

I. COURSE DESCRIPTION

Metalworking is an introductory level course that provides students of all skill levels with the opportunity to learn technological literacy, aspects of the design process, hand skills and machining processes.

II. COURSE GOALS

Upon completion of this course, students will be able to:

- Work with hand and power tools /machines in a **safe** and appropriate manner.
- Become familiar with various metals and metal products used in industry.
- Use the design process to create their own projects.
- Use drafting skills to create working drawings of their projects.
- Use numeracy skills to measure, calculate and estimate.
- Use problem solving skills to test their ideas and solutions.
- Use social skills to interact with others to solve problems and complete projects.

III. SUPPLIES REQUIRED

- Bring the **course binder with paper** and a **pencil** to class. Not a mechanical pencil.
- A **Logbook** is mandatory (spiral bound is preferred.)
- Bring your **SHSS planner** to class, **you will need it.**
- **SAFETY GLASSES** must be worn **AT ALL TIMES** in the school shops – **NO EXCEPTIONS WHEN WORK HAS BEGUN.**
- Bring your own or buy them for \$4. Safety glasses are available in the school shops but students will need to sign them out and will be responsible for their care during the semester. If abuse is noted then they will be required to replace the glasses.

IV. COURSE CONTENT for TEM10, MFMAF11, MMFMA12 & MFMW12

1. Basic drafting and blueprint reading. Letters and numbers. Review for L2-L4
2. Measuring, estimating and calculating metal resources.
3. Basic design process.
4. Basic layout and construction geometry.
5. General health and **safety**. WHMIS and MSDS.
6. **General site and shop safety.**
7. Hand and portable power tool use and safety
8. **Machine operations and safety.**
9. Metals – their properties and associated processes. Research project.
10. Basic structural shapes and their uses. Research project.
11. Basic fasteners, gas cutting and welding and general fabrication and welding .
12. **Project work.** 4 required: Drillpoint gauge, small parts box, a small drill & tap project and a gas welded wireframe sculpture. The student will then decide on a final project, suggestions are waffle ball catapult, a toolmakers clamp, steel dice, gear candle holder, ring making and various welding projects etc. There may also be a second term special fabrication class project perhaps build a catapult or onagar. Projects should be chosen based on skill set. **Take home project cost** will be students responsibility and vary depending on project chosen.

V. EVALUATION

Projects and Assignments.....	50%
Tests and Quizzes.....	20%
Note book and Logbook	20%
Attitude, Co-operation, Attendance, Cleanup	10%
TOTAL.....	100%

