BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

School: Manufacturing, Electronics & Industrial Processes
Program: Computer-Aided Engineering
Option:

Course Outline

AICO 4044 & MTEC 7000
Autodesk Inventor

Start Date: 2006-01-09 **Start Time:** 6:45pm & 6:30PM

End Date: 2006-04-06 **End Time:** 9:45pm

Course Credits: 3 **Term/Level:**

Total Hours: 36
Total Weeks: 6

Hours/Week: 6 **Lecture:** 12 **Lab:** 24 **Shop:** **Seminar:** **Other:**

Prerequisites

Course No.	Course Name

Mechanical CAD experience and familiarity with Microsoft Windows

AICO 4044 is a Prerequisite for:

Course No.	Course Name

Course Calendar Description

This course covers sketching, part modeling, assemblies and design documentation. Autodesk Inventor uses adaptive technology to speed and simplify the mechanical design process. As a dedicated 3D mechanical computer aided design package, it is ideally suited for conceptual design.

Course Goals

This course will focus on "parametric feature based solid modeling". Solid models are defined using geometric and dimensional values to automatically generate detailed, dimensioned drawings with multiple views. The drawings automatically update as the dimension values are changed.

Assemblies are created using the solid parts model. Relationships between parts are established to revise the assembly as the parts are updated.

Software used will be the current release of Autodesk Inventor.

Evaluation

Midterm Exam:	50%
Final Exam:	50%
TOTAL	100%

Note: The exams will be written (~15%) and practical (~85%)

Course Learning Outcomes/Competencies

Upon successful completion of this course, the student will be able to:

1. Create parametric working drawings and assembly drawings.
2. Describe and use dimensional and assembly constraints.
3. Detail types of geometric constraints.
4. Compare under, fully, and over-constrained designs.
5. Set up a prototype drawing for parametric design.
6. Describe the advantages of parametric design.

Course Content Verification

I verify that the content of this course outline is current, accurate, and complies with BCIT Policy.

Program Head/Chief Instructor	2006-01-12 Date

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

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY
School: Manufacturing & Industrial Mechanical
Program: Computer Aided Engineering
Option:

AICO 4044
Autodesk Inventor

Instructor(s)

Bill Fane | Office No.: SW9-202 | Office Hrs.: As posted | Office Phone: 604-432-**8331** | E-mail Address: bill_fane@bcit.ca

Learning Resources

Required:

- Text: Inventor R10 Level 1 – BCIT Bookstore – $42.95

Recommended:

- Equipment: One 128Mb Universal Smart Drive

BCIT Policy Information for Students

Cheating, copying, or plagiarizing will not be tolerated

Assignment Details

This course will not involve homework assignments.

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY
School: Manufacturing & Industrial Mechanical
Program: Computer Aided Engineering
Option:

AICO 4044
Autodesk Inventor

Session	Outcome/Material Covered	Module	Assignment	Due Date
1	Introduction, Part modeling sketches and profiles	1		
2	Constraints & Dimensions	2		
3	Creating a 3D part	3		
4	Work features	3		
5	Placed features	4,5		
6	2D part documentation	8-1, 9, 10		
7	Exam - parts			
8	Assembly Modeling - Fundamentals	6		
9	Assembly Modeling - Refinements	7		
	Spring break			
10	Presentations	8-2		
11	2D assembly documentation; managing data	8,9,10		
12	Exam - assemblies			