

# CERTIFICATE IN STATIONARY POWER GENERATION SERVICE, DIAGNOSIS AND REPAIR TECHNICIAN

Code	Title	Units
SPWG 170B	Power Systems 2	5
SPWG 171	Advanced Power Systems Controls	4
<b>Total Units</b>		<b>18</b>

## Career Information

### Career Opportunities

There are a variety of careers you can do with this major.

To explore more about this major, schedule an appointment (<https://www.citruscollege.edu/stdntsrvtcenter/Pages/ApptSchedule.aspx>) with a career counselor.

Completion of the career technical education program in Stationary Power Generation will earn completers a certificate of achievement in stationary power generation service, diagnosis and repair. This program prepares students for entry-level employment or advancement in the technical field of on-site, stationary power generator repair within industries such as the industrial power generation, marine power generation and diesel electric locomotive industries. The Stationary Power Generation Service, Diagnosis and Repair Technician Certificate will entail subject matter in the operational theory and repair practices associated with the power generator set. This includes fundamentals of alternating current (AC) generating systems, resistive and reactive loading effects, impedance calculation fundamentals, electronically controlled diesel engines, gaseous fueled engines, diagnostics and repair of electric power generators, engine and generator controls and electronic switching components necessary in the generation, transmission and distribution of electric power. Emphasis will be placed on industry safety protocols for power generator operation and repair. In addition, emergency and stand-by power for critical building systems dependent on a continuous power supply will be examined in relation to the function of the power generator. This certificated program prepares students to work as On-site Stationary Power Generation Repair Technicians, Diesel-Generator Repair Technicians or Portable Generator Repair Technicians. This is a stand-alone certificate.

## Learning Outcomes

### Certificate of Achievement Level Student Learning Outcomes

Students completing the Stationary Power Generation Service, Diagnosis and Repair Technician Certificate of Achievement will:

1. Explain the theory of operation of AC generators and related control devices.
2. Explain the theory, operation, and servicing of prime movers such as diesel engines and gasoline engines as they apply to generator units.
3. Demonstrate safety procedures when working on diesel engine powered generators and related electrical systems.
4. Demonstrate effective communication skills to owners and operators of maintenance and repairs needed on power generator systems.
5. Demonstrate a thorough understanding of workplace expectations and application of troubleshooting techniques on diesel powered generator sets.

## Requirements

Code	Title	Units
<b>Required courses:</b>		
MTRK 160	Medium and Heavy Truck Hydraulics	3.5
SPWG 170A	Power Systems 1	5.5