Construction Engineering Technology - TCJ3C

Course Information & Evaluation

This course focuses on the development of knowledge and skills related to residential construction. Students will gain hands-on experience using a variety of construction materials, processes, tools, and equipment; learn about building design and planning construction projects; create and interpret working drawings and sections; and learn how the Ontario Building Code and other regulations and standards apply to construction projects. Students will also develop an awareness of environmental and societal issues related to construction technology, and will explore career opportunities in the field.

PREREQUISITE: Custom Woodworking, Grade 11, Workplace Preparation

Overall Expectations

Fundamentals

A1. demonstrate an understanding of construction materials, processes, and components;
A2. describe the building codes, regulations, and standards that govern construction projects;
A3. demonstrate an understanding of the systems in a residential building;
A4. demonstrate an understanding of design considerations for residential buildings;
A5. use construction terminology correctly.

Design, Layout, and Planning Skills

B1. apply a design process and other problem-solving processes and techniques as appropriate to develop solutions for construction problems or challenges;
B2. create and use working drawings for a variety of residential construction projects;
B3. determine, use, and communicate accurate technical data in the design of construction projects;
B4. use the mathematical skills required in designing, laying out, and preparing estimates for construction projects.

Fabrication, Assembly, and Finishing Skills

C1. use tools, equipment, and techniques correctly and safely when preparing materials for a project;
C2. use fabrication and assembly techniques safely, accurately, and in the correct sequence;
C3. prepare surfaces and apply finishing products, trim, and hardware correctly and safely.

Technology, the Environment, and Society

D1. demonstrate an understanding of the environmental effects of construction projects, and ways of reducing harmful effects;
D2. demonstrate an understanding of how society and the construction industry affect each other

Professional Practice & Careers

E1. demonstrate an understanding of and comply with health and safety regulations and practices specific to the construction industry;
E2. describe career opportunities in the construction industry, and explain the importance of lifelong learning in this field.

Strands / Units Topics

1. Power Tool Uses and Safety
2. Power Machine Uses and Safety
3. Shop Procedure and Safety
4. Project Planning, Design and Cost Estimating
5. Introduction to Residential Building
6. Residential Building Codes and Standards
7. Site Planning and Blueprint Layout
8. Fabrication and Assembly Techniques
9. Surface Preparation and Finishing
10. Green Industries
11. Summative: (x2)

Course Text and Reference Resources

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.**