



SUSTAINABLE BLUE ECONOMY PROFESSIONAL

Marine Systems Engineer

As a Marine Systems Engineer, you design, operate, and maintain marine systems, including propulsion, power, and auxiliary systems, ensuring safe and efficient vessel performance. Collaborating with naval architects, you optimize operations, support environmental compliance, and drive innovation in sustainable marine transport.



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JOB DUTIES

- Develop mechanical and electrical systems for vessels, including propulsion, power generation, and auxiliary systems, ensuring safety, efficiency, and reliability;
- Perform regular inspections and diagnostics on ship systems;
- Collaborate with naval architects, technicians, and environmental experts;
- Oversee installation, testing, and commissioning of new equipment and systems on vessels;
- Manage maintenance schedules and implement maintenance programs;
- Use computer-aided design (CAD) software and simulation tools to model system functionality, optimize designs, and predict issues before implementation; and
- Prepare technical documentation, including reports, operation manuals, and compliance records.



TECHNICAL SKILLS

- Computer-Aided Design (CAD) and Simulation Software;
- Knowledge of Propulsion and Power Generation Systems;
- Diagnostics and Troubleshooting for Mechanical and Electrical Systems;
- Familiarity with Maritime Regulations and Environmental Standards;
- Expertise in Hydraulic and Pneumatic Systems;
- Advanced knowledge of Marine Fuel Systems and Emission Control Technologies.



WHERE TO WORK

Marine Systems Engineers have diverse career opportunities in organizations focused on vessel design, maintenance, and sustainable marine practices. Common employers including:

**Shipping and Logistics Companies | Marine Engineering Firms
Shipbuilding and Repair Yards | Government Maritime Agencies |
Offshore Oil and Gas Companies | Research and Development
Institutions | Environmental Consulting Firms Focused on Marine
Technology**



EDUCATION

A career as a Marine Systems Engineer requires a strong foundation in mechanical and electrical engineering, combined with an understanding of marine-specific technologies. An interest in vessel design, propulsion systems, and environmental sustainability is essential for success.

- Bachelor's Degree:
 - A degree in Marine Engineering, Mechanical Engineering, or Electrical Engineering is generally required.
- Advanced Degrees:
 - A master's degree in Marine Systems Engineering or related fields.
- Additional Training:
 - Certifications such as Certified Marine Engineer (CME) or Professional Engineer (P.Eng); and
 - Training from recognized maritime institutions, including IMO and STCW courses.



PERSONAL & PROFESSIONAL SKILLS

- Attention to Detail
- Problem-Solving
- Communication Skills
- Team Collaboration
- Project Management
- Leadership
- Analytical Thinking



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