Exploring Technological Design- TDJ1O

Course Information & Evaluation

This exploratory course introduces students to concepts and skills related to technological design, which involves the development of solutions to various design challenges and the fabrication of models or prototypes of those solutions. Students will develop an awareness of related environmental and societal issues, and will begin to explore secondary and postsecondary pathways leading to careers in the field. *PREREQUISITE: none*

Overall Expectations

Fundamentals

A1. demonstrate an understanding of the fundamental concepts and skills required in the planning and development of a product or service, including the use of a design process and/or other problem-solving processes and techniques;

A2. demonstrate the ability to use a variety of appropriate methods to communicate ideas and solutions;

A3. evaluate products or services in relation to specifications, user requirements, and operating conditions.

Skills

B1. use problem-solving processes and project management strategies in the planning and fabrication of a product or delivery of a service;

B2. fabricate products or deliver services, using a variety of resources.

Technology, The Environment & Society

C1. demonstrate an awareness of the effects of various technologies on the environment;

C2. demonstrate an awareness of how various technologies affect society, as well as how society influences technological developments.

Professional Practice & Careers

D1. demonstrate an understanding of and apply safe work practices when performing communications technology tasks;

D2. demonstrate an understanding of and adhere to legal requirements and ethical practices relating to the communications technology industry;

D3. demonstrate an understanding of career opportunities and career development in a rapidly changing technological environment, and maintain a portfolio of their work as evidence of their qualifications for future education and employment.

Strands/Units Topics

1. Drafting - 2D/ 3D tips & techniques
2. Shop Safety
3. Shop Procedures
4. Power Machine Uses and Safety
5. Construction Project – Night Lite
6. CNC Router - Plaques Design and Machining Tips
7. Competition Challenge, Design & Construction - CO2 dragster
8. Summative - (x2)

Course Text and Reference Resources

Integrated Technologies by Sergio Borghesi et al, Pearson Education Canada 2004, Online resources, and Technical resources

Assessment & Evaluation Policy

Refer to the attached SWL Assessment and Evaluation Policy April 2011

Attendance Policy

Students are responsible for catching up on class notes and completing any assignments or tasks involving equipment for which they were absent. ***It is up to the students to ask the instructor what they missed when they return***. Parents will be contacted for any student who skips class. After three such skips, the student will be referred to the Vice-Principal.

70% Formative Evaluation

Student evaluation is based on the Overall Expectation found in the Ontario Curriculum using various forms, such as, but, not limited to, quizzes, tests, assignments, projects, presentations, safety practices, and activities.

30% Summative Evaluation

Each student will complete <u>two</u> summative projects representing 30% of their mark.

Certain forms of these summative evaluations (exams, final tests, performance based tasks, etc.) are time sensitive. This means they must be completed at and within a specific time. Students <u>must</u> be present for these summative evaluations. Any absence will result in a mark of zero, unless validated by an official certificate. (ex. Medical Certificate). Students and parents will be informed well in advance of summative evaluation dates.

Classroom Expectations

1. Students are expected to be willing and active participants in all course activities. This includes completing all assignments both on time and with sufficient effort, and honoring all of their commitments.

2. Students will contribute to a positive learning environment by: • practicing safe work habits at all times • being respectful to others and respecting their property • treating all equipment with care and ensuring proper knowledge of its operation • reporting unsafe or hazardous situations to the instructor • reporting software or equipment problems to the instructor • cleaning up their workspace and putting everything away before they leave the class*** Electronic storage devices, headphones and open toed shoes cannot be used in the shop areas * No food or drink is permitted in any of the equipment areas.**