

Marine Engineers and Naval Architects

SOC: 17-2121 • Career Profile Report

■ Key Facts

\$105,670 Median Salary	8,500 Employment	+6.0% Growth Rate
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■ Requirements & Salary Range

Education: Bachelor's degree

■ Automation Risk Assessment

Low Risk - 17.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■ Work-Life Balance

7.2/10 - Good work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	8.2/10	Investigative	8.8/10
Artistic	6.4/10	Social	5.2/10
Enterprising	5.8/10	Conventional	6.6/10

■ Top Skills Required

Attention to detail, Communication skills, Critical-thinking skills, Interpersonal skills, Math skills, Problem-solving skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Marine Engineers and Naval Architects typically perform the following tasks:

- Perform monitoring activities to ensure that ships comply with international regulations and standards for life-saving equipment and pollution preventatives.
- Design complete hull and superstructure according to specifications and test data, in conformity with standards of safety, efficiency, and economy.
- Conduct analyses of ships, such as stability, structural, weight, and vibration analyses.
- Study design proposals and specifications to establish basic characteristics of craft, such as size, weight, speed, propulsion, displacement, and draft.
- Maintain contact with, and formulate reports for, contractors and clients to ensure completion of work at minimum cost.
- Coordinate activities with regulatory bodies to ensure repairs and alterations are at minimum cost and consistent with safety.
- Check, test, and maintain automatic controls and alarm systems.
- Prepare technical reports for use by engineering, management, or sales personnel.
- Design layout of craft interior, including cargo space, passenger compartments, ladder wells, and elevators.
- Prepare, or direct the preparation of, product or system layouts and detailed drawings and schematics.
- Evaluate performance of craft during dock and sea trials to determine design changes and conformance with national and international standards.
- Inspect marine equipment and machinery to draw up work requests and job specifications.
- Evaluate operation of marine equipment during acceptance testing and shakedown cruises.
- Conduct analytical, environmental, operational, or performance studies to develop designs for products, such as marine engines, equipment, and structures.
- Establish arrangement of boiler room equipment and propulsion machinery, heating and ventilating systems, refrigeration equipment, piping, and other functional equipment.
- Investigate and observe tests on machinery and equipment for compliance with standards.
- Prepare plans, estimates, design and construction schedules, and contract specifications, including any special provisions.
- Design and oversee testing, installation, and repair of marine apparatus and equipment.
- Conduct environmental, operational, or performance tests on marine machinery and equipment.
- Analyze data to determine feasibility of product proposals.

*Generated by StartRight • Data from U.S. Bureau of Labor Statistics & O*NET*

Source: <https://www.bls.gov/ooh/architecture-and-engineering/marine-engineers-and-naval-architects.htm>