

Marine Transportation Occupations

This document provides a list of many of the primary marine transportation occupations and occupational clusters. The list is intended to be illustrative. It does not contain all occupations available in marine transportation industries and it does not intend to suggest that the duties and responsibilities indicated represent the complete occupational descriptions.

Marine Transportation Occupations List

At-Sea Occupations

- ❑ Deck Officer
 - Master Mariner
 - Master, Intermediate Voyage
 - First Mate, Intermediate Voyage
 - Command Endorsement, 350 tonne
 - Watchkeeping Mate, Unrestricted
 - Watchkeeping Mate, Restricted

- ❑ Engineering Officer
 - Marine Engineer, Class 1
 - Marine Engineer, Class 2
 - Marine Engineer, Class 3
 - Marine Engineer, Class 4

- ❑ Catering Personnel
 - Cook
 - Chief Steward
 - Purser
 - Caterers

- ❑ Unlicensed Marine Personnel
 - Bridge Watch Rating
 - Engine Watch Rating

- ❑ Specialized Operational Personnel
 - Dynamic Positioning (DP) Operator
 - Remotely Operated Vehicle (ROV) Operator
 - Marine Crane Operator

- Maintenance Personnel
 - Marine Electrical Technician
 - Marine Electronics Technician
 - Instrumentation Technician
 - Marine Rigger

- Communications Personnel
 - Radio Operator

Shore-based Occupations

- Administrative Personnel
 - Marine Superintendent/ Operations Manager
 - Fleet Manager
 - Safety Manager
 - Human Resources Manager
 - Business Personnel (Finance, clerical, etc.)

- Design Personnel
 - Naval Architect
 - Naval Architectural Design Technologist
 - Marine Engineering Design Technologist
 - Draftsperson/ CADD Operator

- Other
 - Marine Surveyor
 - Marine Lawyer
 - Marine Examiner (Transport Canada)
 - Marine Educator

Marine Transportation Occupational Descriptions

This document provides brief descriptions of some of the primary occupational categories in marine transportation industries. Each description includes an occupational category, examples of occupations included in the category, and an indication of the main duties, educational requirements, experience requirements, previous roles, and competencies required. Where occupation titles include several levels (e.g., junior, intermediate, and senior), the occupation descriptions list the minimum experience required.

Occupational Category: Deck Officer**Example of Occupations Classified in this Category**

- Master Mariner
- Master, Intermediate Voyage
- First Mate, Intermediate Voyage
- Command Endorsement, 350 tonne
- Watchkeeping Mate (WKM), Unrestricted
- Watchkeeping Mate (WKM), Restricted

Main Duties

- Manage the safe and efficient operation of the vessel
- Manage and direct crew
- Maintain necessary records

Educational Requirements (Formal & On the Job)

- Appropriate Transport Canada Certification for position held

Experience Requirements

Progressively increasing as level of responsibility increases (The following are illustrative examples only)

- 5 – 10 years marine vessel experience (Captain)
- 5 –7 years marine vessel experience (Chief Officer)
- 3 – 5 years marine vessel experience (First Officer)

Previous Roles

Dependent on the type and size of vessel and on the nature of the voyage and the cargo (The following are illustrative examples only)

- Chief Officer (Captain)
- First Officer (Chief Officer)

Competencies

- Communication Skills (oral/written)
- Computer Literacy
- Leadership
- Interpersonal Skills
- Planning/Organizational Skills
- Management Skills

Occupational Category: Engineering Officer

Example of Occupations Classified in this Category

- Marine Engineer, Class 1
- Marine Engineer, Class 2
- Marine Engineer, Class 3
- Marine Engineer, Class 4

Main Duties

- Manage the safe and efficient operation of vessel engine room and engine systems
- Manage and supervise engine room personnel
- Maintain vessel's main and auxiliary equipment
- Maintain necessary records

Educational Requirements (Formal & On the Job)

- Appropriate Transport Canada certification for position held

Experience Requirements

Progressively increasing as level of responsibility increases (The following are illustrative examples only)

- 5 – 10 years marine engineering experience (Chief Engineer)
- 5 – 7 years marine engineering experience (First Engineer)
- 3 – 5 years marine engineering experience (Second Engineer)

Previous Roles

Dependent on the vessel's power rating (The following are illustrative examples only)

- First Engineer (Chief Engineer)
- Second Engineer (First Engineer)

Competencies

- Communication Skills (oral/written)
- Knowledge of Computer Automation and Technology
- Leadership
- Interpersonal Skills
- Planning/Organizational Skills
- Management Skills

Occupational Category: Catering Personnel**Example of Occupations Classified in this Category**

- Cook
- Chief Steward
- Purser
- Caterers

Main Duties

- Provide and manage shipboard food services
- Provide shipboard catering and stewarding services
- Maintain appropriate records

Educational Requirements (Formal & On the Job)

- Appropriate training/experience (diploma/certificate)
- Company specific training

Experience Requirements

- Dependent on vessel type and crew size

Previous Roles

- Caterer (Chief Steward)

Competencies

- Communication Skills (oral/written)
- Interpersonal Skills
- Planning/Organizational Skills (Supervisory Positions)

Occupational Category: Unlicensed Marine Personnel

Example of Occupations Classified in this Category

- Bridge Watch Rating (Deckhand)
- Engine Watch Rating (Engine Room Assistant)

Main Duties

- **Bridge Watch Rating**
 - Operate deck equipment as required
 - Maintain vessel (paint, clean, chip, weld)
 - Stand bridge watch under the direction of ships' officers
- **Engine Watch Rating**
 - Maintain engine equipment as required
 - Stand engine room watch under engineering officers

Educational Requirements (Formal & On the Job)

- Bridge Watch Ratings Certificate (Deckhand)
- Engine Watch Rating s Certificate (Engine Room Assistant)
- Marine Emergency Duties (MED) Certificate

Experience Requirements

- Will vary depending on the employer, the type of vessel, the nature of the voyage, etc.

Previous Roles

- None required

Competencies

- Teamwork

Occupational Category: Specialized Operational Personnel**Example of Occupations Classified in this Category**

- Dynamic Positioning (DP) Operator
- Remotely Operated Vehicle (ROV) Operator
- Marine Crane Operator

Main Duties

- Operation of specialized equipment to ensure vessel maintains position (DP), to undertake underwater inspection and/or construction activity (ROV), to load or offload cargo/equipment or transfer equipment to required location(Crane Operator)

Educational Requirements (Formal & On the Job)

- Ships' Officer Certification (DP)
- Relevant specialized operator (i.e., DP, ROV, Marine Crane Operator) certificate
- Company specific training

Experience Requirements

- Will vary from company to company, and situation to situation

Previous Roles

- None necessary, except for DP Operator (Ships Officer)

Competencies

- Communication skills (oral/written)
- Teamwork/interpersonal skills
- Attention to detail

Occupational Category: Maintenance Personnel

Example of Occupations Classified in this Category

- Marine Electrical Technician
- Marine Electronics Technician
- Instrumentation Technician
- Marine Rigger
- Marine Welder/Plater

Main Duties

- Installation/maintenance of equipment/systems (electrical/electronic/instrumentation technician)
- Cut/install/weld/repair/inspect metals, as required (rigger/welder/plater)

Educational Requirements (Formal & On the Job)

- Relevant college diploma/trade certificate
- Apprenticeship training, as required

Experience Requirements

- Will vary depending on company, complexity of tasks and equipment, and level of responsibility

Previous Roles

- None necessary except for relevant apprenticeship work and previous experience appropriate to position (e.g., supervisory)

Competencies

- Communication skills (oral/written)
- Blueprint reading
- Attention to detail

Occupational Category: Communications**Example of Occupations Classified in this Category**

- Radio Operator

Main Duties

- Radio Communication (oral/written)

Educational Requirements (Formal & On the Job)

- High School
- Communications Diploma
- Company specific training

Experience Requirements

- Two years general and marine experience

Previous Roles

- N/A

Competencies

- Communication (oral/written)

Occupational Category: Administrative Personnel

Example of Occupations Classified in this Category

- Marine Superintendent/Operations Manager
- Safety Manager

Main Duties

- **Marine Superintendent/Operations Manager**
 - Manage on-shore business operations
 - Coordinate shipboard activity
 - Supervise staff
- **Safety Manager**
 - Train/advise personnel on health & safety regulations
 - Ensure adherence to health & safety regulations

Educational Requirements (Formal & On the Job)

- Will vary from company to company, depending on size and complexity of operation
- Usually undergraduate degree, plus company specific training, and required training (e.g., health & safety)

Experience Requirements

- Will vary from employer to employer

Previous Roles

- None specified, normally several years in management roles with the same or another employer. Some employers give preference to personnel with marine background

Competencies

- Communication skills (oral/written)
- Management skills
- Leadership skills
- Teamwork/interpersonal skills
- Conflict resolution skills
- Planning/organizational skills
- Problem-solving skills
- Computer literacy
- Customer service skills

Occupational Category: Design Personnel**Example of Positions Classified in this Occupation**

- Naval Architect
- Naval Architectural Technologist
- Marine Engineering Design Technologist
- Draftsperson/CADD Operator

Main Duties

- **Naval Architect**
 - Design marine components
 - Certify marine design
 - Estimate design bid packages
 - Supervise junior design personnel
 - Liaise with clients
- **Naval Architectural Technologist**
 - Design marine components, under supervision
 - Design and interpret blueprints
- **Marine Engineering Design Technologist**
 - Design marine systems (HVAC, electrical, plumbing, Etc.), under supervision
 - Design and interpret blueprints
- **Draftsperson/CADD Operator**
 - Operate CADD software
 - Design and interpret blueprints

Educational Requirements (Formal & On the Job)

- **Naval Architect**
 - Engineering degree (marine/naval architecture), P. Eng.
- **Technologists**
 - Diploma/Undergraduate degree in Naval Architecture Technology or Marine Engineering Design Technology
- **Draftsperson/CADD Operator**
 - CADD training
- Company specific training, as required

Experience Requirements

- Will vary depending on nature and complexity of design requirements and level of responsibility

Previous Roles

- Will vary depending on nature and complexity of design requirements and level of responsibility

Competencies

- **Naval Architect**
 - Communication skills (oral/written)
 - Professional attitude
 - Customer service skills
 - Teamwork/interpersonal skills
 - Planning/organizational skills
 - People management skills

- **Technologists**
 - Communication skills (oral/written)
 - Teamwork/interpersonal skills
 - Attention to detail
 - Problem-solving skills

- **Draftsperson/CADD Operator**
 - Teamwork/interpersonal skills
 - Attention to detail