ECE 4173 - Electric Power Laboratory  
Spring 1999

1997-1999 Catalog Data: ECE 4173: Electric Power Laboratory. Prerequisite: ECE 3113. Laboratory. (Sp)

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Course Objectives: To provide the students with hands-on experience with a power system simulator.

Coordinator: Arthur M. Breipohl, OG&E Professor, School of Electrical and Computer Engineering.

Prerequisites by Topic: Knowledge of generator models; Knowledge of motor models; AC circuit analysis.

Topics:
1. Introduction to the Power System Simulator including Laboratory safety.
5. Power Sources and Load Factors.
7. Voltage Regulation.
8. Transformers.
10. Directional Overcurrent Relays.
11. The Differential Relay.
12. Reverse Phase Relay.
15. Presentation of Term Reports.

Schedule: Laboratory - 1.25 hours. Once per week.

Computer Usage: Computer control of the simulator is included.

Design Projects: Each experiment has some design components.

Laboratory Projects: One each week.

Written and/or Oral Communications: A written and oral term report is required.

Teamwork:

ECE 4173 - Electric Power Laboratory (continued)
Assessment Methods Used:
1. Laboratory reports and term projects are graded.

Contribution to Professional Component:
Engineering Science - 1.5 credit hours or 50%
Engineering Design - 1.5 credit hours or 50%

Program Objectives: Related Strategy and Actions:
2i, 2iii, 3ii, 4i

ABET 2000 Criterion 3 Contents:
a,b,c,e,g,k

Prepared by: Arthur M. Breipohl Date: April 5, 1999