

Education 486-4
Special Topics: Microcomputers in Education

Spring, 1986
Mondays, 4:30 - 8:20

Instructor: G. Sinclair
Location: MPX 8651

OBJECTIVES:

This course will examine the various effects of microcomputers upon the teaching-learning process.

Students in this course will:

- a) develop competencies in the operation of computers.
- b) develop skills in the selection, evaluation and effective utilization of computer-based learning materials.
- c) develop an awareness of the ways computers can be used to support the instructional and administrative tasks of teachers.
- d) develop a critical awareness of the role of computers in society in general and education in particular.

This is an introductory course in which students will develop a level of computer literacy sufficient for the intelligent and critical implication of the Apple II family of microcomputer hardware and software. It is not designed to prepare teachers to teach computing science courses nor will it prepare teachers to write computer-assisted learning materials.

OUTLINE OF TOPICS:

1. Operation of Microcomputers
 - a) components and their function
 - b) connecting peripheral devices
 - c) programs and programming
2. The Microworld Model
 - a) process versus product learning
 - b) self-directed learning
 - c) co-operative learning
 - d) learning through debugging
 - e) meta-cognitive learning
 - f) teaching and coaching
3. Uses and Abuses of Computer-Assisted Instruction (CAI)
 - a) drilling and practising
 - b) computer tutorials and electronic workbooks
 - c) simulations
 - d) game playing
4. Explorations in Logoland
 - a) a taste of turtle graphics
 - b) a glimpse of list processing\
 - c) a flash of Sprite Logo

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5. Survival in the Information/Communications Age
 - a) computer as classroom manager
 - b) the classroom computer network
 - c) electronic mail
 - d) accessing electronic information banks
6. Social Issues
 - a) role of computers in schools and society
 - b) status of computers in B.C. schools
 - c) computers and ethics

EVALUATION:

Evaluation will be based on:

1. Four 2 page journal assignments.
2. A critical evaluation of a piece of software (software review) (2-3 pages)
3. A paper discussing the implementation of a specific computer application in a classroom with a single computer, and within a classroom computer lab. (10 pages)
4. Demonstration of computer operating skills.
5. Participation in class seminars and discussions.

REQUIRED TEXTBOOKS:

Seymour, Papert. Mindstorms: Children, Computers, and Powerful Ideas Basic Books, 1980.
Bitter, G. & Camuse, R. Using a Microcomputer in the Classroom Reston Publishing, 1984.

Readings in Lab Book to be distributed during the first class.

NOTE: Students are requested to read the first two chapters of Mindstorms before the course begins.

IMPORTANT: Please note that a maximum of 12 semester hours of credit in Education Special Topics courses may be used toward a Bachelor of Education degree.

