

# Course Outline

## Advanced Electrical Wiring Methods 40S



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| <b>INSTRUCTOR:</b>         | <b>Mr. Copeland McQuarrie</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>CONTACT INFO:</b>       | <a href="mailto:cmcquarrie@trsd.ca">cmcquarrie@trsd.ca</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>PREREQUISITES:</b>      | Electrical Wiring Methods, all 20S and 30S courses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>COURSE DESCRIPTION:</b> | Students will build on the knowledge and skills that they learned in Electrical Wiring Methods, all 20S and 30S courses. Students will also be introduced to motor controls, PLCs, raceway calculations, voice data video (VDV) structured cabling, as well as retrofitting and/or upgrading existing electrical installations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>GENERAL OBJECTIVES</b>  | <a href="#">Link to Curriculum</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>UNIT OF STUDY</b>       | <p>Students will be introduced to the following:</p> <ul style="list-style-type: none"> <li>-Safety concepts and safety procedures</li> <li>-Safe and proper use of tools and equipment</li> <li>-Determine proper tool for application</li> <li>-Identification, selection, installation, maintenance, and management of devices and materials</li> <li>-Demonstrate a proper understanding of electrical theory</li> <li>-Demonstrate an understanding of the design, layout, and interpretation of branch circuits and systems</li> <li>-Demonstrate the procedures used to install and terminate branch circuits and systems</li> <li>-Read, interpret, and communicate information</li> <li>-Demonstrate an understanding of the testing, troubleshooting, and documentation of branch circuits and systems</li> <li>-Use sustainable practices when designing branch circuits (efficient use of materials)</li> <li>-Demonstrate awareness of ethical and legal standards</li> <li>-Demonstrate an understanding of electrical codes</li> <li>-Demonstrate fundamental employability skills</li> <li>-Demonstrate an awareness of cultural competence and its importance in the workplace</li> <li>-Demonstrate an understanding of the business operation of an electrical trades facility</li> <li>-Demonstrate Critical thinking skills in planning procedures, analysis, and diagnosis</li> <li>-Understand the evolution, technological progression, and emerging trends in the electrical trades</li> <li>-Apply the knowledge and skills from mathematics.</li> <li>-Apply the knowledge and skills from the sciences</li> <li>-Describe apprenticeship, education, career opportunities, professional organizations, and working conditions related to electrical trades technology and associated fields.</li> <li>-Demonstrate an awareness of the effects of energy-saving electrical devices installed in alternative wiring methods.</li> </ul> |

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|                                                                      | -Demonstrate an awareness of the advantages (in terms of sustainability) of using raceways over cable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>EVALUATION<br/>FORMAT</b>                                         | Students are evaluated upon the completion of every assignment. The assignments are all graded by the use of a rubric so that grading remains fair and consistent.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>ASSESSMENT<br/>GUIDELINES<br/>(formative &amp;<br/>summative)</b> | <p>It is advised that the students proceed through the assignments in the order provided, as they do increase in difficulty and skills learned in the earlier ones will be used in the later ones.</p> <p><b><u>Evaluation</u></b><br/> <b><u>Summative assessment: weight (100).</u></b><br/> Will be done as assignments are finished. Throughout the semester the students will be told approximately where they should be according to assignment progression.</p> <p>A Completion (comp) mark will be given to you after you have completed ALL your assignments. This mark will count as 50% of your overall mark. Absolutely all assignments have to be completed. Students are given ample class time to complete assignments.</p> <p>INCOMPLETE Course. Under special circumstances an incomplete may be granted for a course. It will be the instructor's discretion whether an incomplete is granted or not. If it is granted, the student will be given a specific date by which the missing assignments must be completed, or they will receive a final failing mark.</p> <p>If you <i>diligently worked throughout the semester</i> and feel you might not finish all assignments, DON'T GIVE UP! Come talk with me and we can develop a plan that will help you to be successful. This plan may involve extra work time, extended time frame or a decrease in assignments.</p> <p><b><u>Formative assessment: weight (0).</u></b></p> <p>Formative assessment is done daily with feedback to students about their work. Students can ask about their work. Students will be asked to evaluate their own assignments prior to the instructor's evaluation. This method is used to develop critical thinking skills within the students. Why? Students are more motivated to learn. Students take responsibility for their own learning. Students learn valuable lifelong skills such as self-evaluation, self-assessment, and goal setting. A formative assessment will also be made on the General objective as well as the Essential skills needed for employment. This could include Creativity, communication, critical thinking, digital citizenship, and more.</p> |

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| <b>LEARNING BEHAVIOURS:</b>      | <p>Students will be able to progress through curriculum, activities, and assignments at their own pace. Students must therefore develop good time management skills and be able to work well independently in order to be successful. Students are expected to exhibit the appropriate level of respect for peers, instructor, facilities, tools, and equipment.</p> <table border="1"> <tr> <td>Personal management skills</td><td>Uses class time effectively; works independently; completes homework and assignments on time</td></tr> <tr> <td>Active participation in learning</td><td>Participates in class activities; self-assesses; sets learning goals</td></tr> <tr> <td>Social responsibility</td><td>Works well with others; resolves conflicts appropriately; respects self, others and the environment; contributes in a positive way to communities</td></tr> </table>                                                                                                        | Personal management skills | Uses class time effectively; works independently; completes homework and assignments on time | Active participation in learning | Participates in class activities; self-assesses; sets learning goals | Social responsibility | Works well with others; resolves conflicts appropriately; respects self, others and the environment; contributes in a positive way to communities |
| Personal management skills       | Uses class time effectively; works independently; completes homework and assignments on time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                            |                                                                                              |                                  |                                                                      |                       |                                                                                                                                                   |
| Active participation in learning | Participates in class activities; self-assesses; sets learning goals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |                                                                                              |                                  |                                                                      |                       |                                                                                                                                                   |
| Social responsibility            | Works well with others; resolves conflicts appropriately; respects self, others and the environment; contributes in a positive way to communities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                                                                                              |                                  |                                                                      |                       |                                                                                                                                                   |
| <b>CLASS EXPECTATIONS:</b>       | <p><b><u>1.Student Expectations</u></b></p> <p><b>a. RESPECT</b></p> <ol style="list-style-type: none"> <li>Every person (teacher and students)</li> <li>The workplace (do not abuse tools or work area, keep area tidy)</li> <li>Yourself</li> </ol> <p><b>b. You (and you alone) are responsible for your work so use your time WISELY.</b></p> <p><b>c. If you are not sure, please ASK for help, TALK to the instructor if you are having problems.</b></p> <p><b>d. Come to class ready to work.</b></p> <p><b>e. CLEAN up after yourself, I am not your mother.</b></p> <p><b>f. Set your GOALS for each subject and class.</b></p> <p>Also see <a href="#">Ste. Rose School Student Handbook Grade 5-12</a></p> <p><b><u>2. Classroom Procedures</u></b></p> <p><b>a. Late:</b></p> <ol style="list-style-type: none"> <li>Being on time means being in your seat at the start of class (not running in the door). This is a direct correlation to point “a” above: Respect!</li> </ol> |                            |                                                                                              |                                  |                                                                      |                       |                                                                                                                                                   |

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|                             | <p><b>b. Absentees</b></p> <ol style="list-style-type: none"> <li>1. Even if approved by Parents/Guardians, you still need to complete assignments.</li> <li>2. You are responsible to finish assignments and work that you have missed.</li> </ol> <p><b>c. Food</b></p> <p><b>Food and drinks are permitted in class unless the privilege is being abused.</b></p> <p><b>d. Leaving the class</b></p> <ol style="list-style-type: none"> <li>1. Ask permission before you leave. I am accountable for your whereabouts during this class and need to know who is out of the room at all times.</li> </ol> <p><b>e. Supply List</b><br/>Please bring 15 pens, 5 red, 5 black, 5 blue pens to class.</p> |
| <b>Digital Citizenship:</b> | <p>Students are not allowed to use cellphones or other wireless communication devices during instructional time.</p> <p>Cellphones and other personal devices are only allowed during designated breaks and lunch periods.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Safety:</b>              | <p>Behave in a safe manner. Follow safety instructions attached to equipment in class. Do not abuse tools or equipment. Use tools in an appropriate method. Always ensure that you are using your PPE (safety glasses, etc.)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |