

# MARINE TECHNOLOGY (MRN)

## MRN 100 (3 credit hours)

### Intro to Marine Technology

Provides fundamental concepts of nautical science expected of personnel working aboard an inland towing vessel. Includes basic terminology, types of equipment encountered aboard the vessel, skill sets needed in day-to-day operations, and a general knowledge of towboat operations. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** Instructor consent.

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

## MRN 101 (3 credit hours)

### Anatomy of a Towboat

Introduces components found on modern towboats with emphasis on an overview of all areas of the vessel from the wheelhouse to the engine room to the external components. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

## MRN 102 (3 credit hours)

### Basic Marine Safety

Provides an overview of risk-based decision making skills for assessing and managing marine hazards to prevent marine accidents or casualty. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

## MRN 103 (3 credit hours)

### Applied Marine Weather

Covers fundamental maritime weather concepts to plan safe and efficient voyages. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

## MRN 104 (3 credit hours)

### Marine Crew Wellness

Examines how nutrition, exercise, and disease affect the crewmembers' ability to maintain a U.S. Coast Guard license. Focuses on nutrition and exercise programs while working, and prevention of disease. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

## MRN 200 (3 credit hours)

### Shipboard Deck Operations

Provides specifics of responsibilities, policies, training, safety and rigging procedures for towboat personnel. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** MRN 100.

**Attributes:** Technical

**Components:** LEC: Lecture

## MRN 201 (3 credit hours)

### Rules of the Road

Provides an in-depth analysis of the United States Coast Guard (USCG) Navigation Rules with an emphasis on the history and interpretation of the rules. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MRN 202 (3 credit hours)

### Piloting and Navigation

Identifies the effect of inland waterway prevailing conditions on vessels; provides instruction on locking procedures, radio telephone regulations, hydrology, and piloting skills. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MRN 203 (3 credit hours)

### Environmental Protection Rules

Provides analysis of environmental regulations governing the marine industry. Explores the environmental practices of vessels on the inland waterway systems and the governing agencies which establish industry regulations. Lecture: 3 credits (45 contact hours).

**Attributes:** Course Also Offered in Modules, Technical

**Components:** LEC: Lecture

## MRN 204 (5 credit hours)

### Marine Electrical Systems

Explores and applies the theory of electricity with an emphasis on power systems, circuits, safety procedures, and maintenance measures needed to maintain electrical systems aboard towing vessels. Lecture/Lab: 5.0 credits (105 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MRN 206 (5 credit hours)

### Marine Diesel

Introduces the operation and components of a marine diesel engine with emphasis on diesel engine theory, safety precautions, internal and external components, and contributing operation systems. Lecture/Lab: 5.0 credits (105 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MRN 208 (3 credit hours)

### Inland River Systems

Explores the U.S. inland waterway system and its tributaries as they relate to the inland marine industry and the movement of cargos. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MRN 212 (5 credit hours)

### Marine Fluid Systems

Incorporates practical experience in fluid power theory, component identification and application, schematic reading, and basic calculations related to marine fluid systems. Lecture/Lab: 5.0 credits (105 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MRN 214 (4 credit hours)

### Marine Refrigeration Systems

Introduces the fundamentals of refrigeration, including use of tools, test equipment, materials, environmental issues, and safety. Lecture/Lab: 4.0 credits (69 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture