

## HEAVY EQUIPMENT TECHNICIAN APPRENTICESHIP COURSE SUMMARIES

### **COURSE HEA3400: BASIC TOOLS & MATERIALS**

Students develop knowledge, skills and attitudes in the practice of workshop safety, communication and the use of specialty hand tools, measuring tools and fasteners.

*Prerequisite:* HEA3900: Apprenticeship Safety

### **COURSE HEA3405: BEARINGS & SEALS**

Students develop the knowledge, skills and attitudes necessary to service and maintain vehicle bearings and seals and to use oxy-fuel heating and cutting systems.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials

### **COURSE HEA3410: FRAMES & SUSPENSION**

Students develop the knowledge, skills and attitudes necessary to service and maintain vehicle frames and suspension systems.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials; HEA3405: Bearings & Seals

### **COURSE HEA3415: WHEELS & PREVENTIVE MAINTENANCE**

Students develop the knowledge, skills and attitudes necessary to service and maintain vehicle wheels, tires and hubs and to perform preventive maintenance procedures.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials

### **COURSE HEA3420: TRAILER SYSTEMS**

Students develop a strong knowledge of welded pipe, fittings and plastic pipe in order to do the job quickly, accurately and safely.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials

### **COURSE HEA3425: BRAKE FUNDAMENTALS**

Students develop the knowledge, skills and attitudes necessary to inspect, service and maintain hydraulic brake systems and components.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials

### **COURSE HEA3430: BRAKE SERVICE & REPAIR**

Students develop the knowledge, skills and attitudes necessary to inspect, service and maintain hydraulic, electric and parking brake systems and components.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials, HEA3425: Brake Fundamentals

### **COURSE HEA3435: HYDRAULIC SYSTEMS**

Students develop the knowledge, skills and attitudes necessary to inspect, service and maintain hydraulic systems and components.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials

**COURSE HEA3440: ELECTRICAL THEORY**

Students develop the knowledge, skills and attitudes necessary to understand and analyze electrical and electronic systems and components.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials

**COURSE HEA3445: ELECTRICAL SERVICE**

Students develop the knowledge, skills and attitudes necessary to inspect, service and maintain electrical and electronic systems and components.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials; HEA3440: Electrical Theory

**COURSE HEA3450: ELECTRONICS**

Students develop the knowledge, skills and attitudes necessary to inspect, service and maintain electronic systems and components.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials; HEA3440: Electrical Theory; HEA3445: Electrical Service

**COURSE HEA3455: AIR BRAKE FUNDAMENTALS**

Students develop the knowledge, skills and attitudes necessary to inspect, service and maintain air brake systems and components.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials

**COURSE HEA3460: AIR BRAKE MECHANICS**

Students develop the knowledge, skills and attitudes necessary to inspect, service and maintain trailer air brake systems and components.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials; HEA3455: Air Brake Fundamentals

**COURSE HEA3465: AIR BRAKE SERVICE**

Students develop the knowledge, skills and attitudes necessary to inspect, test, service and maintain air brake and antilock systems and components.

*Prerequisites:* HEA3900: Apprenticeship Safety; HEA3400: Basic Tools & Materials; HEA3455: Air Brake Fundamentals; HEA3460: Air Brake Mechanics

**COURSE HEA3470: HEA PRACTICUM A**

Students, on the work site, continue to develop and refine those competencies developed in related career and technology studies (CTS) occupational areas, previous practicums and other experiences.

*Prerequisite:* None

**COURSE HEA3475: HEA PRACTICUM B**

Students, on the work site, continue to develop and refine those competencies developed in related career and technology studies (CTS) occupational areas, previous practicums and other experiences.

*Prerequisite:* None

**COURSE HEA3480: HEA PRACTICUM C**

Students, on the work site, continue to develop and refine those competencies developed in related career and technology studies (CTS) occupational areas, previous practicums and other experiences.

*Prerequisite: None*

**COURSE HEA3485: HEA PRACTICUM D**

Students, on the work site, continue to develop and refine those competencies developed in related career and technology studies (CTS) occupational areas, previous practicums and other experiences.

*Prerequisite: None*

**COURSE HEA3900: APPRENTICESHIP SAFETY**

Students develop knowledge, skills and attitudes in the practice of workshop health and safety, communication and career planning.

*Prerequisite: None*