# WESTERN TECHNICAL - COMMERCIAL SCHOOL
# COURSE OUTLINE

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| **COURSE TITLE:** | Computer Technology | **CODE:** | TEJ2O1 |
| **SUBJECT AREA:** | Tech | **RESOURCES:** | www.mfranzen.ca |
| **TEACHER NAME:** | Mr. Franzen | **DATE:** | Feb. 2023 |
| **PREREQUISITE:** | None (Open) | **COURSE COST MATERIAL FEE:** | None |

## COURSE DESCRIPTION:

This course introduces students to computer systems, networking, and interfacing, as well as electronics and robotics. Students will assemble, repair, and configure computers with various types of operating systems and application software. Students will build small electronic circuits and write computer programs to control simple peripheral devices or robots. Students will also develop an awareness of environmental and societal issues related to the use of computers, and learn about secondary and postsecondary pathways to careers in computer technology. Focus will support robotics and the Robo program here at Western.

## COURSE DESTINATION: COMPUTER PROGRAMING, ROBOTICS, ENGINEERING & DESIGN,  NETWORKING, AND TRANSPORTATION

## COURSE UNITS:

| Unit | Description | Length | Evaluation Strategies |
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| 1 | Careers & Safety - Intro, computers, organization, and careers | 3 Weeks | Research, poster, assignments, Review, Quiz, presentation |
| 2 | Computers - organization, hardware, design, software, maintenance, building, repair, and troubleshooting | 4 Week | Research, assignments, review, quiz, test, peer fb, practical activites |
| 3 | Circuits - Electrical characteristics, calculations, components, digital logic design, project build, and troubleshooting | 4 Weeks | Research, assignments, review, quiz, test, peer fb, practical activites |
| 4 | Tetrix Bot- micro controllers, electronic components, robot builds, circuit building, programming, robot naviagtion, testing, and troubleshooting | 4 Weeks | Research, assignments, review, quiz, test, peer fb, practical activites |
| 5 | Culminating projects and Learning showcase portfolio | 3 Weeks | Assignments, reporting, peer fb |

**OVERALL EXPECTATIONS:**  By the end of the course students will…

 -identify and describe the functions of, as well as important advances related to, electronic and computer components;
 -demonstrate a basic understanding of computer networks and their components;
 -demonstrate a basic understanding of binary numbers and digital logic.

 -install and configure the hardware and operating system of a workstation, and use file-management techniques effectively;
 -construct and test simple interfaces and other electronic circuits;
 -assemble and configure a simple computer network;
 -install and use a variety of software;
 -apply fundamental programming concepts to develop a variety of simple programs, including a program to control an external device.

 -identify harmful effects of the widespread use of computers and associated technologies on the environment, as well as agencies that reduce these effects;
 -identify effects of the widespread use of computers and associated technologies on society.

 -follow appropriate health and safety procedures when assembling, using, and maintaining computer systems;
 -demonstrate an understanding of ethical and security issues related to the use of computers;
 -identify various careers related to computer technology, and describe the education and/or training required for them.

## CLASSROOM EXPECTATIONS
- Come to class on time and be prepared and willing to actively participate in every lesson.
- Treat others with respect and courtesy.
- Ask the teacher for extra help if needed.
- Bring a 3-ring binder or equivalent with paper, pen, pencil, ruler, calculator, and a flash memory stick.
- Distractions such as phones, ear buds, texting, gaming, etc not allowed in class and internet use, not to be abused.
- Continually expand and review course related work to grow and challenge your new knowledge, skills, and values.
- Take the initiative, be a team player, be co-operative with peers, complete homework, and make your best effort.

## ATTENDANCE MISSED TESTS AND EVALUATIONS
- Bring a note from parents the day after an absence to explain the absence.
- Be aware that a mark of zero will be assigned to students who miss presentations, tests or assignments without a valid explanation. It is the student's responsibility to make arrangements, ahead of time, for any evaluations that are missed. If a student misses an evaluation for an unforeseen reason such as illness or family emergency, the student must bring a note signed by a parent or guardian and be prepared to write/make-up the evaluation immediately upon return to school.

## ACADEMIC INTEGRITY
- Plagiarism and/or copying will result in a mark of *zero* for everyone involved. Further action may be taken including suspension from school. Teachers will clearly define and discuss consequences of plagiarism with students at the beginning of each semester.

## LATE ASSIGNMENTS
- All assignments must be submitted before the due date, before class starts that day. A late mark of 10% will be deducted from assignments handed in past the due date/time, prior to the cut off date. A mark of zero will be assigned, if the assignment is handed-in after the cut-off date.

## MISSED EXAMINATIONS
- Students are required to write all scheduled examinations. A student who misses any examination due to illness must present a medical note, stating that the doctor was aware that a medical reason prevented the student from writing the exam.

## TEACHING/ASSESSMENT/EVALUATION STRATEGIES

**Learning Activities:** Hands-on-activities, assignments, quizzes, tests, demonstrations, research, presentations, videos, illustrations, posters, tutorials, computers, controllers, programming, practical projects, cct. design and building

**Culminating Activities:** Course related project(s) and a learning showcase portfolio

## EVALUATION OF STUDENT ACHIEVEMENT
Student achievement is measured relative to curriculum expectations across four weighted Achievement Categories (Knowledge/Understanding, Thinking/Inquiry, Communication, and Application).

**Term Work:** 70% (Knowledge/Understanding, Thinking/Inquiry, Communication, Application)

**Culminating Activities:** 30% Final projects and learning showcase portfolio

**Learning Skills**: including: Responsibility, Organization, Independent Work, Collaboration, Initiative, and Self-Regulation are evaluated on each Report Card as: **E** (excellent); **G** (good); **S** (satisfactory); or **N** (needs improvement).
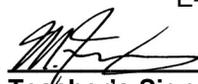
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For online access to class journal, content, student marks and resouces: www.mfranzen.ca,
E-mail: Michael.Franzen@tdsb.on.ca, Extra help is avliable in the mornings before classes

_____      _____      _____
**Teacher's Signature**         **Student's Signature**         **Parent's Signature**

Mr. Franzen_____      _____      _____
Teacher's Name printed         Student's Name Printed         Parent's Name Printed