

# Craft Skills

## Generator Theory



## Course Number

EMS-110

## Course Purpose

This course provides information on the concepts associated with generators, generator function, generator design, three-phase voltage, and load sharing.

Upon completion of this course, you should be able to:

- Identify the terminology associated with AC and DC power generation
- List and describe the major components of an AC generator
- Describe AC power generation theory
- Explain the operation of AC generators
- List and describe the major components of a DC generator
- Describe DC power generation theory
- Explain the operation of DC generators

## COURSE AGENDA

### DAY 1

- Defining Generator Terms
- Explaining Generator Theory
- Describing DC Generator Construction and Operation
- Applying the Effects of Armature Reaction to Generator Operation

### DAY 2

- Describing AC Generator Construction and Operation
- Sharing Loads Between Generators
- Differentiating Stationary Armature Generators and Rotating Armature Generators
- Performing Generator Maintenance
- Review
- Written exam
- Final lab

## WHO SHOULD ATTEND

This course is designed for electrical maintenance technicians.

## PREREQUISITES

To successfully complete this course, the following prerequisites are required:

- None

## STUDENT MATERIALS

To enhance and facilitate the students' learning experiences, the following materials are provided as part of the course package:

- Student Manual
  - Includes the key concepts, definitions, examples, and activities presented in this course
- Lab Book
  - Provides learning activities and hands-on practice. Solutions are included after each exercise for immediate feedback.

## HANDS-ON PRACTICE

Throughout this course, you will have the opportunity to practice the skills you have learned through a variety of hands-on exercises. These exercises focus on the skills introduced in each lesson.

You will also have the opportunity to combine and practice groups of key skills by completing multiple integrated practices during the course.

## NEXT LEARNING LEVEL

Once you have mastered the skills covered in this course, you may want to attend specific training, such as:

- Motor Control and Troubleshooting

## COURSE LENGTH





This is a two-day course.

### TO REGISTER

To register for this or any other Rockwell Automation training course, contact your local authorized Allen-Bradley® Distributor or your local Sales/Support office for a complete listing of courses, descriptions, prices, and schedules.

You can also access course information via the Web at <http://www.rockwellautomation.com/training>

To be respectful of the environment, Rockwell Automation is transitioning some of its training courses to a paperless format. Students are asked to complete downloads and bring personal devices to these classes. A full list of digital/paperless courses is currently available through your local distributor.

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