



The Apprentice School Curriculum

For course descriptions, visit

<https://www.as.edu/programs/index.html>

World Class Shipbuilder Curriculum (WCSC)

SUBJECT	ACADEMIC TERMS			
	1	2	3	4
TECHNICAL MATHEMATICS	TECHNICAL MATH I M111	TECHNICAL MATH II M112		
DRAFTING, ENGINEERING AND DESIGN		DRAFTING D111		MECHANICS M121
MARINE ENGINEERING AND NAVAL ARCHITECTURE		SHIP CONSTRUCTION I N111	SHIP CONSTRUCTION II N222	
PHYSICAL SCIENCE			PHYSICAL SCIENCE I P221	PHYSICAL SCIENCE II P222
TECHNICAL COMMUNICATIONS	TECHNICAL COMMUNICATIONS I C111		SAFESTART S101	
BUSINESS PROCESSES	INTRODUCTION TO COMPUTERS C211		BUSINESS OPERATIONS AND LEADERSHIP B122	PROBLEM SOLVING B112

Trade Related Education Curriculum (TREC)

COATINGS SPECIALIST

Paint and Surface Preparation
Blueprint Reading for Painters

DIMENSIONAL CONTROL TECHNICIAN

Industrial Measurement–Instrumentation
Industrial Measurement–Trades Processing
Industrial Measurement–Processing

ELECTRICIAN

Applied Theory I: DC Concepts
Applied Theory II: AC Concepts
Applied Theory III: Polyphase Systems and Controls
Programmable Logic Controllers

HEATING & AIR CONDITIONING WORKER

All Electrical Theory Courses
Air Conditioning and Refrigeration I

HEAVY METAL FABRICATOR

Hull Construction Theory I
Fundamentals of Fabrication

INSULATOR

Blueprint Reading for Insulators
Theory of Insulation

MACHINIST

Machinist Shop Theory
Computer Numerical Control Programming

MILLWRIGHT

Machinist Shop Theory
Hydraulics I (Introduction)

MODELING & SIMULATION

Introduction to Modeling and Simulation
Modeling and Simulation Applied

MOLDER

Foundry Processes
Blueprint Reading for Molders

NON-DESTRUCTIVE TESTER

NDT Theory

OUTSIDE MACHINIST

Machinery Installation Theory
Hydraulics I (Introduction)
Ship Systems

PATTERNMAKER

Foundry Processes

PIPEFITTER

Introduction to Pipefitting
Blueprint Reading
Fundamentals and Procedures
Sketching and Bending
Fundamentals
Piping Systems

RIGGER

Stagebuilding, Blocking, and Shoring Theory
Lifting and Handling Equipment Theory
Mooring and Ventilation Theory

SHEET METAL WORKER

Blueprint and Group Sheet Reading
Materials, Machine Processes, and Tapping
Sheet Metal Layout
Advanced Print Reading

SHIPFITTER

Hull Construction Theory I
Hull Construction Theory II-CVN Drawings
Hull Construction Theory II-VCS Drawings
Hull Construction Theory III

WELDER

Hull Construction Theory I
Shielded Metal Arc Welding
Gas-Metal Arc Welding
Introduction to Non-Destructive Testing

WELDING EQUIPMENT REPAIRER

All Electrical Theory Courses



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Pre-Advanced Optional Curriculum

SUBJECT	ACADEMIC SEMESTERS *		
	1	2	3
GENERAL EDUCATION	COLLEGE SUCCESS SKILLS S100 / SDV 100 (T)		
MATHEMATICS	PRECALCULUS I M161 / MTH 161 (T)	PRECALCULUS II M162 / MTH 162 (T)	CALCULUS I M263 / MTH 263 (T) OR APPLIED CALCULUS I M261 / MTH 261 (T)
ENGLISH	COLLEGE COMPOSITION I E111 / ENG 111 (T)		
SOCIAL SCIENCE AND HUMANITIES	PRINCIPLES OF MACROECONOMICS E201 / ECO 201 (T)	UNITED STATES HISTORY I H121 / HIS 121 (T)	INTRO TO LITERATURE E126 / ENG 125 (T)

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Advanced Optional Curricula

ELECTRICAL ENGINEERING TECHNOLOGY *					
SUBJECT	ACADEMIC SEMESTERS **				
	4	5	6	7	8
GENERAL EDUCATION			WORKPLACE STRESS MANAGEMENT H210 / HLT 210 (T)		
LABORATORY SCIENCE	GEN COLLEGE PHYSICS II P202 / PHY 202 (T)				
TECHNICAL COMMUNICATIONS & HUMANITIES				TECHNICAL COMM II C232	
ELECTRICAL AND ELECTRONICS TECHNOLOGY	AMPLIFIERS AND INTEGRATED CIRCUITS ETR 148	DIGITAL PRINCIPLES, TERMS, AND APPLICATIONS E279 / ETR 279 (T)	MICROPROCESSOR APPLICATION I E261 / ETR 261 (T)	PRINCIPLES OF LASERS & FIBER OPTICS I E231 / ETR 231 (T)	

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MECHANICAL ENGINEERING TECHNOLOGY *					
SUBJECT	ACADEMIC SEMESTERS **				
	4	5	6	7	8
GENERAL EDUCATION			WORKPLACE STRESS MANAGEMENT H210 / HLT 210 (T)		
DRAFTING, DESIGN, AND MECHANICAL TECHNOLOGY	ADVANCED TECHNICAL DRAFTING I C211 / CAD 211 (T)	MATERIALS AND PROCESSES OF INDUSTRY M113 / MEC113 (T) MECHANICS I M131 / MEC 131 (T)	MECHANICS II M132 / MEC 132 (T)		APPLIED HYDRAULICS, PNEUMATICS AND HYDROSTATICS MEC 165
MARINE ENGINEERING AND NAVAL ARCHITECTURE		MARINE ENGINEERING N236	NAVAL ARCHITECTURE N237		
BUSINESS PROCESSES				SHIPBUILDING OPERATIONS O233	
LABORATORY SCIENCE	GEN COLLEGE PHYSICS II P202 / PHY 202 (T)			COLLEGE CHEMISTRY I C221 / CHM 111 (T)	

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BUSINESS ADMINISTRATION *				
SUBJECT	ACADEMIC SEMESTERS **			
	4	5	6	7
SOCIAL SCIENCE		INFORMATION LITERACY I119 / ITE 119		PRINCIPLES OF MICROECONOMICS E202 / ECO 202 (T)
ACCOUNTING		PRINCIPLES OF ACCOUNTING I A211 / ACC 211 (T)	PRINCIPLES OF ACCOUNTING II A212 / ACC 212 (T)	
LABORATORY SCIENCE	GEN COLLEGE PHYSICS II P202 / PHY 202 (T)			
BUSINESS	PROBABILITY & STATISTICS FOR BUSINESS & ECONOMICS B216 / BUS 216 (T)		ORGANIZATIONAL BEHAVIOR B201/BUS 201 (T)	TOTAL QUALITY MANAGEMENT B209 / BUS 209 (T)
COMPOSITION, TECHNICAL COMMUNICATIONS, AND HUMANITIES	TECHNICAL COMMUNICATIONS III C243	COLLEGE COMPOSITION II E112 / ENG 112 (T)		ETHICS P220 / PHI 220 (T)

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MECHANICAL ENGINEERING*						
SUBJECT	ACADEMIC SEMESTERS **					
	4	5	6	7	8	9
ENGINEERING	INTRO TO ENGINEERING E120 / EGR 120 (T)	ENGINEERING GRAPHICS E110 / EGR 110 (T)	INTRO TO ENGINEERING METHODS E125 / EGR 125 (T)	ENGINEERING MECHANICS - STATICS E140 / EGR 140 (T)	ENGINEERING MECHANICS - DYNAMICS E245 / EGR 245 (T)	MECHANICS OF MATERIALS E246 / EGR 246 (T) & E247 / EGR 247 (T)
MATHEMATICS	CALCULUS II M264 / MTH 264 (T)	CALCULUS III M265 / MTH 265 (T)	DIFFERENTIAL EQUATIONS M267 / MTH 267 (T)			
LABORATORY SCIENCE		COLLEGE CHEMISTRY I C221 / CHM 111 (T)	COLLEGE CHEMISTRY II C222 / CHM 112 (T)		UNIVERSITY PHYSICS I P241 / PHY 241 (T)	UNIVERSITY PHYSICS II P242 / PHY 242 (T)
TECHNICAL COMMUNICATIONS & HUMANITIES				ETHICS P220 / PHI 220 (T)		TECHNICAL COMM II C232

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ELECTRICAL ENGINEERING *						
SUBJECT	ACADEMIC SEMESTERS **					
	4	5	6	7	8	9
ENGINEERING	INTRO TO ENGINEERING E120 / EGR 120 (T)	ENGINEERING GRAPHICS E110 / EGR 110 (T)	INTRO TO ENGINEERING METHODS E125 / EGR 125 (T)	ENGINEERING MECHANICS - STATICS E140 / EGR 140 (T)	CIRCUIT THEORY I E271 / EGR 271 (T)	FUNDAMENTALS OF COMPUTER ENGINEERING E270 / EGR 270 (T)
MATHEMATICS	CALCULUS II M264 / MTH 264 (T)	CALCULUS III M265 / MTH 265 (T)	DIFFERENTIAL EQUATIONS M267 / MTH 267 (T)			
LABORATORY SCIENCE		COLLEGE CHEMISTRY I C221 / CHM 111 (T)	COLLEGE CHEMISTRY II C222 / CHM 112 (T)		UNIVERSITY PHYSICS I P241 / PHY 241 (T)	UNIVERSITY PHYSICS II P242 / PHY 242 (T)
TECHNICAL COMMUNICATIONS & HUMANITIES				ETHICS P220 / PHI 220 (T)		TECHNICAL COMM II C232

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MODELING AND SIMULATION *							
SUBJECT	ACADEMIC SEMESTERS **						
	4	5	6	7	8	9	10
ENGINEERING	INTRO TO ENGINEERING E120 / EGR 120 (T)	ENGINEERING GRAPHICS E110 / EGR 110 (T)	INTRO TO ENGINEERING METHODS E125 / EGR 125 (T)	INTRO TO MOD & SIM E061			MOD & SIM APPLIED E062
MATHEMATICS	CALCULUS II M264 / MTH 264 (T)		DIFFERENTIAL EQUATIONS M267 / MTH 267 (T)	PROBABILITY & STATISTICS M283 / MTH 283 (T)			
LABORATORY SCIENCE		COLLEGE CHEMISTRY I C221 / CHM 111 (T)	COLLEGE CHEMISTRY II C222 / CHM 112 (T)		UNIVERSITY PHYSICS I P241 / PHY 241 (T)	UNIVERSITY PHYSICS II P242 / PHY 242 (T)	
TECHNICAL COMMUNICATIONS & HUMANITIES				ETHICS P220 / PHI 220 (T)		TECHNICAL COMM II C232	
COMPUTER SCIENCE		PROGRAMMING WITH C++ C210 / CSC 210					

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