

COURSE SYLLABUS

EDUC 644 Development of Computer-Assisted Instruction for the Elementary and Secondary School

Credit: 3 hours

Prerequisites: EDUC 643

COURSE DESCRIPTION

A course designed to assist teachers in using the techniques involved in planning and creating a microcomputer instructional program in a discipline of their choice. Emphasis is placed on the importance of authoring languages and authoring systems in producing computer assisted instruction. Current learning theory as it pertains to authoring microcomputer CAI programs is examined. Students will create a program of microcomputer assisted instruction with appropriate documentation and student/teacher support materials.

COURSE OBJECTIVES

By the end of this course, each student should be able to:

1. discuss the application of behavioral and cognitive theories of learning to the design of instructional software
2. demonstrate how screen and dialog design principles should be used to produce effective CAI
3. compare and contrast the use of authoring programs, authoring languages, and programming languages in developing CAI
4. develop a computer-assisted instructional module
5. discuss and demonstrate the principles for developing an effective documentation package including student and teacher support materials
- 6. evaluate instructional software with respect to design principles and learning theory

7. describe how computer software can be designed to meet the individual needs of students

EVALUATION

Student performance in the course will be evaluated based on participation and the successful completion of examinations. In addition, each student will design an educational microcomputer program. The completed project should include, as a minimum, 1) a flowchart of the entire module, 2) a script, 3) the program written and saved on diskette, and 4) a documentation package including teacher and student directions, goals and objectives, and supporting materials such as worksheets.

REQUIRED TEXTS

Chan, J., & Korostoff, M. (1984). Teacher's guide to designing classroom software. Beverly Hills, CA: Sage.

WRITING STYLE

Written work in the course must be completed in APA style.

BIBLIOGRAPHY

Burke, R. L. (1984). CAI sourcebook: Background and procedures for computer-assisted instruction in education and industrial training. Englewood Cliffs, NJ: Prentice-Hall.

Chan, J., & Korostoff, M. (1984). Teacher's guide to designing classroom software. Beverly Hills, CA: Sage.

Crandall, J. A. (1987). How to write tutorial documentation. Englewood Cliffs, NJ: Prentice-Hall.

Futrell, M. K. (1984). The well-trained computer: Designing systematic instructional materials for the classroom. Englewood Cliffs, NJ: Prentice-Hall.

Heines, J. M. (1984). screen design strategies for computer-assisted instruction. Beaford, MA: Digital Press.

Keller, A. (1987). When machines teach: Designing computer courseware. New York: Harper & Row.

Walker, D. F., & Hess, R. D. (1984). Instructional software: Principles and perspectives for design and use. Belmont, CA: Wadsworth Publishing.