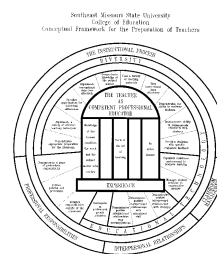


COURSE SYLLABUS

SOUTHEAST MISSOURI STATE UNIVERSITY

Department of Elementary, Early & Special Education
Course: Principles of Instructional Design

Course No. EL626
New: Sp 99



“The Teacher As Competent Professional Educator”

I. Catalog Description and Credit Hours of Course:

This class will focus on the design and development of instruction for classrooms using computer-based media and multimedia tools. (3)

II. Prerequisite(s):

EL 617 or permission of the instructor

III. Purposes or Objectives of the Course:

By the end of the course, the student will have demonstrated the knowledge base and skills necessary to:

- A. Compare features of the various types of computer-based instruction, including tutorials, drill and practice, simulations, problem-solving software, games, and tests.
- B. Implement the steps needed to plan computer-based instruction, including selection of topic, selection of subject matter, planning for audience, generating goals and objectives, and planning evaluation in the development of a computer-based program.
- C. Select effective instructional treatments for use in developing computer-based instruction.
- D. Implement an evaluation of their computer-based instruction including formal, informal, formative, and summative and reflect on its effectiveness.
- E. Demonstrate an understanding of the basics of screen design, including instructional factors and tools for generating screen components through application to their computer-based instruction.
- F. Choose effective examples of instructional interaction, including questioning techniques.
- G. Compare features in the hardware and software that lead to effective instruction.
- H. Write and evaluate effective directions for the instructional software.

IV. Expectations of Students:

Students will:

- A. Complete all assigned readings in textbook, handouts and relevant professional journal articles.
- B. Participate in classroom discussions and activities.
- C. Demonstrate achievement of course objectives through exams and projects.

D. Use instructional technology to develop class-assigned projects.

V.	Content or Outline:	Hours
A.	History and current use of computer-assisted instruction	3
B.	Steps to instructional design <ol style="list-style-type: none">1. Selecting the topic2. Developing the goals and objectives3. Designing the subject information4. Storyboarding the layout5. Creating the software6. Evaluating the software	3
C.	Tutorials <ol style="list-style-type: none">1. Presentation of information2. Questions and responses3. Feedback4. Remediation5. Closing	6
D.	Drill and practice programs <ol style="list-style-type: none">1. Introduction2. Design of drill and practice3. Item selection4. Motivation5. Evaluation	6
E.	Simulations <ol style="list-style-type: none">1. Types of simulations2. Design factors of simulations3. Introduction of simulation4. Body of simulation5. Conclusion	6
F.	Instructional Games and Problem-Solving Software <ol style="list-style-type: none">1. Types of games and problem-solving software2. Design of games and problem-solving software3. Introduction of game and problem-solving software4. Body of game and problem-solving software5. Conclusion of game and problem-solving software	6
G.	Computer-based tests <ol style="list-style-type: none">1. Computerized test design2. Factors in design of computerized tests3. Introduction4. Presentation5. Questioning techniques of test6. Evaluation of effectiveness of test	6
H.	Development of computer-based instruction <ol style="list-style-type: none">1. Establishing need and generating goals2. Collecting resource materials	6

3. Designing the program including task and concept analysis, lesson description, evaluation, and revision of the design.
 4. Flowcharting the lesson design
 5. Developing the lesson and support materials
 6. Evaluating the effectiveness of the computer-based lesson.
- I. Hardware and software components in instructional design 3
1. Input devices
 2. Authoring languages
 3. Hypermedia
 4. Integrated software
 5. Multimedia hardware components

VI. Textbook(s) and/or Other Required Materials or Equipment:

Alessi, S. & Trollip, S. (1991). *Computer-based instruction: Methods and development*. Englewood Cliffs, NJ: Prentice-Hall, Inc..

VII. Basis for Student Evaluation:

- A. Basic competency demonstration in use of Internet
- B. Tests
- C. Interactive program
- D. Research paper on instructional design

VIII. Knowledge Base:

Alessi, S. (1988). Fidelity in the design of instructional simulations. *Journal of Computer-Based Instruction*, 15(2), 40-47.

Apple Computer (1989). *Hypercard stack design guidelines*. Reading, MA: Addison-Wesley.

Brooks, J.G. & Brooks, M.G. (1993). *In search of understanding: The case of constructivist classrooms*. Alexandria, VA: Association for Supervision and Curriculum Development.

Burton, J.K. & Merrill, P.F. (1991). Needs assessment: Goals, needs and priorities. In L.J. Briggs, K.L. Gustafson, & M.H. Tillman (Eds.), *Instructional design: Principles and applications, 2nd ed.*, (pp. 17-43). Englewood Cliffs, NJ: Educational Technology Publications.

Dick, W. & Carey, L. (1996). *The systematic design of instruction*. New York: HarperCollins College Publishers.

Dyrli, O.E. (1996). Technology planning with online resources. *Technology and Learning*, 16(6), 16.

Garcia, R.L. (1991). *Teaching in a pluralistic society: Concepts, models, and strategies*. New York: HarperCollins.

Gronlund, N.E. (1985). *Stating behavioral objectives for classroom instruction*. New York: Macmillan.

Harel, I. (1991). *Children as designers*. Norwood, NJ: Ablex.

Harel, I. & Papert, S. (1990). Software design as a learning environment. *Interactive learning environments*, 1(1990), 1-32.

Heinrich, R., Molenda, M., Russell, J., & Smaldino, S. (1996). *Instructional media and technologies for learning* (5th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Jonassen, D.H. & Grabowski, B.L. (1993). *Handbook of individual differences, learning, and instruction*. Hillsdale, NJ: Erlbaum.

Jonassen, D., Hannum, W., & Tessmer, M. (1989). *Handbook of task analysis procedures*. New York: Praeger.

Kaufman, R., Rojas, A.M., & Mayer, H. (1993). *Needs assessment: A user's guide*. Englewood Cliffs, NJ: Educational Technology Publications.

- Kearns, D.T. & Anderson, J.L. (1997). *Bold new plans for school restructuring: The New American Schools Development Corporation design*. Mahwah, NH: Erlbaum.
- Mager, R.F. (1984a). *Preparing instructional objectives (2nd ed.)*. Belmont, CA: Pitman.
- Mager, R.F. (1984b). *Goal analysis (2nd ed.)*. Belmont, CA: Lake.
- Merrill, M.D. (1983). Component display theory. In C.M. Reigeluth (Ed.), *Instructional design theories and models: An overview of their current status* (pp. 282-333). Englewood Cliffs, NJ: Erlbaum.
- Novelli, J. (19978). Quick-and-easy Web pages. *Electronic Learning*, 16(4), 56-57.
- Reigeluth, C.M. (1987). Lesson blueprints based on the elaboration theory of instruction. In C.M. Reigeluth (Ed.), *Instructional theories in action: Lessons illustrating selected theories and models*. Hillsdale, NJ: Erlbaum.
- Ross, S.M. & Morrison, G.R. (1995). Evaluation as a tool for research and development. In R.D. Tenneson & A. Barron (Eds.), *Automating instructional design: Computer-based development and delivery tools* (pp. 491-522). Berlin: Springer-Verlag.
- Schraw, G., Wade, S.E., & Kardash, C.A. (1993). Interactive efforts of text-based and task-based importance on learning from text. *Journal of Educational Psychology*, 85, 652-661.
- Shemuel, B. & Keller, J. (1998). Look sharp: Timps for Web design and graphics. *Technology and Learning*, 18(6), 30-34.
- Sherman, G.P. & Klein, J.D. (1995). The effects of cued interaction and ability grouping during cooperative computer-based science instruction. *Educational Technology Research and Development*, 43(4), 5-24.
- The value of training*. (1995). [On-line]. Available at: <http://tidbit.fhda.edu/BII/NewsNotes.html>
- Terry, R.V. & Howard, J. (1996). [On-line]. *A systems approach and instructional design principles: Two critical elements for effective WWW courseware development*. Available at: <http://www.uvm.edu/~hag/naweb96/abstracts/a-howard.html>.
- Turoff, M. (1996). [On-line]. *Designing a virtual classroom*. Available at: <http://www.njit.edu/njit/departement/CCCC/VC/Papers/Design.html>.
- Weinstein, P. (1998). Web publishing comes of age. *Technology and Learning* 18(6), 25-29.