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Environment, Health, & Safety  
Training Program

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**EHS 0249 ~ Electrical Safety for Design & Fabrication of Experimental Apparatus**

**Course Syllabus**

**Subject Category:** Electrical Safety  
**Course Length:** 2 hours  
**Delivery Mode:** By Instructor  
**Schedule:** Annually or by request

**Course Prerequisite:** EHS0260  
**Medical Approval:** None

**Course Purpose:** This course is designed for employees and guests who are hired by the lab to design and fabricate experimental apparatus. It is designed to teach the theory, acceptable practices, and approved techniques for electrical safety with respect to experimental apparatus.

**Course Objectives:**

- Define and explain the hazards associated with: High voltage electrical equipment, stored energy (capacitive or inductive) reactive power systems, and Acceptable practices for safety with respect to ungrounded equipment.
- Demonstrate hazard analysis, approved testing practices, and mitigation techniques for experimental apparatus.
- Define working rules and accepted practices for testing, and maintenance of experimental apparatus.
- Define the acceptable use and requirements of personal protection equipment (PPE).
- Recall applicable National Fire Protection Association (NFPA 70E) and Occupational Health and Safety Administration documents (OSHA).
- Recognize rated tested tools, equipment and components

**Course Instructional Materials:**

- Overhead projector and PowerPoint presentation
- Excerpts from appropriate documents (NFPA, OSHA, and IEEE standards)
- Personal protection equipment (PPE) – clothing and tools

**Instructors:** Mark Scott

**Training Compliance Requirements:** OSHA 29 CFR 1910, NFPA, and IEEE standards

**Course Handouts:**

- Student manual

**Participant Evaluation:** Written evaluations regarding the effectiveness of the trainer, the training, and the visual aids.

**Written Exam:** Yes

**Practical Exam:** No

**Retraining/Recertification:** No

**WEB Resource:** Pub-3000, chapter 8