Ancaster High School
Course Outline 2013/2014
Manufacturing Technologies
Grade 12 TMJ4E
Technological Education

TEACHER: Mr. J. Radix **PREREQUISITE:** TMJ3E **HOURS:** 110 **CREDIT VALUE:** 1

DEPARTMENT HEAD: Mr. K. Lemieux **TEXTBOOK:** None

GUIDELINE: *The Ontario Curriculum Grades 11 and 12, Technological Education, 2009 Revised*

The text will be provided free of charge. However, the student is responsible for returning the book in reasonable condition. The student will be charged for loss or damage.

OVERALL EXPECTATIONS:

A. MANUFACTURING TECHNOLOGY FUNDAMENTALS

OVERALL EXPECTATIONS
By the end of this course, students will:

A1. demonstrate an understanding of the secondary manufacturing industries and the processes and technologies related to them;
A2. demonstrate a working knowledge of how a design process is used to develop and fabricate projects in response to challenges or problems in manufacturing technology;
A3. demonstrate a working knowledge of the processes required for making material conversions;
A4. apply relevant mathematical and scientific concepts and technological literacy and communication skills in the study of manufacturing technology.

B. MANUFACTURING TECHNOLOGY SKILLS

OVERALL EXPECTATIONS
By the end of this course, students will:

B1. use technical drawing skills and a design process to create engineering drawings that provide solutions to project development challenges;
B2. select and use the proper materials when manufacturing a product to meet specifications;
B3. apply advanced metrology skills to measure, lay out, and inspect a product;
B4. demonstrate the safe and proper use of tools and equipment when producing various projects to meet specifications.

C. TECHNOLOGY, THE ENVIRONMENT, AND SOCIETY

OVERALL EXPECTATIONS
By the end of this course, students will:

C1. demonstrate an understanding of the importance of using sustainable and environmentally friendly manufacturing practices;
C2. explain how the manufacturing industry affects society locally, provincially, and/or nationally.

D. PROFESSIONAL PRACTICE AND CAREER OPPORTUNITIES

OVERALL EXPECTATIONS
By the end of this course, students will:

D1. demonstrate an understanding of and compliance with health and safety legislation, standards, and practices, including methods to address deficiencies, as they relate to the manufacturing industry;
D2. demonstrate an understanding of the postsecondary pathways leading to careers in manufacturing and the training and certification required for these careers.

TEACHING STRATEGIES (include, but are not limited to):

- Providing appropriate accommodation for students on IEP's and for English Language Learners and for those who are First Nations, Metis or Inui;
- Utilizing Student Support and Student Alternative Support Programs;
- Contacting parents for support and assistance;
- Using diagnostic assessment and check-in points to monitor student progress;
- Providing differentiation of instruction and assessment to meet the needs of diverse learners;
- Providing ongoing descriptive feedback that is clear, specific, meaningful, and timely to support improved student learning;
- Creating lessons, and assessment and evaluations, that are carefully planned to relate to the curriculum expectations and learning goals, and as much as possible to the interests, learning styles and preferences of all students;
- Developing students' self-assessment skills to enable them to assess their own learning, set specific goals, and plan next steps for their learning.

ASSESSMENT AND EVALUATION OF WORK:

Assessment and evaluation will be based on the provincial curriculum expectations and the achievement levels outlined in the curriculum policy document. Students will be given numerous and varied opportunities to demonstrate their achievement of the expectations across the four categories of knowledge and skills.
Midterm and final marks will be calculated using the prescribed learning strands with the following weighting:

Strand	Weighting
A. MANUFACTURING TECHNOLOGY FUNDAMENTALS	**30%**
B. MANUFACTURING TECHNOLOGY SKILLS	**30%**
C. TECHNOLOGY, THE ENVIRONMENT, AND SOCIETY	**5%**
D. PROFESSIONAL PRACTICE AND CAREER OPPORTUNITIES	**5%**

Evidence of achievement can be determined from a variety of sources, including but not limited to: in-class assignments, class presentation, open-ended questions, observations, quizzes, unit tests, investigations, projects, conversations, portfolios, anecdotal records, self-assessments, etc. Not every assessment will count towards a student's final grade. The primary purpose of assessment and evaluation is to improve student learning.

CULMINATING ACTIVITY

Culminating activities occur at or near the end of a course. They form part of the final 30% of a student's mark. If a student is absent from a culminating activity, they must provide a doctor's note. The culminating activity will not normally be re-scheduled.

For this course, the culminating activity will occur: In the last month of the course and during the exam schedule.
And will consist of the following: A practical demonstration of skills learned throughout the semester and a written assignment (reflective writing).

LEARNING SKILLS:

The report card provides a record of the learning skills demonstrated by the student in every course, in the following six categories. However, learning skills are not directly considered in the determination of percentage grades.

Independent Work

Collaboration

Organization

Initiative

Responsibility

Self-Regulation

These skills will be assessed using the following key:

E = Excellent

G = Good

S= Satisfactory

N = Needs Improvement

MARK CALCULATION:

Interim: A report will be given to reflect how well the student is progressing with suggestions for improvement.

Term Work: 70% of the overall grade (from all term evaluations)

Final Evaluation(s): 30% of the overall grade (20% practical culminating activity, 10% written assignment)

Teachers will take various considerations into account before making a decision about the grade to enter on the report card. Determining a report card grade will involve teacher's professional judgement and interpretation of the evidence and should reflect the student's most consistent level of achievement with special considerations given to the more recent evidence. Marks are not merely a calculation of averages, but an evaluation of the consistent achievement of the student.

CONTACT INFORMATION:

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Extra Help Sessions: As required