A POLYTECHNIC INSTITUTION

Course Outline

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

TTED 4000
Design, Drawing & CAD 1

Start Date:	Jan 4, 2006			**End Date:**	May 26, 2006		
Total Hours:	80	**Total Weeks:**	20	**Term/Level:**	2	**Course Credits:**	5.5
Hours/Week:		**Lecture:**	**Lab:** 4	**Shop:**		**Seminar:**	**Other:**

Prerequisites:

Course No.	Course Name
TTED 3000	Sketch and Drawing Foundations
TTED 3002	Precision Measurement Foundations
TTED 3003	Structures Foundations
TTED 3004	Joining Process Foundations
TTED 3005	Design Foundations
TTED 3040	Materials Science Foundations

Is a prerequisite for:

Course No.	Course Name
TTED 4001	Design, Drawing and CAD 2
TTED 5000	Teaching Design Draw and CAD/CAM

■ Course Description

This course builds on the fundamental skills and principles of visual literacy and design experienced in the foundation courses and applies them to the preparation of working drawings for product manufacture. A study in interior design and architecture will also provide a basis for aesthetic and structural synthesis. Students will apply the basics of formal drafting techniques, standards and conventions in both computer aided, free-hand (and board) techniques.

Amendment: This course provides basic information and technique for both mechanical and architectural styles of drafting.

Course Goals

- **To emphasize the need to communicate graphically for the purposes of planning and constructing artifacts.**
- **To prepare pre-service teachers to manage and teach Technology Education graphics-based courses in British Columbia's secondary school system.**
- **To emphasize the need and requirement for the application of standards and conventions to formal drawings.**
- **To provide opportunity for students to work within a number of drafting styles, using a variety of techniques**

■ Evaluation

Marks will be awarded equally for both components of TTED4000

Part A- Board Drafting:

Term Assignments:

A total of four drawings- two mechanical, and two architectural- each marked individually:	**80%**
A final examination:	**20%**
Sub total: (50% of course total)	**100 %**

Part B- CAD:

A total of six labs- three of which will be marked at 8% each	**24%**
A total of three term assignments- each marked at 15% each	**45%**
Mid-term quiz	**11%**
A final examination:	**20%**
Sub total: (50% of course total)	**100%**

■ Course Learning Outcomes/Competencies

This course will prepare for teaching in British Columbia's secondary school system by:

Part A- Paper Drawing

- Students will develop an appreciation for and be able to use hand drawn lines to describe mechanical objects.
- Students will learn orthographic conventions and be able to produce accurate freehand drawings according to ANSI standards and conventions.
- Students will be introduced to architectural drafting, space allocation concepts and be able to produce a set of formal drawings for a small building in accordance with the BC Building Code and ANSI architectural standards

Part B- CAD

- Students will use AutoCAD to learn basic computer drafting concepts, techniques, terminology, and management.
- Students will use AutoCAD to produce completed files and printouts that conform to required ANSI standards and conventions.
- Students will be introduced to some of the tools available in AutoCAD to maximize efficiency and speed in the production of drawings.

Verification

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

Authoring Instructor	Date: JAN 3 / 06

I verify that this course outline has been reviewed.

Program Head/Chief Instructor	Date: Jan 3/06

I verify that this course outline complies with BCIT policy.

Dean/Associate Dean	Date: 2006/01/04

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

Instructor(s)

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Learning Resources

Recommended:

AutoCAD or AutoCAD LT software, newest version possible.

Any AutoCAD reference book.

Duff, J.M. & Ross, W.A. Freehand sketching for engineering design, PWS Publishing Company.

McAdam, D & Winn, R. Engineering Graphics, Addison Wesley.

Information for Students

Note: Please refer to BCIT policy number 5002, Student Regulations Policy, for additional information. Policies are available at http://www.bcit.ca/about/administration/policies.shtml.

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.

Assignments: Assignments, lab reports or projects must be done on an individual basis unless otherwise specified by the instructor. Late assignments, lab reports or projects will be devalued 10% per day late to a maximum of 3 days late.

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**.

Attendance: The attendance policy as outlined in BCIT Policy 5002 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: If you miss an evaluation such as an assignment, quiz, exam, or project, or you miss 3 or more consecutive days of class, you must provide the department with a BCIT Student Medical Certificate (available at http://www.bcit.ca/admission/downloads.shtml). You may be asked to complete the work that you missed or the course evaluation may be adjusted to reflect the missed component(s).

Attempts: Students must successfully complete a course within a maximum of three attempts. Students with two attempts in a single course must get written permission from the Associate Dean to attempt the course for the third time. Students who have not successfully completed a course within three attempts will not be eligible to graduate from the program.

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.

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.

Assignment Details

Refer to handouts given in class.