



# Power System Mathematics



## Background

This online course is delivered through [Spark! By OES-NA](#). The course is intended to address aspects related to mathematics and its use in operating the Bulk Electric System. It is intended to provide students with the basics of mathematics and the various situations that it may have to be utilized by System operating Personnel. Topics covered in this course include: basics of mathematics, use of mathematics in Balancing, uses of mathematics related to voltage control, mathematics and its use in operating the transmission system, and how mathematics could be used during restoration. Each lesson is culminated with a review and quiz. Upon completion of the lessons, there is a final assessment that consists of 10 multiple choice questions. Individuals must attain a passing grade of 70% on the final assessment in order to be awarded the NERC CEHs.

## Course Level

Not Applicable

## Target Audience

This online course is intended for: all Operating Personnel who are required to utilize mathematic skills and calculations in any part of their job responsibilities; and those individuals trying to understand mathematical calculations as part of NERC Certification Preparation.

## NERC Continuing Education Hours

**TOTAL:** 1.5 CEHs  
**Standards:** 0.0 CEHs  
**Ops Topics:** 1.5 CEHs  
**Sim:** 0.0 CEHs

## NERC Emergency Training Requirement

0.0 hours of Emergency Training

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## Course Content

The course steps through lessons related to mathematics and its utilization in operating the Bulk Electric System in various functions including generation and transmission control. Each lesson identifies and explains the various aspects related the following content:

- Basics of mathematics
- Use of mathematics in Balancing
- Uses of mathematics related to voltage control
- Uses of mathematics in operating the transmission system
- Uses of mathematics during restoration

## Delivery Schedule

Since the course is delivered on an individual basis via the Internet, individuals have the ability to set their own pace and schedule for completion of the course. Registered students are provided with 6 months from the time of registration to complete the course.

## Student Requirements

- Students must sign-in using their individual log-in and password to access the course.
- Students are required to provide their NERC SO Certification # and other applicable contact information during the course registration process.
- Students must complete all course material prior to attempting the final assessment.
- Students must successfully earn a 70% grade on the final activity assessment.
- Students must submit a course evaluation form. (Level of completion is not measured, but full completion is desired)

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