

# APPLIED ENGINEERING & TECHNOLOGIES

## CONSTRUCTION EQUIPMENT SYSTEMS TECHNOLOGY

### Construction Equipment Systems Technology Degree - A60450

Construction Equipment Systems curriculum is designed to provide individuals with the knowledge and skills needed to troubleshoot and repair construction equipment systems. Construction equipment includes dozers, scrapers, loaders, and forklifts.

The core coursework includes the theory of operations, troubleshooting techniques, and repair procedures for engines and electrical and hydraulics systems. The concentration courses will include transmissions, brakes, undercarriage, and equipment repair. Other related courses will be required.

Graduates of the curriculum should qualify for entry-level employment opportunities at businesses that repair construction equipment. Entry and advancement levels depend on the amount of training completed, knowledge and ability levels, work performance, and ethics.

### Construction Equipment Systems Technology Diploma - D60450

The Construction Equipment Systems Technology Diploma program prepares individuals to apply technical knowledge and skills in the field maintenance and repair of construction equipment, and the general maintenance and overhaul of such equipment. It includes instruction in inspection, maintenance, and repair of tracks, wheels, brakes, operating controls, pneumatic and hydraulic systems, electrical circuitry, and engines.

### Hydraulics, Engines, and Transmissions Certificate- C60450BB

This certificate is designed to provide individuals with the knowledge and skills needed to troubleshoot and repair hydraulics, engines, and transmissions in construction equipment.

The core course work includes the theory of operations, troubleshooting techniques, and repair procedures for engines and hydraulics systems. The concentration courses will also include transmissions.

Graduates of the curriculum should qualify for entry-level employment opportunities at businesses, which repair construction equipment. Entry and advancement levels depend on the amount of training completed, knowledge and ability levels, work performance, and ethics.

### Fuel Injection, Electrics, & Electronics Certificate – C60450BC

This certificate curriculum is designed to provide individuals with the knowledge and skills needed to troubleshoot and repair fuel injection, electrical, and electronic systems in construction equipment. Construction equipment includes dozers, scrapers, loaders, and forklifts.

The core course work includes the theory of operations, troubleshooting techniques, and repair procedures for electrical and electronic systems. The concentration courses will also include fuel injection systems.

Graduates of the curriculum should qualify for entry-level employment opportunities at businesses, which repair construction equipment. Entry and advancement levels depend on the amount of training completed, knowledge and ability levels, work performance, and ethics.

### Program Sequence

#### First Semester

ELN 110	Survey of Electronics.....	3
ENG 110	Freshman Composition .....	3
TRN 110	Introduction to Transport Technology.....	2
TRN 120	Basic Transportation Electricity .....	5
TRN 120A	Basic Transportation Electricity Lab .....	1
TRN 170	PC Skills for Transportation.....	2

#### Second Semester

HET 110	Diesel Engines.....	6
HYD 112	Hydraulics – Medium and Heavy Duty .....	2
MAT 110	Math Measurement & Literacy .....	3
PME 118	Undercarriage Components .....	2
PME 221	Construction Equipment Servicing .....	2

#### Third Semester

HET 134	Mechanical Fuel Injection .....	3
TRN 140	Transportation Climate Control .....	2
	Work-Based Learning Elective .....	2

#### Fourth Semester

COM 120	Intro to Interpersonal Communication .....	3
HET 114	Power Trains .....	5
HYD 134	Hydraulic/Hydrostatic Construction .....	4
PME 117	Equipment Braking Systems .....	3
PSY 118	Interpersonal Psychology .....	3

*Completes Hydraulics, Engines, and Transmission Certificate (C60450BB): HET 110, HET 114, HYD 112*

#### Fifth Semester

ELN 112	Diesel Electronics System .....	4
HET 125	Preventative Maintenance .....	2
HUM 121	The Nature of America .....	3
PME 211	Advanced Equipment Repair.....	4

*Completes Fuel Injection, Electrical, and Electronics Certificate (C60450BC): ELN 112, HET 134, TRN 120*

*Complete Construction Equipment Systems Technology Diploma (D60450): ELN 112, ENG 110, HET 110, HET 114, HET 134, HYD 134, PME 117, PME 118, PME 221, PSY 118, TRN 110, TRN 120, TRN 120A, TRN 140, TRN 170*

#### Work-Based Learning Electives

(Select 2 hours from the following courses):

WBL 111	Work-Based Learning I.....	1
WBL 112	Work-Based Learning I.....	2
WBL 121	Work-Based Learning II.....	1

**Graduation Requirements ..... 69 Credit Hours**