



A POLYTECHNIC INSTITUTION

School of Manufacturing, Electronics, and Industrial Processes

Program: Mechanical Engineering Technology

Option: All

MECH 1171**Computer Applications and Programming****Start Date:** 05/09/06**End Date:** 15/12/06**Total Hours:** 60 **Total Weeks:** 15**Term/Level:** 1 **Course Credits:** 4**Hours/Week:** 4 **Lecture:** 2 **Lab:** 2**Shop:** **Seminar:** **Other:****Prerequisites****Course No.** **Course Name**

None

MECH 1171 is a Prerequisite for:**Course No.** **Course Name**

CDCM 2370 Technical Programming 1

CDCM 2372 Database Applications

Course Description

This course introduces students to the use of computers which is integral to all engineering disciplines. Students will use computers to communicate, solve problems, and analyse data using commercial application software and operating systems. Where software solutions do not exist, students will be required to create or modify application programs.

Evaluation

Assignments	30%	<u>Comments:</u>
Midterm	30%	Assignment component may include timed in-class or in-lab exercises.
Final	40%	
TOTAL	100%	

Course Learning Outcomes/Competencies

Upon successful completion, the student will be able to:

1. Explain the difference between system software and application software.
2. Identify the various types of network topologies and the components of a local area network.
3. Describe the functions of an operating system.
4. Describe logical file storage and perform basic file management operations.
5. Create macro system control files.
6. Create a formatted document using a word processing application.
7. Analyze, process and graph an engineering calculation using a spreadsheet.
8. Develop an algorithm using a flowchart and using pseudo-code.
9. Create a program with user input, arithmetic operations and string variables, conditional transfer control, and looping.

Verification

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

Philip Dollen
Authoring Instructor

SEP 05/2006
Date

I verify that this course outline has been reviewed.

J. P. [Signature]
Program Head/Chief Instructor

SEPT 05, 2006
Date

I verify that this course outline complies with BCIT policy.

[Signature]
Dean/Associate Dean

2006/09/05
Date

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

Instructor(s)

Phil Dollan	Office Location: SW9 201K Office Hrs.: As posted	Office Phone: 604-432-8923 E-mail Address: pdollan@bcit.ca
Darryl Mack	Office Location: SW3 2639 Office Hrs.: As posted	Office Phone: 604-432-8928 E-mail Address: dmack@bcit.ca

Learning Resources

Required:

- Shelly, G., Cashman, T, and Vermaat, M. Discovering Computers 2005, A Gateway to Information, Web Enhanced, Boston, MA. complete with Microsoft Word and Excel manuals
- Media storage device: 128 MB (min) USB Memory Stick

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% of total mark per day late to a maximum of 3 days late, including weekends. Assignments not submitted after 3 days will receive a mark of "0".

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** by sending an email using mybcit within one day of your return to your regular schedule.

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 a 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

1. A review of computer hardware for a small engineering company. The review will then be prepared and submitted in printed format from a word processing application.
2. A spreadsheet application to perform various data calculations and manipulations.
3. A program will be written to solve an engineering problem.
4. Assignment component may also include timed in-class or in-lab exercises without prior notice.

Schedule

Week of/ Number	Classroom material covered (approximate schedule)	Lab Topics
1	Course outline review Course overview	Scheduled labs cancelled
2	Intro to Computers	Login and Operating System overview Word processing
3	Application Software Components of the System	Word processing
4	Components of the System	Word processing and spreadsheets Assignment 1 due Oct. 02nd.
5	Input Spreadsheets	Spreadsheets
6	Output Spreadsheets	Spreadsheets
7	Storage Spreadsheets and OLE	Spreadsheets Assignment 2 due Oct.21st.
8	Operating Systems and Utility Programs. DOS.	Spreadsheets and Object Linking and Embedding. DOS
9	Mid-term exam in lecture Nov. 02nd.	Mid-term exam in lecture Nov. 02nd. QuickBasic
10	Communications and Networks QuickBasic	QuickBasic
11	QuickBasic	QuickBasic
12	QuickBasic	QuickBasic Assignment 3 due Nov. 28th.
13	QuickBasic	QuickBasic
14	QuickBasic / Course Review	Review
15	Exam	