

Course Syllabus-Electrical Trades

Lewis and Clark Career Center

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Course Description:

2 year program; 3 elective credits per year (Some districts give 1 technical math credit)

Prerequisites: Algebra grade "C" or better

This course is an introduction to electrical theory, wiring methods and the National Fire Protection Association electrical code. During the program students will explore possible careers in the electrical field. Students will learn to identify, install, and troubleshoot electrical wiring and associated devices that are commonly used in both residential and commercial electrical environments. Students will learn to reference codes and apply them to real world situations. The students begin in the classroom and shop, then bring their newly acquired skills and relevant knowledge to the construction of a new house.

Materials:

Notebook

Pen or pencil

Calculator

Chromebook or laptop

Textbooks and codebook

Hand tools-We will go over hand tools the first week of school.

Grades:

The grade for the class are based on 3 standards:

Classroom 40% (Do they know it? written assignments, quizzes, tests, ect.)

Lab/shop 30%. (Can they do it? Electrical Trade Competencies and Professional / technical skills)

Employability 30% (Are they a good employee? Soft skills like punctuality and being prepared to work and eager to learn with a positive attitude)

Grades for employability will be entered weekly. Classwork and lab skills will be entered as they are assessed. Employability scores that do not receive full credit will be explained in the gradebook.

Note: Students must complete the safety exam with a 100% to earn the privilege to work in the shop.

Areas of Study:

Safety (An CPR and OSHA 10 hour classes are embedded in the course)
Basic Electrical Theory
Trade Skills and practices
Blueprint reading and specifications
Identification and use of materials
Circuit layout and wiring
Testing and Troubleshooting
Leadership

Electrical Trades Hand Tool List

Tape Measure- 25'

Claw Hammer- 12-20 oz

Wire Strippers -must strip 14 AWG and 12 AWG (romex strippers are preferred)

Flat head screwdriver - (you may want a larger tip and a smaller/more fine tip)

Phillips tip screwdriver - (approximate size #2)

Lineman's Pliers - (8" - 9" recommended)

Diagonal Cutting Pliers - (8"-9" with angled head recommended)

Needle Nose Pliers

¼' Nut driver

5/16' Nut driver

Non-contact voltage tester - always verify the circuit is turned off before you begin work. (I would recommend, fluke, Greenlee, or Kline)

Conduit Reamer (½" and ¾" are required you may have a larger one)

Magnetic torpedo level

Sharpie Fine point or ultra fine point

Carpenter's pencil

UGLY's electrical Reference (very helpful not essential for class)

Tool pouch - you must wear the tool pouch while working

(Organize tools to promote efficient work)

Shop Dress code

1) T-shirt

2) Long Pants (Jeans are fine)

i) Synthetic fibers often melt quickly and are not the best choice when working near sparks

3) Boots

4) Eye protection