

MALVERN COLLEGIATE

TECHNOLOGICAL DESIGN TDJ4M1

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 the postsecondary education and training requirements for them.

PREREQUISITE: TDJ3M1

OVERALL EXPECTATIONS

- demonstrate an understanding of criteria, relationships, and other factors that affect technological design and the design process
- describe strategies, techniques, and tools for researching, organizing, planning, and managing design projects and related activities, with an emphasis on advocacy, diplomacy, and marketing
- demonstrate an understanding of drafting standards, drawing types, conventions, and guidelines used when representing design ideas graphically
- demonstrate an understanding of various types of models and prototypes, and describe the tools, materials, equipment, and processes for building, testing, and evaluating them
- use appropriate technical language and communications methods to document, report, present, and market design ideas and results
- use appropriate resources, methods, and tools to research and manage design projects and related activities
- apply appropriate methods for generating and graphically representing complex design ideas and solutions
- create, test, and analyse models and/or prototypes, using a variety of techniques, tools, and materials
- 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
- demonstrate an understanding of environmentally responsible design practices, and apply them in the technological design process and related activities
- describe and apply personal and environmental health and safety standards and practices related to technological design
- 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

ACHIEVEMENT CATEGORIES AND WEIGHTING

FORMATIVE 70% of final mark

CULMINATING PROJECT 30% of final mark

- TESTS 5%
- ASSIGNMENTS 15%
- PROJECTS 50%

LEARNING SKILLS

Independent Work, Team Work, Organization, Work Habits, and Initiative

Evaluation key: Excellent, Good, Satisfactory and Needs Improvement

AREAS OF FOCUS

- tool and equipment safety
- 2D and 3D design – drafting and CAD
- product design and construction
- product testing and evaluation

ASSIGNMENTS

- research, sketches, concept drawings, drafts and CAD designs

PROJECTS

- engineering design and construction, robotics, mechanics and function

COURSE EXPECTATIONS

1. Come to class prepared. Bring pencils, pens and other materials to every class
2. Attendance is important for success in this course.
3. Use class time efficiently and effectively.
4. Due dates are to be adhered to. It is your responsibility to catch up on missed work. Deadlines may be extended for legitimate reasons.
5. Projects and assignments are to be completed at school unless authorized by the teacher.
6. Please identify all work to discourage theft and loss. Store your work in designated areas.

SAFETY

- safety glasses at all times
- closed shoes at all times
- no horseplay or vandalism
- ask the teacher for instruction on equipment if unsure-when in doubt ask the teacher
- pay strict attention to the work during operation of machinery
- it is the responsibility of students to clean all areas after use
- report an accident or unsafe condition immediately
- no food or drink allowed in the classroom

