SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE:	MICROCOMPUTER SYSTEMS II
CODE NO.:	CET 226-6
PROGRAM:	COMPUTER ENGINEERING TECHNOLOGY
SEMESTER:	FOUR
DATE:	DECEMBER 24, 1987
TEACHING MASTER:	PETER SAVICH

	NEW	REVISION
APPROVED:	L P Chrzanowski	Oct/07
	CHAIRPERSON	DATE

CET 226

MICROCOMPUTER SYSTEMS II

PHILOSOPHY / GOALS

THE OBJECTIVE OF THIS COURSE IS FOR THE STUDENT TO DEVELOP A THOROUGH KNOWLEDGE OF THE UNIVERSALLY ACCEPTED MICROCOMPUTER SYSTEM, THE IBM PC. THIS UNDERSTANDING WILL BE DEVELOPED THROUGH THE USE OF THE "MICROSOFT ASSEMBLER" TO WRITE AND TEST MACHINE LANGUAGE PROGRAMS FOR THE IBM PC. THE USE OF DOS AND BIOS SERVICES, AND THE PROGRAMMING OF THE STANDARD SYSTEM PERIPHERALS WILL PROVIDE THE STUDENT WITH THE ABILITY TO DEVELOP SYSTEMS PROGRAMS, AND TO DEAL WITH PERIPHERALS AT THE MACHINE LANGUAGE LEVEL. THE MICRO-APPLICATIONS TRAINER (MAT) WILL BE USED IN THE LAB SETTING TO PROVIDE THE STUDENT WITH THE SMALL COMPUTER HARDWARE SUBSECTIONS THAT WHEN PATCHED TOGETHER WILL CREATE LARGER SYSTEM FUNCTIONS THAT WILL INCLUDE EXTERNAL DEVICES SUCH AS MOTORS, SENSORS, LAMPS, ETC. IN A SENTENCE, THE ULTIMATE GOAL OF THIS COURSE IS TO PROVIDE AN ENVIRONMENT THAT ALLOWS THE PRACTICAL EXPERIENCE OF PROGRAMMING IN ASSEMBLY LANGUAGE USING THE IBM PC COMPUTERS FOR THE CONTROL OF SOME REPRESENTATIVE SYSTEM CONFIGURATIONS THAT WOULD BE REQUIRED TO BE MAINTAINED OR INSTALLED IN INDUSTRY BY THE GRADUATING TECHNOLOGIST.

METHOD OF ASSESSMENT

THE STUDENT WILL BE ASSESSED THROUGH A SERIES OF WRITTEN TEST (2), QUIZES (2), PRACTICAL DEMONSTRATIONS, ASSIGNMENTS, AND ATTENDANCE.

ALL TESTS AND ASSIGNMENTS WILL BE CONDUCTED ON A TIMELY BASIS WITH ONE WEEKS NOTICE.

ALL QUIZES AND PRACTICAL DEMONSTRATIONS WILL BE GIVEN WITH NO ADVANCE NOTICE.

ALL ASSIGNMENTS WILL BE OF EQUIVALENT VALUE.

ATTENDANCE IN ALL LABS AND CLASSES IS EXPECTED. A STUDENT WITH LESS THAN 80% ATTENDANCE WILL RECEIVE NO MARK FOR ATTENDANCE. REMEMBER, ARRIVING LATE OR LEAVING EARLY OR HAVING EXTENDED COFFEE BREAKS IS TREATED AS BEING ABSENT.

RE-WRITES WILL BE AVAILABLE FOR ALL WRITTEN TESTS. THE TOP MARK AVAILABLE FROM ANY RE-WRITE MAY BE CAPPED AT 65%. THIS DECISION (OF CAPPING) WILL BE FINALIZED AFTER THE COURSE HAS BEEN OFFERED. THE DECISION WILL BE EQUALLY AND FAIRLY APPLIED TO ALL.

STUDENTS MUST COMPLETE ALL THE ASSIGNMENTS IN THE COURSE TO GET A SATISFACTORY GRADE. AN "X" GRADE WILL BE ASSIGNED UNTIL THE REQUIRED WORK IS PERFORMED. THIS GRADE REVERTS TO AN "R" WITHIN A PERIOD OF TIME NOT TO EXCEED 120 DAYS.

THE FINAL MARK WILL BE CALCULATED USING THE FOLLOWING FORMULA:

TESTS (2) @ 30% EACH	60%
TEN ASSIGNMENTS @ 2% EACH	20%
QUIZES (2) @2.5% EACH	5%
ATTENDANCE	5%
PRACTICAL DEMOS	10%
	100%

THE GRADING SYSTEM TO BE USED IS AS FOLLOWS:

PERCENTAGE MARK	GRADE MARK
90-100	A+
80-89	A
70-79	B
55-69	C
BELOW 55	R

TEXT BOOK:

"ASSEMBLER FOR THE IBM PC AND PC XT"

BY PETER ABEL RESTON PUBL.

LAB MANUAL:

M.A.T. DOS FOR TECHNICIANS

PREPARED BY E & L INSTRUMENTS

TEXTBOOK:

ASSEMBLER FOR THE IBM PC AND PC XT BY PETER ABEL RESTON

SPECIFIC COURSE OBJECTIVES

BLOCK I PC ARCHITECTURE AND THE 8088 INSTRUCTION SET

1. UNDERSTAND THE ORGANIZATION OF THE IBM PC, THE 8088 PROCESSOR AND ITS INSTRUCTION SET, AND THE ADDRESSING MODES OF THE 8088.
2. LEARN THE USE OF ASSEMBLER, LINKER AND SYMBOLLIC DEBUGGER
3. WRITE TEST PROGRAMS THAT EMPLOY BOTH ARITHMETIC AND LOGICAL INSTRUCTIONS
4. PERFORM I/O TO THE SCREEN AND KEYBOARD

NOTE: TEXT CHAPTERS 1 THRU 6 AND CHAPTERS 10 AND 11

BLOCK II ADVANCED PROGRAMMING TECHNIQUES

1. DEMONSTRATE TABLE HANDLING, STRING MANIPULATION
2. WRITE MACROS
3. USE SUBROUTINES AND LIBRARIES

NOTE: TEXT CHAPTERS 9, 12, 15, 16, AND 18

BLOCK III PROGRAMMING PERIPHERALS

1. USE DOS AND BIOS ROUTINES TO PERFORM I/O PROCESSING TO THE SCREEN, KEYBOARD, PRINTER, AND DISK
2. STUDY SEQUENTIAL AND RANDOM ACCESS TO FILES
3. STUDY THE USE OF BIOS INTERRUPTS
4. PROJECT WORK UTILIZING ALL FILE TYPES

NOTE: TEXT CHAPTERS 7, 8, 13, 14, 17, AND 19