

Course Outline

School of Trades & Technology Norkam Electrical Trades Training

Instructor: Eric Nielsen

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Department: Construction Trades, Electrical

Subject / Number: ELEL 1900

Title: Electrical Trade Sampler

Timeline: 5 weeks (Electrical)

Course Description:

This course is a sampler of the electrical trade based on the Electrical Foundation Program outline from Skilled Trades BC. Students will gain familiarity with the safe use of hand tools, portable power tools and other equipment regularly used by electricians, as well as gaining familiarity with many of the materials used in the Trade. The emphasis of this course is on developing practical, hands-on electrical skills.

Rationale:

This course is one of eight courses included in either the Construction or Mechanical Trades samplers. It is developed in full collaboration with School District 73. It is intended to introduce Senior High School students to various trades. These courses will be taught by TRU Red Seal instructors at the Norkam Regional Trades Center.

Student Enrollment: 18

Educational Objectives / Outcomes:

- Apply the concepts of personal safety and proper practices, as well as lockout procedures.
- Apply circuit concepts: describe the principles of electricity, circuit concepts and apply circuit concepts.
- Apply and analyze DC circuits – analyze series circuits, describe and analyze the operating principles of parallel circuits.
- Install low voltage distribution systems – interpret and apply codes, regulations and standards.

Special Student Activities:

The four trades under the Construction sampler will build skill sets within a common project. For example, a bathroom and kitchen unit framed to scale by the carpentry sampler. Plumbing and electrical components would be installed over the course of the Sampler in sequential order.

Methods for Learning Assessment and Recognition:

- 25% theory (quizzes and final exam – based on theory lectures)
- 5% code (final exam – based on code lectures)
- 70% shop/practical (based on practical projects)

Attendance Requirements:

Regular attendance is required to satisfactorily complete this course.

Course Delivery Method: In person

Course Materials:

- Basic Scientific Calculator (student supplied)
- Theory materials (instructor supplied)
- Electrical hand tools (SD 73 supplied)
- Electrical materials/supplies (SD 73 supplied, Instructor sourced)

Mandatory Training PPE:

- CSA approved safety glasses
- CSA approved work boots

Shop Evaluations:

Your instructor will be evaluating your course efforts (mainly in the shop), based on the following criteria:

Criteria	Weighting
Attendance	5%
Safety	5%
Attitude	5%
Professionalism	5%
Punctuality	5%
Communication	5%
Effort	10%
Overall Production	10%
Production Rate	10%
Workmanship/Competency	40%

A further breakdown of these categories can be found on Moodle*

Shop Safety:

1. CSA approved safety glasses (including prescription glasses) with side shields must be worn at all times within designated shops when a risk of eye injury exists. Students in shops must inform instructors when they are wearing contact lenses.
2. Long hair, which in the opinion of the instructor may be hazardous, must be covered with a hair net in the shops and/or be tied back to avoid any potential injury.
3. CSA approved safety shoes or boots must be worn in designated areas and laced up at all times.
4. Long pants, extending to the boot must be worn while working in designated shops.
5. Students will not use a machine, piece of equipment, or a workstation without:
 - obtaining instruction and,
 - obtaining permission from the instructor in charge.

6. Students must always use safety equipment provided.
7. Students will report the absence of safety equipment and hazardous situations.
8. Students will not use any tools, equipment, or machinery in a dangerous manner.
9. Students will not engage in any inappropriate behaviour, such as pranks, contests or unnecessarily rough or boisterous conduct.
10. Cellphones and headphones are not to be used in shop areas. The instructor may ask to take your phone for class duration if it is a problem. Otherwise please leave it in your bag unless it is being used for classroom purposes.
11. Students will not wear any loose or ragged clothing, dangling neckwear, bracelets or jewelry around moving parts of machinery or electrically energized equipment; this will be viewed as a safety hazard in the shop, and the instructor may excuse the student from class for failure to comply.
12. Students will report any injury, however minor, to the instructor. All injuries must be assessed by the First Aid attendant on duty.
13. Students shall not engage in any eating or drinking in shop areas.
14. All shop areas shall be cleaned and tidied up at the end of each day.
15. Students will not engage in any shop practical work during lunch or coffee breaks.
16. Students will wear appropriate safety attire at all times.
17. Students will not engage in any practical work outside of instructional hours.
18. Only instructors will operate vehicles within the mechanical shop. Any moving vehicles into or out of the shop will be performed by the instructor.
19. Students will not engage in smoking or vaping except in designated areas.
20. Students will not, under any circumstances, electrically energize a project or circuit created in the shop without instructor approval and supervision.
21. Students will follow safe work practices for ladders, including:
 - standing a maximum of 2 steps from the top
 - operating extension ladders at a 4:1 ratio of height to distance away from wall
 - not storing tools or material at the top of an unused ladder