A POLYTECHNIC INSTITUTION

Course Outline

...ool of Manufacturing, Electronics & Industrial Processes
Program: Technology Teacher Education
Option: Diploma

TTED 3040
Materials Science Foundations

Start Date: Sept. 11/06 **End Date:** Oct. 06/06

Total Hours: 20 **Total Weeks:** 4 **Term/Level:** 1 **Course Credits:** 1.5
Hours/Week: 5 **Lecture:** 2 **Lab:** 3 **Shop:** **Seminar:** **Other:**

Prerequisites

Course No.	Course Name
None	

TTED 3040 is a Prerequisite for:

Course No.	Course Name
TTED 3031	Power Tool Basics Wood/Plastics
TTED 3021	Power Tool Basics Metal/Mech
TTED 3004	Joining Processes Foundations
TTED 3003	Structures Foundations
TTED 3050	Power Technology Foundations
TTED 3060	Electronics Foundations
TTED 4000	Design, Drawing & CAD 1 for TTED
TTED 4040	Materials science for TTED
TTED 4070	Introduction to Tech. Ed.
TTED 4080	Tech. Ed. Projects
TTED 6099	Safety Across Tech. Ed. Curric.

...ourse Description

This course will be an introduction to the identification of the basic metals, plastics and woods that are commonly found in public school Technology Education facilities.

Detailed Course Description

The goal of the course is to enable the student to correctly identify, and explain the basis for the identification of several varieties of metals, polymers and woods.

Evaluation

Labs	50%	Comments: All assignments and work must be done
Final Exam	50%	individually, unless otherwise noted.
TOTAL	100%	

All assignments and work must be submitted on time, unless previous arrangements have been made with the instructor.

Students must correctly identify and explain the basis for their identification, for all of the various wood, polymer and metal samples.

A mark of 50% or greater must be obtained in order to pass this course.

Both the lab portion of the course and the final exam must be passed in order to receive a passing grade in this course.

Course Learning Outcomes/Competencies

Upon successful completion, the student will be able to:

1. identify various ferrous and non-ferrous metal samples.
2. determine the approximate carbon content of various ferrous samples.
3. identify various wood samples.
4. explain the characteristics of Angiosperms and Gymnosperms.
5. identify various polymer samples.
6. explain the characteristics of thermosetting and thermoplastic polymers.
7. explain the basis for the identification of all samples.

Verification

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

Phil Esworthy — Authoring Instructor

June 23/06 — Date

I verify that this course outline has been reviewed.

Program Head/Chief Instructor

June 23/06 — Date

I verify that this course outline complies with BCIT policy.

Dean/Associate Dean

2006/04/26 — Date

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

Instructor(s)

Phil Esworthy

Office Location: SW9–205E
Office Hrs.: By Appointment
Office Phone: 604-432-8332
E-mail Address: Phil_Esworthy@bcit.ca

Learning Resources

Required:

Understanding Wood: A Craftsman's Guide to Wood Technology. R. Bruce Hoadley, Taunton Press Inc.
ISBN #0-918804-05

Welder Training Program Level C RK3 Welding Metallurgy

ɪrmation for Students

Assignments: All assignments and work must be submitted on time unless previous arrangements have been made with the instructor. Assignments, lab reports or projects 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.

TTED Program Policy Information

All assigned work must be submitted on or before the specified date. Due dates will be provided by instructors in writing and late work not be accepted without prior permission from the instructor. Exceptions to this policy will be made for students having documented sonal reasons (e.g., medical).

Assignments which fail to meet the standards of the program will be returned marked **UNSATISFACTORY**, with instructor comments and will be recorded as a zero. Standards relate to:

1. The format used (see below).
2. The quality of the English language used.
3. The overall quality of the submission's content.

Unless otherwise indicated, all assignments are to be submitted in a standard format:

1. Begin with a title page showing the following information:
   - Course Name & Number:
   - Assignment Identification:
   - Submitted by:
   - Submitted to:
   - Date:
2. Use standard 8 1/2" x 11" white unlined paper, unless another size is specified for the assignment.
3. Text word-processed and printed in an easily read font.
4. Diagrams hand-drawn or computer-generated to the standard taught in the program (specific instructions may be associated with certain assignments).
5. Your name and date in a footer on every page.

Plagiarism will result in an automatic zero for an assignment for all students involved in the deed. To avoid a charge of plagiarism in earch work, always include references which properly credit the original author or designer. This referencing is particularly important en working with partners or teams. Some assignments will be assigned as individual work and even though you may consult with others, the final submission must be your own work and not copied or adapted from the work of others.

Schedule

Week	Topics/Material Covered	Reference/ Reading	Assignment	Due Date
1	Metal classification & ID	Welding Training Program Level C: RK3 (Welding metallurgy) Handouts	Metal ID lab	D set: Thurs. Sept. 21/06 C set: Mon. Sept. 25/06
2	Wood classification & ID	Handouts Hoadley chapts. 1 & 3	Wood ID lab	Oct. 2/06
3	Polymer classification & ID	Handouts	Polymer ID lab	D set: Mon. Oct. 2/06 C set: Thurs. Oct. 5/06
4	**Final Exam – Thurs., Oct. 5/06**			