



MASTER COURSE OUTLINE

Prepared By: John Martin

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COURSE TITLE

Automotive Shop Safety and Environmental Issues

GENERAL COURSE INFORMATION

Dept.: AUT

Course Num: 115

(Formerly:)

CIP Code: 47.0604

Intent Code: 21

Program Code: 712

Credits: 1

Total Contact Hrs Per Qtr.: 12

Lecture Hrs: 10

Lab Hrs: 2

Other Hrs:

Distribution Designation:

COURSE DESCRIPTION (as it will appear in the catalog)

This course covers automotive shop safety rules, procedures, and shop equipment operation and is required before a student is allowed to work in the automotive laboratory. The proper handling, storage, and disposal of automotive related hazardous waste is also covered. Offered as regularly scheduled course during the fall quarter and offered by arrangement for students who enroll in the automotive program any other quarter.

PREREQUISITES

None

TEXTBOOK GUIDELINES

An automotive safety text as chosen by Automotive Faculty (Example: *Automotive Safety Manual*, Chuck Cox & Mike O'Konek)

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Perform safely in the automotive laboratory
2. Apply shop safety rules and procedures while working
3. Apply fire safety rules and procedures
4. Operate electrical shop equipment properly and safely
5. Operate hydraulic shop equipment properly and safely
6. Operate pneumatic equipment properly and safely.

INSTITUTIONAL OUTCOMES

COURSE CONTENT OUTLINE

Unit 1: General Safety

1. What is Safety?
2. Factors affecting Safety
3. Brief History of Safety Education
4. The Williams-Steiger Occupational Safety & Health Act
5. Washington Industrial Safety & Health Act

6. Apprenticeship and Safety
7. General Safety Rules at Big Bend Community College

Unit 2: Personal Safety

1. Protecting the head
2. Protecting the eyes and face
3. Protecting the hearing
4. Protecting the lungs
5. Protecting the hands
6. Protecting the feet
7. Personal safety on the job
8. Personal safety while servicing automobiles

Unit 3: Hygiene Safety

1. Internal exposure
2. Noise exposure
3. Types of Hazardous Materials

Unit 4: "Right-To-Know Law"

1. Information
2. MSDS Form

Unit 5: Fire Types and Prevention

1. Fire Behavior Science
3. Types of Fires
4. Types of Fire Extinguishers
5. Combustible Storage and Waste Materials
6. Flammable Liquids
7. Compressed Gases
8. Electrical Wiring and Equipment
9. Exits, Exit-ways and Exit Signs
10. Alarms, Extinguishers and Hose Stations

Unit 6: Electrical Tools

1. Grounding of electrical tools
2. Extension cords
3. Preventing electrical overloads
4. Safety with portable electrical tools
5. Bench grinder safety and operation
6. Electric drill safety and operation
7. Electric drill press safety and operation

Unit 7: Pneumatic Tools

1. Pneumatic system design
2. Pneumatic system maintenance
3. Pneumatic tool safety
4. Air impact wrench safety and operation
5. Air ratchet safety and operation
6. Air chisel safety and operation

7. Air drill safety and operation

Unit 8: Hydraulic Tolls and Hoisting Equipment

1. Car hoists safety and operation
2. Hydraulic floor jack safety and operation
3. Hydraulic press safety and operation
4. Portable crane safety and operation
5. Hydraulic power jack safety and operation

Unit 9: Automotive Waste Handling and Environmental Concerns

1. History of Hazardous Waste
2. Types of Hazardous Wastes Generated
3. Hazardous Waste Prevention
4. Hazardous Waste Disposal
5. General Rules for Handling, Storage & Disposal of Hazardous
6. Materials

DEPARTMENTAL GUIDELINES *(optional)*

DIVISION CHAIR APPROVAL

DATE