

## Heavy Equipment Operation

### Heavy Equipment Operation - Certificate of Achievement

West Hills College Coalinga Heavy Equipment Operation Certificate Program is a one semester Certificate of Achievement program. Intrinsic learning is accomplished through a hands on approach to introduce students to a wide range of skills necessary for equipment operation. Laboratory work is designed to simulate field experiences. Heavy equipment operation requires good hand-eye coordination and demands attention to details like timelines, precision operation, coordination of multiple tasks, and following plan directions. Development of problem solving skills and safe work habits will be instilled in the student.

Heavy Equipment Operation program prepares students for careers in the operation of crawlers, tractors, scrapers, backhoes, excavator, loaders, motor graders, trucks, laser controlled equipment, and technical support programs. The curriculum is designed to align with the National Center for Construction Education and Research (NCCER) certification. Completion of the certificate qualifies students to enter the professional job market.

Upon completion of the Heavy Equipment Operation program, the student will be able to:

- Explain the basic terminology and types of equipment and their uses.
- Explain the need for safety measures when working in and around heavy equipment.
- Describe the long- and short-term health effects, first-aid measures, handling and storage, and/or required personal protective equipment (PPE) for a chemical using a safety data sheet (SDS).
- Explain the basics of a hydraulic system and identify hydraulic components.
- Describe basic safety rules and some specific safety rules when operating heavy equipment.
- Perform basic maneuvering with a tractor.
- Identify and explain earthmoving terms and methods.
- Demonstrate and state the steps of the pre-operational safety inspection.
- Explain safety rules for operating Rollers, Scrapers, Loaders, Forklifts, Dozers, Backhoes, Excavators, and Motor Graders
- Identify basic geometric shapes
- Interpret construction plans to determine grading requirements.
- Read and interpret drawings to determine the type of excavations needed to prepare the site.
- Describe how workers' values have changed over the years.
- List the characteristics of effective leaders.
- Identify the three styles of leadership.
- Explain the purpose of the Occupational Safety and Health Act (OSHA).
- Identify the key points of a safety program.
- Define the three types of project delivery systems.
- Identify the two most common schedules.
- Demonstrate an understanding of laser and GPS technology.
- Explain the requirements for finish and final grading of earthwork.
- Describe the characteristics of different types of soils.

<i>Course #</i>	<i>Title</i>	<i>Units</i>
<b>Required Core Courses</b>		
IMT 060 . . . .	Industrial Core . . . . .	3
HVYEQUI 060A . . . . .	Level I Heavy Equipment Operation . . . . .	5
HVYEQUI 060B . . . . .	Level II Heavy Equipment Operations . . . . .	5
HVYEQUI 060C . . . . .	Level III Heavy Equipment Operations . . . . .	5
	<b>Total . . . . .</b>	<b>18</b>

*Click here to see the recommended course sequence for the Heavy Equipment Operations Certificate Pathway.*

**For Gainful Employment information please visit:**

<https://www.westhillscollge.com/coalinga/degrees-and-certificates/gainful-employment/heavy-equipment-operations.php>

