<table>
<thead>
<tr>
<th>Category</th>
<th>Job Family</th>
<th>Job Function</th>
<th>Job Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>Marine</td>
<td>Marine Engineering</td>
<td>Responsible for engineering operations aboard a seagoing vessel or lab engaged in oceanographic research, including some or all of the following: operations, maintenance and inspection of all of ship’s engineering equipment, safe operation of ship’s electrical, mechanical and safety equipment and all auxiliary engine room and plant machinery, completion of service/repair work and maintenance of operating logs.</td>
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<tbody>
<tr>
<td>Job Code</td>
<td>S846</td>
<td>S845</td>
<td>S844</td>
<td>S843</td>
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<td>MSP</td>
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<tr>
<td>FLSA</td>
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<td>Exempt</td>
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### Generic Scope

- **Entry-level professional with limited prior experience; learns to use professional concepts to resolve problems of limited scope and complexity; works on assignments that are initially routine in nature, requiring limited judgment and decision making.** Employees at this level are expected to acquire the skills and knowledge to perform more advanced work following an agreed upon time in position, thorough defined training and development planning.

- **Professional who applies acquired job skills, policies, and procedures to complete substantive assignments/projects/tasks of moderate scope and complexity; exercises judgment within defined guidelines and practices to determine appropriate action.**

- **Experienced professional who knows how to apply theory and put it into practice with in-depth understanding of the professional field; independently performs the full range of responsibilities within the function; possesses broad job knowledge; analyzes problems/issues of diverse scope and determines solutions.**

- **Technical leader with a high degree of knowledge in the overall field and recognized expertise in specific areas; problem-solving frequently requires analysis of unique issues/problems without precedent and/or structure. May manage programs that include formulating strategies and administering policies, processes, and resources; functions with a high degree of autonomy.**

- **Recognized organization-wide expert. Has significant impact and influence on organizational policy and program development. Regularly leads projects of critical importance to the organization; these projects carry substantial consequences of success or failure. May direct programs with organization-wide impact that include formulating strategies and administering policies, processes, and resources. Significant barriers to entry exist at this level.**

### Custom Scope

- **Under close supervision, operates and maintains diesel engines aboard research vessel.**

- **Under direct supervision, applies acquired skills to help ensure and maintain the safe and efficient operation of all engine room machinery and equipment aboard research vessel. Maintains specialized fuel and water systems.**

- **Under general supervision, applies professional experience to ensure the safe and efficient operation of all engine room machinery and equipment aboard research vessel.**

- **Under limited supervision, responsible for the safe and efficient operation of all engine room machinery and equipment aboard research vessel. Stands underway watches and security watches in port. Maintains specialized fuel and water systems.**

### Key Resp 01

- **Operates and maintains engine and propulsion systems and equipment in support of vessel operations.**

- **Maintains safe and efficient operation of designated main and auxiliary machinery and engine room equipment in area of direct responsibility assigned by senior professionals.**

- **Maintains safe and efficient operation of all main and auxiliary machinery and engine equipment. Keeps supervisors apprised of engineering problems and work in progress.**

- **Oversees operation of all engine department equipment. Supervises all ship engineering repairs. Maintains, repairs, overhauls, performs preventive maintenance. Conducts detailed inspections on engines and related equipment and informs supervisors of their condition.**

### Key Resp 02

- **Operates all ancillary engineering.**

- **Assists with general mechanical repairs.**

- **Performs complex mechanical repairs.**

- **Assists in planning and maintenance of work.**
**Job Family**  | Marine  
**Job Function**  | Marine Engineering  
**Category**  | Professional  

**Job Summary**  
Responsible for engineering operations aboard a seagoing vessel or lab engaged in oceanographic research, including some or all of the following operations, maintenance and inspection of all of ship’s engineering equipment, safe operation of ship’s electrical, mechanical and safety equipment and all auxiliary engine room and plant machinery, completion of service / repair work and maintenance of operating logs.

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<tr>
<td>Key Resp 03</td>
<td>Performs routine, planned and preventative maintenance on machinery and engine room systems and equipment, as well as ensures general order and cleanliness of the engine room.</td>
<td>Systems including water purification, sewage, ballast, fuel transfer, fuel oil purifier, HVAC, electrical, etc. and maintenance of deck and scientific support equipment.</td>
<td>and maintenance of deck and scientific support equipment.</td>
<td>in port, lay-up and shipyard periods.</td>
<td></td>
</tr>
<tr>
<td>Key Resp 04</td>
<td>Maintains daily engine room logs, work / repair lists, and maintenance and repair histories / logs.</td>
<td>Maintains machinery history logs and inventory of engineering consumables and parts.</td>
<td>Maintains machinery history logs and inventory of engineering consumables and parts.</td>
<td>Maintains machinery history logs, technical and operator manuals for machinery, systems and tools.</td>
<td></td>
</tr>
<tr>
<td>Key Resp 05</td>
<td>Coordinates loading of fuel and lube oil, sounds all tanks daily and prepares sounding report.</td>
<td>Assists in bunkering operations.</td>
<td>Performs bunkering operations.</td>
<td>Provides work direction and supervision to other Engineers and Operational and Technical staff.</td>
<td></td>
</tr>
<tr>
<td>Key Resp 06</td>
<td>In emergency situations, performs assigned duties listed on the ship's Station Bill and performs any additional duties deemed necessary by the Captain.</td>
<td>Assists with loading and unloading operations, safety management program, mobilization and demobilization, and other duties as assigned.</td>
<td>Performs loading and unloading operations, safety management program, mobilization and demobilization, and other duties as assigned.</td>
<td>Supports and implements all safety policies and procedures. Assists with casualties, repairs and emergency situations as required.</td>
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<tr>
<td>Key Resp 07</td>
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<td>Key Resp 08</td>
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<td>Key Resp 09</td>
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<td>Key Resp 10</td>
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<td>Key Resp 11</td>
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<td>Key Resp 12</td>
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<td>Key Resp 14</td>
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<td>Key Resp 15</td>
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**Education 1**  
High school education and / or equivalent such as a GED.  
Bachelor's degree or equivalent education and work experience.  
Bachelor's degree or equivalent education and work experience.  
Bachelor's degree or equivalent education and work experience.
### Job Summary
Responsible for engineering operations aboard a seagoing vessel or lab engaged in oceanographic research, including some or all of the following: operations, maintenance and inspection of all of ship's engineering equipment, safe operation of ship's electrical, mechanical and safety equipment and all auxiliary engine room and plant machinery, completion of service/repair work and maintenance of operating logs.

### Job Function
Marine Engineering

### Category
Professional

### Education
- **Education 2**: U.S. Coast Guard Designated Duty Engineer (DDE) 500 GT, 4,000 HP.
- **Education 3**: U.S. Coast Guard Standards of Training, Certification and Watchkeeping for Seafarers (STCW95) and lifeboat endorsement.
- **Education 4**: U.S. Coast Guard Standards of Training, Certification and Watchkeeping for Seafarers (STCW95) and lifeboat endorsement.

### License
- **License 1**: U.S. Coast Guard Designated Duty Engineer license for related vessel.
- **License 2**: U.S. Coast Guard Third Assistant Engineer license for related vessel.
- **License 3**: U.S. Coast Guard Second Assistant Engineer license for related vessel.
- **License 4**: U.S. Coast Guard First Assistant Engineer license for related vessel.

### Certification
- **Cert 1**: Transportation Worker Identification Credential (TWIC) issued by Transportation Security Administration (TSA).
- **Cert 2**: U.S. Coast Guard Merchant Mariners Document (MMD) or Credential (MMC) with Oiler endorsement. Other endorsements may be required.
- **Cert 3**: Vessel Personnel with Designated Security Duties (VPDSD). Other endorsements may be required.
- **Cert 4**: Vessel Personnel with Designated Security Duties (VPDSD). Other endorsements may be required.

### Spec Cond
- **Spec Cond 1**: Ability and willingness to go to sea for extended periods of time.
- **Spec Cond 2**: Ability to pass physical examination and U.S. Coast Guard DOT regulations for Chemical Drug and Alcohol pre-employment screening and post-employment random testing.

### KSA
- **KSA 01**: Basic knowledge to maintain and operate diesel engines for propulsion and auxiliary power.
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<tr>
<td>KSA 02</td>
<td>Basic knowledge to maintain and operate engine room equipment (including water makers, sewage treatment plant, fuel/oil transfer and purification system, ballast system, HVAC, electrical, etc.).</td>
<td>Proficiency in the operation and maintenance of ancillary engine room equipment and systems (including water makers, sewage treatment plant, fuel/oil transfer and purification system, ballast system, HVAC, electrical, etc.).</td>
<td>Proven ability in the operation and maintenance of ancillary engine room equipment and systems (including water makers, sewage treatment plant, fuel/oil transfer and purification system, ballast system, HVAC, electrical, etc.).</td>
<td>Advanced experience with engineering department machines and tools.</td>
<td></td>
</tr>
<tr>
<td>KSA 03</td>
<td>Basic knowledge of university, state, federal and international maritime practices for ship operation and maintenance.</td>
<td>Demonstrated knowledge of university, state, federal and international maritime practices for ship operation and maintenance.</td>
<td>Thorough knowledge of university, state, federal and international maritime practices for ship operation and maintenance.</td>
<td>In-depth knowledge of university, state, federal and international maritime practices for ship operation and maintenance.</td>
<td></td>
</tr>
<tr>
<td>KSA 04</td>
<td>Basic knowledge of federal regulations relevant to maritime operations.</td>
<td>Demonstrated knowledge of federal regulations relevant to maritime operations.</td>
<td>Thorough knowledge of federal regulations relevant to maritime operations.</td>
<td>In-depth knowledge of federal regulations relevant to maritime operations.</td>
<td></td>
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<tr>
<td>KSA 05</td>
<td>Basic ability to communicate effectively orally and in writing.</td>
<td>Demonstrated interpersonal and communication skills, oral and written, to establish and maintain cooperative working relationships with diverse groups, and to provide work direction to junior crew.</td>
<td>Strong interpersonal and communication skills, oral and written, to establish and maintain cooperative working relationships with diverse groups, and to provide work direction to junior crew.</td>
<td>Advanced interpersonal and communication skills, oral and written, to establish and maintain cooperative working relationships with diverse groups, and to provide work direction to junior crew.</td>
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<tr>
<td>KSA 06</td>
<td>Basic computer skills with good working knowledge of word processing and spreadsheet applications.</td>
<td>Demonstrated computer skills with good working knowledge of word processing and spreadsheet applications.</td>
<td>Strong computer skills with good working knowledge of word processing and spreadsheet applications.</td>
<td>Advanced computer skills with good working knowledge of word processing and spreadsheet applications.</td>
<td></td>
</tr>
<tr>
<td>KSA 07</td>
<td>Basic knowledge of and experience with emergency procedures, drills and training.</td>
<td>Demonstrated ability to interpret and use technical drawings and documentation.</td>
<td>Proven ability to interpret and use technical drawings and documentation.</td>
<td>Advanced ability to interpret and use technical drawings and documentation.</td>
<td></td>
</tr>
<tr>
<td>KSA 08</td>
<td>Basic ability to detect and recognize symptoms of impending malfunction or failure and take positive action.</td>
<td>Demonstrated basic math skills</td>
<td>Strong math skills</td>
<td>Advanced math skills</td>
<td></td>
</tr>
<tr>
<td>KSA 09</td>
<td>Basic seamanship skills (knots, line-handling, general shipboard maintenance and care, preparation/preservation of steel surfaces, operation of deck equipment, winches, etc.).</td>
<td>Demonstrated seamanship skills (knots, line-handling, general shipboard maintenance and care, preparation/preservation of steel surfaces, operation of deck equipment, winches, etc.).</td>
<td>Strong seamanship skills (knots, line-handling, general shipboard maintenance and care, preparation/preservation of steel surfaces, operation of deck equipment, winches, etc.).</td>
<td>Advanced seamanship skills (knots, line-handling, general shipboard maintenance and care, preparation/preservation of steel surfaces, operation of deck equipment, winches, etc.).</td>
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## Job Function

Marine Engineering

## Category

Professional

### KSA 10

**Basic ability to organize and prioritize task lists.**

- **Intermediate:** Demonstrated critical thinking skills using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Experienced:** Strong critical thinking skills using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Advanced:** Advanced critical thinking skills using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Expert:**

### KSA 11

- **Entry:**
- **Intermediate:**
- **Experienced:**
- **Advanced:**
- **Expert:** In-depth knowledge of company/vessel safety management plans.

### KSA 12

### KSA 13

### KSA 14

### KSA 15

**Environment**

- **Entry:** Seagoing research vessel or lab, which may include extended periods of time at sea.
- **Intermediate:**
- **Experienced:**
- **Advanced:**
- **Expert:**

### Career Path 1

- **Third Engr Ast**
- **Second Engr Ast**
- **First Engr Ast**
- **Career Path open**

### Career Path 2

### Career Path 3

### Career Path 4

### Career Path 5

### Career Path 6