WESTERN TECHNICAL - COMMERCIAL SCHOOL
COURSE OUTLINE

COURSE TITLE:	Technological Design	**CODE:**	TDJ2OR
SUBJECT AREA:	Tech	**RESOURCES:**	www.mfranzen.ca
TEACHER NAME:	Mr. Franzen	**DATE:**	Sept 2022
PREREQUISITE:	None (Open)	**COURSE COST MATERIAL FEE:**	None

COURSE DESCRIPTION:
This course provides students with opportunities to apply a design process to meet a variety of technological challenges. Students will research projects, create designs, build models and/or prototypes, and assess products and/or processes using appropriate tools, techniques, and strategies. Student projects may include designs for homes, vehicles, bridges, robotic arms, clothing, or other products. Students will develop an awareness of environmental and societal issues related to technological design, and learn about secondary and postsecondary education and training leading to careers in the field. Focus will support robotics and the Robo program here at Western.

COURSE DESTINATION: Preparation for related courses such as: MANUFACTURING, COMPUTERS, ENGINEERING, CONSTRUCTION, TECHNICAL DESIGN, TRANSPORTATION, and ROBOTICS

COURSE UNITS:

Unit	Description	Length	Evaluation Strategies
1	Careers & Safety - Intro, computers, organization, and research career	3 Weeks	Research, poster, assignments, quiz, peer fb, presentation
2	Technical Sketching - freehand sketching, ortho, dimensions, ISO views, custom ortho design	3 Weeks	Presentation, assignments, peer fb, quiz, test, practical activities
3	Basic 2D & 3D CAD Intro - 2D co-ordinates, lines, ortho views, 3D drawing, and custom design digitized	2 Weeks	Presentation, assignments, peer fb, quiz, test, practical activities
4	3D Parametric Design - 2D sketch, 3D parts, feature tools, drawings, exporting for 3D printing	4 Weeks	Presentation, assignments, peer fb, quiz, test, practical activities
5	Sheetmetal Design - thin material design, folds, assemblies, 2D print, project design, testing, and build	2 Weeks	Presentation, assignments, peer fb, quiz, test, practical activities
6	Robot Assembly - part reproduction, part assemblies, custom function design and build	3 Weeks	Presentation, assignments, peer fb, practical activities
7	Learning showcase portfolio report	1 Week	Review, reporting, peer fb

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

in TECHNOLOGICAL DESIGN FUNDAMENTALS:
A1. identify and describe the purpose, scope, and steps of a design process;
A2. identify and describe tools, strategies, and skills needed for project research, planning, and organization;
A3. demonstrate an understanding of how design ideas are represented graphically;
A4. explain the purpose of building models and prototypes, and identify tools, materials, and methods for building and testing them;
A5. demonstrate an understanding of communications methods used in the design process.

in TECHNOLOGICAL DESIGN SKILLS:
B1. research, plan, and organize projects, using a design process and appropriate methods and tools;
B2. apply appropriate methods for generating and graphically representing design ideas and solutions;
B3. create and test models using a variety of techniques, tools, and materials;
B4. use suitable communication methods throughout the design process.

in TECHNOLOGY,THE ENVIRONMENT, AND SOCIETY:
C1. demonstrate an understanding of environmentally responsible practices, and apply them throughout the technological design process;
C2. describe how society influences technological innovation and how technology affects society.

in PROFESSIONAL PRACTICE AND CAREER OPPORTUNITIES:
D1. apply appropriate health, safety, and environmental practices throughout the design process;
D2. identify careers related to technological design, and the education and training required for them.

CLASSROOM EXPECTATIONS

- Come to class on time and be prepared and willing to actively participate in every lesson.
- Ask the teacher for extra help if needed and treat others with respect and courtesy.
- Bring a 3-ring binder or equivalent with paper, pen, pencil, ruler, calculator, and a USB 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: Demonstrations, presentations, quizzes, tests, illustrations, tutorials, hands-on activities, computers, digital work, practical projects, videos, design process, 3D spacial awarness, engineering drawings

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

EVALUATION OF STUDENT ACHIEVEMENT

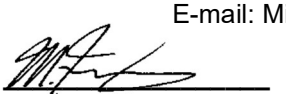
Student achievement is measured relative to curriculum expectations across four weighted Achievement Categories (Knowledge/Understanding, Thinking/Inquiry, Communication, Application).

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).

WESTERN TECHNICAL-COMMERCIAL SCHOOL
125 Evelyn Crescent, Toronto, Ontario M6P 3E3
Telephone: 416-393-0500 - Department Extension: 20065
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