECHANICS III	2	2
GAME THEORY AND DECISION MAKING	2	2
NAVAL ARCHITECTURE II	5	4
EXPERIMENTAL STRENGTH AND FAILURE OF MATERIALS	4	4
MACHINE ELEMENTS II	3	3
COMMUNICATION SYSTEMS II	5	4
THESIS		6
	26	**30**