Power System Protection: Protective Relay Logic Course Outline

Course Information:

Instructor Name:

Ricardo Romero, PE

Instructor Bio:

Ricardo Romero, PE is an Electrical Engineer with over ten years of experience in Power Systems, having worked as a Power Systems Protection Engineer at Schweitzer Engineering Laboratories, Inc. (SEL) and Power Relaying Solutions, PLLC (PRS). He started his own power engineering consulting and online learning business in 2020 – the Romero Engineering Company. He obtained his bachelor's and master's degrees in Electrical Engineering from The University of North Carolina at Charlotte, where he specialized in Power Systems, Power Electronics, and Power System Protection and Control. He is a licensed Professional Engineer in Power Systems in the states of Arizona, Louisiana, North Carolina, Pennsylvania, South Carolina, and Virginia.

Instructor Licenses:

Arizona PE License # 65634
Louisiana PE License # 0042299
North Carolina PE License # 045688
Pennsylvania PE License # PE091197
South Carolina PE License # 37867
Virginia PE License # 0402062139

Course Outline

Section 1: Course Introduction

- Welcome to the Course
- About Your Instructor
- Outline and Objectives

Section 2: Introduction to Protective Relay Logic

- Introduction to Protective Relay Logic
- Logic Gates
- Logic Order of Operations
- Truth Tables
- Timers, Latches, and Edge Triggers

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Section 3: Applications of Logic in Protective Relays

- Example – Pushbutton Enable/Disable Switch
- Example – Permissive Tripping Scheme
- Example – Overcurrent Blocking Scheme
- Example – Breaker Failure Scheme
- Example – Automatic Reclosing Scheme