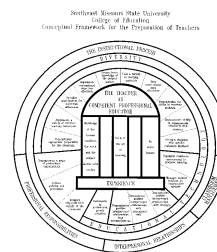


COURSE SYLLABUS

SOUTHEAST MISSOURI STATE UNIVERSITY

Department of Elementary, Early & Special Education
Course: Integrating Technology into the Classroom

Course No. EL210
New: Sp 99



“The Teacher As Competent Professional Educator”

I. Catalog Description and Credit Hours of Course:

This class will provide an in-depth look at the use of existing computer-based technologies as they relate to teaching and learning. (3)

II. Prerequisite(s):

EM 102 or permission of the instructor.

III. Purposes or Objectives of the Course:

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

- A. Identify and apply capabilities of various technologies to the teaching and learning process.
- B. Demonstrate ability to operate a multimedia computer successfully to support the instructional process.
- C. Describe how instructional principles and assessment practices benefit through use of computers and related technologies and facilitate the roles played by learner and educator.
- D. Explore and evaluate computer/technology-based materials to successfully integrate them into content and grade levels.
- E. Demonstrate skills in using computers for problem-solving, data collection, information management, telecommunications, word processing, spreadsheet, graphics, and multimedia, including CD-ROM, interactive videodisc and other emerging technologies in teaching and learning.
- F. Design instructional activities that successfully integrate technology for a single subject or interdisciplinary approach.
- G. Identify specific kinds of instructional software and technology tools for diverse student needs including adaptive technology for special needs students.
- H. Demonstrate knowledge of ethical and legal issues relating to computers and technology.
- I. Identify sources of information for staying current in the use of technology for education.

IV. Expectations of Students:

- A. Students will complete all assigned readings in textbook, handouts and relevant professional journal articles.
- B. Students will participate in classroom discussions and activities.
- C. Students will demonstrate achievement of course objectives through exams and projects.
- D. Students will use instructional technology to develop class-assigned projects.

V. Content or Outline:

Hours

- A. Uses of technology in the classroom. 3
 - 1. What students do with technology in activity-based learning.
 - 2. Teacher's role in technology use.
 - 3. Hardware.
- B. Cognitive Learning and Technology 3
 - 1. Receptive learning versus discovery learning.
 - 2. Generative learning.
 - 3. Anchored instruction.
 - 4. Constructivism
- C. Using instructional software for content-area learning. 6
 - 1. Tutorials
 - 2. Simulations
 - 3. Drill and practice
 - 4. Educational games
 - 5. Exploratory games
 - 6. Adaptive software use
 - 7. Evaluating software
- D. Using tool software 9
 - 1. Word processing
 - 2. Databases
 - 3. Spreadsheets
 - 4. Telecommunications
- E. Multimedia applications for learning 6
 - 1. Multimedia slide shows
 - 2. Multimedia authoring environments
- F. Learning to use images and sound 8
 - 1. Paint and draw programs
 - 2. Scanners
 - 3. Digital cameras
 - 4. Video capture
- G. Creating student projects: instructional design. 5
 - 1. Principles of hypermedia design.
 - 2. Graphic design
 - 3. Navigation
 - 4. Teacher's role in the design process.

- H. Being a responsible user of technology 5
1. Ethical use of software
 2. Ethical use of multimedia development materials
 3. Trouble shooting

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

Grabe, Mark & Grabe, Cindy (1996). *Integrating technology for meaningful learning*. Boston, MA: Houghton-Mifflin

VII. Basis for Student Evaluation:

- A. Basic competency demonstration in word processing, database use, presentation package, spreadsheet, Internet, educational software, and multimedia
- B. Tests
- C. Interactive hypermedia lesson that demonstrates instructional design and multimedia competency.

VIII. Knowledge Base:

Abrams, A. (1996). *Multimedia magic*. Boston: Allyn & Bacon.

Alessi, S.M. & Trolliop, S.R. (1991). *Computer-based instruction, methods, and development*. Englewood Cliffs, NJ: Prentice-Hall.

Anderson, C. (1998). *The impact of conceptual models and cooperative learning on the development of mental models for proportions*. An unpublished doctoral dissertation, University of Iowa, Iowa City.

Bagley, C. & Hunter, B. (1992). Restructuring, constructivism, and the future of classroom learning. *Education and the Urban Society*, 24(4), 66-76.

Bearden, D. & Martin, K. (1998). My Make-Believe Castle: An epic adventure in problem solving. *Learning and Leading with Technology*, 25(5), 21-25.

Brownell, G. (1992). *Computers and teaching*. St. Paul, MN: West Publishing Co.

Bull, G., Bull, G., Garofalo, J. & Sigmon, T. (1998). Virtual conferences. *Technology and Learning*, 25(5), 36-39.

Burger, J. (1993). *The desktop multimedia bible*. Reading, MA: Addison-Wesley Publishing Co.

Clark, C., Kurshan, B., & Yoder, S. (1989). *Telecommunications in the classroom*. Eugene, OR: International Society for Technology in Education.

Cognition and Technology Group at Vanderbilt (1990). Anchored instruction and its relationship to situated cognition. *Educational Researcher*, 19(6), 2-10.

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- Docterman, D. (1991). *Great teaching in the one computer classroom*. Cambridge, MA: Tom Snyder Productions.
- Enderson, M. (1997). Old problems, new questions - using technology to enhance math education. *Learning and Leading with Technology*, 25(2), 28-34.
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- Finkel, L. (1993). Planning for obsolescence: Upgrading and replacing old computers. *Electronic Learning*, 12(7), 18-19.
- Funkhouser, C. & Dennis, J. (1992). The effects of problem-solving ability. *Journal of Research in Computing in Education*, 24(9), 17-26.
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- Heinrich, R., Molenda, M., Russell, J. & Smaldino, S. (1996). *Instructional media and technologies for learning*. Englewood Cliffs, NJ: Merrill.
- Hodges, B. (1997). Task computing. *Learning and Leading with Technology*, 25(2), 6-12.
- Hoffman, J. & Lyons, D. (1997). Evaluating instructional software. *Learning and Leading with Technology*, 25(2), 52-56.
- International Society for Technology in Education recommended foundations in technology for all teachers*. [online] 2. Available: <http://www.iste.org/specproj/standard/found.html> [Accessed October 28, 1997].
- Jankowskil, L (1993-1994). Getting started with databases. *The Computing Teacher*, 21(4), 8-9.
- Kahn, Jessica (1997). Scaffolding in the classroom; using CD-ROM storybooks at a computer reading center. *Learning and Leading with Technology*, 25(2), 17-19.
- Kemp, J., Morrison, G. & Ross, S. (1998). *Designing effective instruction*. Upper Saddle River, NJ: Prentice-Hall, Inc.
- Kozma, R. (1994). Will media influence learning? Reframing the debate. *Educational Technology Research and Development*, 42(2), 5-17.
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- Moursand, David. (1997). The growth of instructional technology. *Learning and Leading with Technology*, 25(2), 4-5.
- Muffoletto, R. (1994). Technology and restructuring education: Constructing a context. *Educational Technology*, 34(2), 24-28.
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- Papert, S. (1980). *Mindstorms-children, computers and powerful ideas*. New York: Basic Books.
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- Teague, F., Rogers, D., Tipling, R. (1994). *Technology and media, instructional applications*. Dubuque: Kendall/Hunt.
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- Van Dam, J. (1994). Redesigning schools for the 21st century technologies. *Technology and Learning*, 14(4), 54-58.

VanHaneghan, J. & Stofflett, R. (1995). Implementing problem solving technology into classrooms: four case studies of teachers. *Journal of Technology and Teacher Education*, 3 (1), 57-80.

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VerMulm, L. (1993). The Christa McAuliffe writing center: Process writing with a networked Mac lab. *The Computing Teacher*, 20(7), 48-53.

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