



ELECTRICAL CODE I LAB

Course Number Course Name	ELEC 142L RESIDENTIAL WIRING LAB
Credit Value (Breakdown of theory and lab credits)	6, 0T+6S
Catalog Course Description	Practical applications and operations in wiring techniques and codes for residential projects; tool safety, hardware use and identification. (6, 0T+6S)
Student Learning Outcomes/Objectives /Competencies of the Course	<p>Outcomes</p> <ol style="list-style-type: none"> 1. Identify and install required branch circuits per NEC 2. Install and calculate residential services per NEC 3. Identify and install various types of luminaries 4. Describe branch circuit requirements for appliances per NEC 5. Identify and install various types of switches and receptacles per NEC 6. Identify the NEC requirements for grounding and bonding 7. Identify and install over current/short circuit and ground fault protection 8. Install service entrance 9. Calculate box fill and placement of boxes 10. Calculate circuit loads and correct wire size <p>Topics</p> <ol style="list-style-type: none"> A. Electrical Installations B. Calculating required number of circuits C. Conductor sizing D. Conductor Identification E. Overcurrent devices <ol style="list-style-type: none"> 1) Fuses, breakers GFI, AFI F. Lighting <ol style="list-style-type: none"> 1) Branch circuits for the whole house G. Special purpose outlets <ol style="list-style-type: none"> 1) Range, dryer, Ac, Water heater etc H. Gas and oil central heating systems I. Low voltage systems J. Special systems <ol style="list-style-type: none"> 1) Heat , smoke, carbon dioxide and security K. Service entrance equipment L. Service entrance calculations M. swimming Pools N. Home automation O. Standby power systems

NORTHERN NEW MEXICO COLLEGE



**College-Wide Student
Learning Outcomes**

Communication