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

**EHS 0541 QEW1 Shock Protection  
Course Syllabus**

**Subject Category:** Electrical Safety  
**Course Length:** 6 hours  
**Delivery Mode:** Classroom

**Course Prerequisites:** EHS 0539, EHS 0370, EHS 0540  
**Medical Approval:** None  
**Frequency:** Every 3 years

**Course Purpose:**

This is the second course in a series required QEW1. The course builds upon the work in EHS 0540, applying ISM and addressing Electrical Hazard Analysis for Shock Hazards and selection of appropriate electrically rated tools and metering equipment for the QEW.

**Course Objectives:** Upon completion of the course the student should be able to:

- Implement the electrical safety requirements of LBNL ESM section numbers 7, 10 and 17.
- Prepare a Shock Hazard Analysis per ESM.
- Use ESM to determine the shock hazards present at your work location.
- Implement Shock Protection Boundaries.
- Explain the differences between approach boundaries, barricades and barriers and understand their application.
- Describe a Shock Prevention System and select appropriate PPE.
- Explain when and where voltage-rated gloves are required.
- Differentiate between primary and secondary shock protection.
- Electrical Test Equipment and Metering Devices and Application.
- Apply Body Positioning for Shock Protection.
- Assist non-QEW personnel.

**Subject Matter Expert:** Mark Scott, Stephanie Collins

**Training Compliance Requirements:** LBNL Electrical Safety Manual, EHS Safety Manual (formerly PUB-3000)- Chapter 8, *Electrical Safety Program*, 29CFR 1910.147, 29CFR 1910.333, NFPA 70E

**Course Instructional Materials:** PowerPoint presentation and video

**Performance Criteria:** Student must pass a written test to demonstrate their ability to use the classroom resources and prove understanding regarding when and how to conduct an electrical shock hazard analysis; determining the appropriate equipment, tools, metering devices and controls needed to prevent an electrical shock in accordance with the Lab's Electrical Safety Program to receive course credit.

**Web Resource:** <http://electricalsafety.lbl.gov/>, Field Guides 3, 4, 7