



Hellenic Naval Academy

ENGINEER CADETS SYLLABUS



Year of Entry: 2023 – 2024

Fall Semester	Hours	ECTS	Spring Semester	Hours	ECTS
A' YEAR					
SINGLE VARIABLE CALCULUS	3	4	VECTOR ANALYSIS	3	4
GENERAL & APPLIED PHYSICS - A	2	2	ANALYTIC GEOMETRY – GEOMETRY OF CURVES AND SURFACES	3	4
LINEAR ALGEBRA	3	4	GENERAL & APPLIED PHYSICS -B	2	2
INTRODUCTION TO COMPUTER SCIENCE	2	3	SOCIAL PSYCHOLOGY	2	2
ENGINEERING DRAWING	3	4	HISTORY OF THE SAILING NAVY	2	2
HISTORY OF THE OARED NAVIES	3	4	FOREIGN LANGUAGES II & IMO	5	6
FOREIGN LANGUAGES I	3	4	ECONOMY OF DEFENSE	2	2
PHILOSOPHY	2	2	COMPUTER PROGRAMMING	2	2
GENERAL CHEMISTRY	2	3	INTRODUCTION TO NAVIGATION AND SEAMANSHIP	5	6
Subtotal	23	30	Subtotal	26	30
B' YEAR					
DIFFERENTIAL EQUATIONS	3	4	SYSTEM ANALYSIS AND INTRODUCTION TO CONTROL SYSTEMS	3	3
INTRODUCTION TO ELECTRIC CIRCUITS THEORY	3	4	NUMERICAL ANALYSIS	2	2
THERMODYNAMICS	3	4	AUXILIARY SYSTEMS AND SHIP PIPE NETWORKS	3	3
THEORETICAL AND APPLIED ELECTROMAGNETISM	4	5	APPLIED THERMODYNAMICS	5	6
FLUID MECHANICS	3	4	THEORETICAL MECHANICS - STATICS	4	5
FOREIGN LANGUAGES III	3	3	ELECTRIC CIRCUITS THEORY & APPLICATIONS	4	5
PROBABILITIES	2	2	MODERN NAVAL HISTORY	2	2
FUELS & LUBRICANTS TECHNOLOGY	3	4	FOREIGN LANGUAGES IV	2	2
Subtotal	24	30	STATISTICS	2	2
C' YEAR					
INTRODUCTION TO ELECTRICAL MACHINES	3	3	ELECTRICAL POWER SYSTEMS	3	3
OPERATIONAL RESEARCH – LINEAR PROGRAMMING	2	2	SPECIAL TOPICS ON APPLICATIONS OF MODERN PHYSICS	2	2
APPLIED MECHANICS I	2	2	MATERIALS SCIENCE AND ENGINEERING	3	4
ELECTRONICS I	5	6	APPLIED MECHANICS I	3	4
THEORETICAL MECHANICS - DYNAMICS	4	4	ELECTRONICS II	5	6
QUANTUM PHYSICS – IR APPLICATIONS AND LASER	2	2	MATHEMATICAL MODELING AND APPLICATIONS	2	2
HEAT TRANSFER	3	3	MARINE PISTON ENGINES	5	6
MARINE GAS TURBINES	5	6	FOREIGN LANGUAGES VI	3	3
FOREIGN LANGUAGES V	2	2	Subtotal	26	30
Subtotal	28	30			
D' YEAR					
OPTIMIZATION – NON LINEAR PROGRAMMING	2	2	INFORMATION SECURITY - CRYPTOGRAPHY - COMPUTATIONAL INTELLIGENCE	2	2
COMPUTER NETWORKS - NETWORK PROGRAMMING	3	3	LAW OF THE SEA	3	3
INTRODUCTION TO FINITE ELEMENT METHOD	3	3	APPLIED MECHANICS III	2	2
LEADERSHIP	2	2	GAME THEORY AND DECISION MAKING	2	2
NAVAL ARCHITECTURE II	5	4	NAVAL ARCHITECTURE II	5	4
MACHINE ELEMENTS I	3	3	EXPERIMENTAL MECHANICS AND FAILURE ANALYSIS	4	4
COMMUNICATION SYSTEMS I	5	4	MACHINE ELEMENTS II	3	3
NAVAL MATERIALS TECHNOLOGY	3	3	COMMUNICATION SYSTEMS II	5	4
BACHELOR'S THESIS		6	BACHELOR'S THESIS		6
Subtotal	26	30	Subtotal	26	30