

Course Prefix/No.: IMT 102  
Course Title: Industrial Safety  
Lecture Hours/Week: 2.0  
Lab Hours/Week: 0.0  
Credit Hours/Semester: 2.0

[Distance Learning Attendance/VA Statement](#)  
[Textbook Information](#)

## COURSE DESCRIPTION

This course covers safety awareness and practices found in industry

## COURSE COMPETENCIES

Upon successful completion of this course, the student should be able to:

### Module 1 - Introduction to Safety, Safety Laws, and Personal Protective Equipment (PPE)

- Discuss unsafe acts and unsafe conditions.
- Discuss the different types of hazards located in a workplace.
- Identify and define different types of accidents.
- Explain the rights of employees and employers.
- Define OSHA, NIOSH, and EPA and understand the purpose of each.
- Explain the contents in the HMIS Standard and an MSDS.
- Discuss the different types of PPE that are required and explain the proper use of each.

### Module 2 - Chemical Safety

- Define a chemical hazard.
- Discuss the two categories of a chemical hazard.
- Discuss health hazards when referring to chemical Safety.
- Discuss the six categories of chemicals when referring to health hazards.
- Discuss the different forms of chemical hazards.
- Discuss exposure routes

### Module 3 - Tool Safety

- Understand and discuss the dangers in using a defective tool.
- Understand and discuss the dangers of using a tool incorrectly.
- Understand and discuss the effects of improper tool maintenance.
- Discuss and demonstrate the proper use of the following tools.
  - Screwdrivers
  - Wrenches
  - Pliers
  - Hammers and Mallets
  - Knives
- Discuss the hazards that are present when using electric power tools.

- Discuss the hazards that are present when using pneumatic tools.
- Discuss the hazards that are present when using gasoline-power tools.

#### **Module 4 - Safe Materials Handling**

- Discuss the importance of material handling planning.
- Demonstrate the proper lifting techniques.
- Identify hazards that are associated with material handling.
- Discuss the proper tools and equipment that are used in safe material handling.
- Discuss the hazards of handling corrosive and flammable liquids.
- Explain the factors that are involved with dock safety.
- List safety concerns when using powered lifting equipment and machinery.

#### **Module 5 - Machine Safety**

- Explain the importance of machine guards and describe the different types that are used on machinery.
- Define and recognize pinch points.
- Define point of operation.
- Explain how electrical controls can be used as safety devices.
- Demonstrate the proper OSHA lockout/tagout procedures.

#### **Module 6 - Electrical Safety**

- Explain the basic theory of electric current and the effect it has on the body.
- Define the following:
  - Current
  - Voltage
  - Wattage
  - Resistance
- Recite Ohm's Law and use it to calculate for any unknown when two other electrical values are known.
- Explain the first aid procedures for a shock victim.
- Explain the purpose of the National Electrical Code (NEC).
- Define static electricity.
- Explain the purpose of fuses and circuit breakers.

#### **Module 7 - Fire Protection**

- Explain the elements of a fire.
- List the four classes of fires.
- Identify fire and explosion hazards.
- Explain the importance of good housekeeping.
- List fire-fighting substances and equipment.
- Describe the proper use of a fire extinguisher.
- Identify the different types of fire extinguishers.

#### **Module 8 - Health Protection and Safe Work Practices**

- Discuss how to protect against the following injuries:
  - Back
  - Hand and wrist
  - Arm and shoulder
  - Hearing loss
  - Radiation exposure
  - Asbestos, dust, and lung disease.
- Explain the importance of proper disposal of hazardous materials.

- Discuss the importance of keeping walkways and workspaces clean and free from obstructions.
- Explain the importance of plant traffic safety.
- Explain the hazards that arise when working at high elevations.
- Discuss ladder and scaffold safety.
- Discuss the hazards that are involved with working in confined space.
- Explain the proper procedure for working in a confined space.
- Explain basic welding and cutting safety procedures.

## **MINIMAL STANDARDS**

Assignments and attendance must be completed as designated in “Evaluation Strategies/Grading.” Criteria for minimal acceptable performance will be provided by the instructor.

## **REQUIREMENTS**

### **Attendance Policy**

The college attendance policy, stated in the college handbook, will be honored. The instructor will provide specific requirements for the course.

### **Academic Honesty**

Students are expected to adhere to the college policy regarding student conduct as stated in the college handbook.

### **Assignments**

Students are expected to complete all assignments and any supplementary exercises designated by the instructor.

## **EVALUATION STRATEGIES/GRADING**

Successful completion of the course requires the completion of all modules with an average of 70 points. Grades will be calculated from work attitude, all tests/projects, homework assignments, and laboratory assignments.

### **Grading Scale:**

A = 90.0 - 100

B = 80.0 - 89.9

C = 70.0 - 79.9

D = 60.0 - 69.9

F = 00.0 - 59.9

### **Evaluation Method:**

Tests

75.0% for each Module

Work Attitude

25.0% for each Module

Work Attitude is defined as:

- |                 |                       |
|-----------------|-----------------------|
| • Participation | • Responsibility      |
| • Cooperation   | • Professionalism     |
| • Appearance    | • Attendance          |
| • Effort        | • Self Motivation     |
| • Safety        | • Works Independently |

## **METHODS OF INSTRUCTION**

This course may be offered in traditional classroom format or as a self-paced, CD-based, hybrid delivery format. Lectures, reading assignments, projects, discussions, video presentations, multimedia presentations, and web content are the major teaching methods used in this course.

## **ENTRY LEVEL SKILLS**

The student must be able to read and design basic relay ladder diagrams. The student must also have basic computer skills.

**PREREQUISITES:** RDG 031 or equivalent and MAT 031 or equivalent

**CO-REQUISITES:** None

**Disabilities Statement:** Any student who feels s/he may need an accommodation based on the impact of a disability should contact the Special Resources Offices (SR) at 803-327-8007 in the 300 area of Student Services. The SRO coordinates reasonable accommodations for students with documented disabilities.

**Effective: 2009FA**