ERNEST ORLANDO LAWRENCE
BERKELEY NATIONAL LABORATORY

**Environment, Health, & Safety**
**Training Program**

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

## Course Syllabus

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| **Subject Category:** | Electrical Safety | **Course Prerequisite:** | EHS0260 |
| **Course Length:** | 2 hours | **Medical Approval:** | None |
| **Delivery Mode:** | By Instructor | | |
| **Schedule:** | Annually or by request | | |
| **Location/Time:** | Varies | | |

**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:**

- To define and explain the hazards associated with:
  High voltage electrical equipment.
  Stored energy (capacitive or inductive) reactive power systems
  Acceptable practices for safety with respect to ungrounded equipment.
- To teach hazard analysis, approved testing practices, and mitigation techniques for experimental apparatus.
- To define working rules and accepted practices for testing and Maintainance of experimental apparatus.
- To define the acceptable use and requirements of personal protection equipment (PPE).
- To introduce applicable National Fire Protection Association (NFPA 70E) and Occupational Health and Safety Administration documents (OSHA).
- 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:** Keith Gershon x4694

- **Training Compliance Requirements:** OSHA, NFPA, and IEEE standards and Pub-3000, chapter 8

**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