A POLYTECHNIC INSTITUTION

Course Outline

School of Manufacturing, Electronics and Industrial Processes
Program: Mechanical Engineering Technology
Option: Mechanical

MECH2201
Engineering Graphics 2

Start Date:	January 4, 2006					**End Date:**	May 26, 2006		
Total Hours:	100	**Total Weeks:**	20			**Term/Level:**	2	**Course Credits:**	6.5
Hours/Week:	5	**Lecture:**	2	**Lab:**	3	**Shop:**		**Seminar:**	**Other:**

Prerequisites

Course No.	Course Name
MECH 1100	Engineering Graphics 1
MECH 1105	CAD Graphics

MECH2201 is a Prerequisite for:

Course No.	Course Name
As Posted	

- **Course Description**

The modern design and manufacturing process often involves an integrated team approach called concurrent engineering. For engineers and technologists to work in teams, CAD systems are used to facilitate the technical communication process by allowing data sharing amongst the team members. There is also a shift from 2-D to 3-D modeling for visualization, analysis and the production of documentation for the design process.

- **Evaluation**

Assignments	40%	Comments:
Exams – 3@20%	60%	
TOTAL	100%	

- **Course Learning Outcomes/Competencies**

Upon successful completion, the student will be able to:

- Describe the inter-relationship of engineering drawings (hierarchy, purpose of each).
- Describe drawing control systems (revision systems, storage systems, drawing files, naming, reproduction).
- Create detail and assembly drawings using CAD data sharing strategies.
  - Write blocks to disk.
  - Import drawing files and other supported graphic files.
  - Use external references.
- Interpret working drawings to include welding, mechanical, piping and structural detailing.
- Apply common engineering tolerance systems to technical drawings.
- Describe geometric tolerances.
- Generate CAD models, assemblies, and associated drawings using 3D Solid Modeling software other than AutoCAD.

- **Verification**

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

Authoring Instructor — Date: JAN 04/06

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: 2006/01/05

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

- **Instructor(s)**

Neil Munro	Office Location:	SW9-202	Office Phone:	604.453.4014
	Office Hrs.:	As posted	E-mail Address:	nmunro@bcit.ca
Dave Shaw (Labs)	Office Location:	SW3-2639	Office Phone:	604.432.8928
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- **Learning Resources**

Required:

Interpreting Engineering Drawings 4th edition: Jensen & Hines, Nelson Canada

Inventor R10 Level 1 Student Guide, Ascent

Class web site: **On myBCIT**

Recommended:

Illustrated AutoCAD 200x Quick reference Grabowski – Autodesk Press

USB Memory stick (Floppy disks are not acceptable storage media)

- **Information for Students**

Assignments: Late assignments, lab reports or projects will be devalued 10% per day late. 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: 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 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**

Completed assignments must be neat and well organized. An assignment that is copied from another assignment will result in both assignments receiving zero marks. B.C.I.T. policy is that students cannot miss more than 10% of the lab time and still receive credit for the course.

Schedule

Week of/ Number	Outcome/Material Covered	Reference/ Reading	Assignment	Due Date
1	Ordinate Dims, Tolerancing			
2	Inch and Metric Fits			
3	Block Creation, Attributes			
4	Surface Finish Symbols, Partial menus, Multilines			
5	Layouts, Plotting, Piping Drawings			
6	Assembly drawings, drawing sets			
7	Standard Components, Viewports			
8	Exam review, 3D Modeling Intro			
9	Term Test #1, Welding Drawings			
10	Spring Break			
11	3D – Sketches and Features			
12	3D – Sketches and Features			
13	3D – Placed and Work Features			
14	3D – Part Drawings			
15	3D – Part Drawings, Annotations			
16	3D – Part Drawings, GD&T			
17	3D – Assembly Modeling			
18	3D – Assembly Drawings			
19	3D - Presentations and Review			
20	Term Test #2, Term Test #3			