Earl of March Secondary School
Course Outline

	COURSE TITLE:	TECHNOLOGICAL DESIGN	**CODE:**	TDJ4M
	SUBJECT AREA:	TECH	**RESOURCES:**	Google Classroom
	TEACHER NAME:	Mr. Heidt, Mr. Martin	**DATE:**	Feb. 2020
	PREREQUISITE:	TDJ3M	**Fee for Course Enhancement:**	$25.00 + safety glasses ($5.00) - can bring own

COURSE DESCRIPTION:

This course introduces students to the fundamentals of design advocacy and marketing, while building on their design skills and their knowledge of professional design practices. Students will apply a systematic design process to research, design, build, and assess solutions that meet specific human needs, using illustrations, presentation drawings, and other communication methods to present their designs. Students will enhance their problem-solving and communication skills, and will explore career opportunities and postsecondary education and training requirements for them.

COURSE DESTINATION: Preparation for related courses such as: MANUFACTURING, COMPUTERS, and TECHNOLOGICAL DESIGN as well as FIRST Robotics Club and Electric Vehicle (EV) Club membership.

COURSE UNITS:

Unit:	Description:	Length:	Assessment Strategies:
1	**Safety & Organization - Floor Plan & Outline**	1 week	**Assignments, peer assessment**
2	**Design Processes & Planning - Pleatherwork**	2 weeks	**Group research, & peer assessment**
3	**Areas of Design - 3D CAD, Graphic, Architecture**	4 weeks	**Assignments, practical activities, quizzes**
4	**Tools, Equipment & Processes - Woodworking**	5 weeks	**Assignments, practical activities, presentation**
5	**Structural & Mechanical Analysis - AeroSlinger**	3 weeks	**Assignments, practical activity, demonstration**
6	**System Design and Integration - Race Car Theme**	3 weeks	**Assignments, practical activity, demonstration**
7	**Presentation Portfolio**	1 week	**Assignment, presentation**

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

A1. demonstrate an understanding of criteria, relationships, and factors that affect technological design and the design process;

A2. describe strategies, techniques, and tools for researching, organizing, planning, and managing design projects and related activities, with an emphasis on advocacy, diplomacy, and marketing;

A3. demonstrate an understanding of drafting standards, drawing types, conventions, and guidelines used when representing design ideas graphically;

A4. demonstrate an understanding of various types of models and prototypes, and describe the tools, materials, equipment, and processes for building, testing, and evaluating them;

A5. use appropriate technical language and communications methods to document, report, present, & market ideas and results.

B1. use appropriate resources, methods, and tools to research and manage design projects and related activities;

B2. apply appropriate methods for generating and graphically representing complex design ideas and solutions;

B3. create, test, and analyse models and/or prototypes, using a variety of techniques, tools, and materials;

B4. use a variety of formats and tools to create and present reports summarizing and evaluating the design process, to analyse decisions made during the process, and to advocate the final design.

C1. demonstrate an understanding of environmentally responsible design practices, and apply them in the technological design process and related activities;

C2. analyse the relationship between society and technological development.

D1. describe and apply personal and environmental health and safety standards and practices related to technological design;

D2. compare a variety of careers related to technological design, as well as the training and educational requirements for them, and maintain a portfolio of their work as evidence of their qualifications for future education and employment.

EVALUATION OF STUDENT ACHIEVEMENT
Student achievement is measured relative to curriculum expectations available at the link below:
http://www.edu.gov.on.ca/eng/curriculum/secondary/2009teched1112curr.pdf (pg 341-347)

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

Culminating Activities: 30% Final practical project

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).

ASSESSMENT OF ACHIEVEMENT BY COURSE ACTIVITY

Tasks	Ministry Expectations												
	A1	A2	A3	A4	A5	B1	B2	B3	B4	C1	C2	D1	D2
Safety Floor Plan			✔									✔	
Pleather- Product Design	✔	✔			✔					✔			
Areas of Design Modules			✔	✔			✔		✔		✔		✔
Tools & Processes - 2x4				✔		✔	✔	✔		✔		✔	
AeroSlinger- Build & Test	✔	✔			✔	✔		✔	✔	✔		✔	
System Design - Car	✔	✔			✔	✔		✔	✔	✔		✔	
Portfolio Presentation			✔	✔			✔				✔		✔

When assigning new work, the evaluation rubric is provided at that time. Google Classroom is used extensively to assign and track various assignments.
Marks recording will be done in MaMa - the School Board provided marks recording app.

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, an available laptop is recommended.
• Distractions such as phones or MP3 players not to be used in class and internet use not to be abused.
• Take the initiative, be a team player, co-operative with peers, complete homework, and make your best effort.
• A focus on student project-driven teams, learning and innovating to solve challenging problems, come up with working solutions, gaining new knowledge, skills, experiences, and understanding of this course field area.

Best way to contact, is through e-mail: thomas.heidt@ocdsb.ca , craig.martin@ocdsb.ca

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Student's Signature   Parent's Signature

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Student's Name Printed   Parent's Name Printed