A POLYTECHNIC INSTITUTION

Course Outline

School of Manufacturing, Electronics and Industrial Processes
Program: Technology Teacher Education
Option: Diploma

TTED 3020
Hand Tool Basics Metal/Mech

Start Date: September 11, 2006 **End Date:** October 5, 2006

Total Hours: 16 Total Weeks: 4 **Term/Level:** 1 **Course Credits:** 1.0
Hours/Week: 4 **Lecture:** 1 **Lab:** N/a **Shop:** 3 Seminar: n/a Other: n/a

Prerequisites

Course No.	Course Name
n/a	n/a

TTED 3020 is a Prerequisite for:

Course No.	Course Name
TTED 3021	Power Tool Basics – Metal/Mech

Course Description

This course introduces students to basic hand tools and related processes used to work with metal. Jeweler's saws, sheet metal machines, drill press, abrasive belt sander and mechanics hand tools are also included. Students will learn accurate layout procedures, selection, set up and safe use of these tools and machines for specific operations. Lecture content will support hands on practical project work.

Detailed Course Description

A major goal of this course is to have students develop an appreciation for cutting, shaping and forming metal with hand tools and sheet metal machines. Learning safe work practices, proper tool selection and use along with working to a reasonable standard of accuracy will also be stressed.

Evaluation

Project Work	70
Final Exam	30
TOTAL	100%

Comments:
The passing grade in the theory and practical aspects of this course is 50%.
A passing grade is required in both the theory and practical components in order to gain a course passing grade.
All practical work should be completed during regularly scheduled lab periods except where specific permission otherwise is obtained from the instructor.
Working safely is a requirement, otherwise lab privileges may be withdrawn.

Course Learning Outcomes/Competencies

Upon successful completion, the student will be able to:

1. Understand and work to the standard of safety expected in school shops
2. Properly identify basic metalworking, sheet metal and mechanic's hand tools
3. Identify key features of the drill press and abrasive belt sanding machines
4. Demonstrate the correct use of various metalworking, sheet metal and mechanic's hand tools
5. Demonstrate the correct use of the drill press and abrasive belt sanding machine
6. Work to a reasonable standard of hand skill accuracy, fit and finish in making projects

Verification

I verify that the content of this course outline is current.

_____ _____
Authoring Instructor Date

I verify that this course outline has been reviewed.

_____ _____
Program Head/Chief Instructor Date

I verify that this course outline complies with BCIT policy.

_____ _____
Dean/Associate Dean Date

Note: Should changes be required to the content of this course outline, students will be given reasonable notice.

Instructor

Peter Trant	Office Location:	SW9 – 201F	Office Phone:	604 – 432 – 8280 (loc 8280)
	Office Hrs.:	By Appointment or as posted	E-mail Address:	peter_trant@bcit.ca

Learning Resources

Required:

- Caspersen, BASIC METALWORKING PROCEDURES, Pacific Educational Press
- 3-ring binder
- Safety footwear (CSA approved, green triangle, puncture proof sole, steel toes and ankle support)
- Safety glasses (CSA approved)
- Smock and/or coveralls.
- 150mm (6") metric/imperial Vernier or Dial Calliper
- 6" steel rule, metric & imperial graduations
- Set Allen wrenches, metric and imperial sizes
- Set fractional drill bits, 1/16" to 1/4"
- HSS centre drill, #3 or #4
- Pocket honing stone

Recommended:

- Small toolbox
- Magnifying glass

Information for Students

Assignments: Late assignments, lab reports or projects will be devalued 10% per day late. Assignments must be done on an individual basis unless otherwise specified by the instructor.

Makeup Tests, Exams or Quizzes: There will be no makeup tests, exams or quizzes. If you miss a test, exam or quiz, you will receive zero marks. Exceptions may be made for documented medical reasons or extenuating circumstances. In such a case, it is the responsibility of the student to inform the instructor immediately.

Ethics: BCIT assumes that all students attending the Institute will follow a high standard of ethics. Incidents of cheating or plagiarism may, therefore, result in a grade of zero for the assignment, quiz, test, exam, or project for all parties involved and/or expulsion from the course.

Attendance: The attendance policy as outlined in the current BCIT Calendar will be enforced. Attendance will be taken at the beginning of each session. Students not present at that time will be recorded as absent.

Illness: A doctor's note is required for any illness causing you to miss assignments, quizzes, tests, projects, or exam. At the discretion of the instructor, you may complete the work missed or have the work prorated.

Attempts: Students must successfully complete a course within a maximum of three attempts at the course. Students with two attempts in a single course will be allowed to repeat the course only upon special written permission from the Associate Dean. Students who have not successfully completed a course within three attempts will not be eligible to graduate from the appropriate program.

Course Outline Changes: The material or schedule specified in this course outline may be changed by the instructor. If changes are required, they will be announced in class.

Advancement: Students who fail three or more courses in a term cannot advance to the next term and may be asked to discontinue from the program

Assignment Details

Students should check with their instructor for any assignments or announcements should they miss a class. It is the student's responsibility to make up any time lost due to absence.

Each student will actively participate in the routine care of the shop including taking part in a clean-up at the end of each period, maintaining and adjusting equipment as needed, and helping with the final course-end cleanup.

Schedule

This schedule is provided as an overview only and may vary. Skill building activities may be changed by the instructor.

Week of/ Number	Outcome/Material Covered	Reference/ Reading	Assignment	Due Date
1 of 4	Lecture: Course outline & introduction; semi-precision layout Shop: Shop tour; layout tools; basic clamping & holding devices; drill press & drill bits; squaring shear; files; hacksaw; brake; bar folder	BMP Hand tool ID Handouts	Soft Jaws Lathe Tool Gauge Letter opener	Week 4
2 of 4	Lecture: Hand shears; nomenclature & application of mechanic's hand tools Shop: Grinder; Stakes & hammers; Whitney & Diacro punches; riveting; Finishing; number stamps & engraver	BMP Handouts	Key fob PC Board Fixture	Week 4
3 of 4	Lecture: Nomenclature & application of mechanic's hand tools Shop: piercing/jeweler's saw & bench pin	Handouts		

Week of/ Number	Outcome/Material Covered	Reference/ Reading	Assignment	Due Date
4 of 4	Lecture: Final quiz – hand tool safety, identification & application Shop: Complete and submit practical assignments	Handouts		