

CURRICULUM PROPOSAL FORM
University-Wide Undergraduate Curriculum Committee

UWUCC USE ONLY

Number	_____ / 16
Action	_____
Date	_____

I. TITLE/AUTHOR OF PROPOSAL

COURSE/PROGRAM TITLE: CM 301 Technology in Learning and Instruction

DEPARTMENT: Department of Communication Media

CONTACT PERSON: Dr. Charles Kanyarusoke

II. APPROVALS

Paul Komfeld

Department Curriculum Committee

Kurt P. Dudd

Department Chairperson

John B...

College Curriculum Committee

John B...

College Dean *

NA

Director of Liberal Studies
(where applicable)

Provost
(where applicable)

* COLLEGE DEAN MUST CONSULT WITH PROVOST BEFORE APPROVING CURRICULUM CHANGES. APPROVAL BY COLLEGE DEAN INDICATES THAT THE PROPOSED CHANGE IS CONSISTENT WITH LONG RANGE PLANNING DOCUMENTS, THAT ALL REQUESTS FOR RESOURCES, MADE AS PART OF THE PROPOSAL, CAN BE MET, AND THAT THE PROPOSAL HAS THE SUPPORT OF THE UNIVERSITY ADMINISTRATION.

III. TIMETABLE

Date Submitted
to UWUCC _____

Semester/Year to be
Implemented _____

Year to be published
in Catalog _____

Catalog description

CM 301: Technology for Learning and Instruction 3 credits
3 lecture hrs.
(3c-01-3sh)

Prerequisites: FE 202, 9 Credits in Major

Preservice teachers gain competencies in selection, evaluation, and utilization of various instructional technologies. Application of new technologies to teaching and learning will be emphasized, along with performance based activities in instructional design. A major portion of the course is devoted to the integration of computer based instructional activities in the school curriculum.

Summary of proposed revisions

- . Change in course name from "Instructional Media" to "Technology in Learning and Instruction".
- . Change of prerequisites from "PC 101, EP 302, Junior Standing" to "FE 202, 9 Credits in Major".
- . Deemphasis of equipment component.
- . Emphasis on integrating newer, computer based technologies in the teaching-learning process. Approximately 50% of the revised course deals with the integration of computer based activities and technologies into the curriculum.

Rationale/justification for revision

The old course, with its emphasis on the seventies technologies, has outlived its usefulness. The preparation of teachers for the 21st century demands that these teachers be equipped with the necessary knowledge and skills to function effectively in classrooms of the future. Change in the schools must be initiated here, or else the schools will be caught in a technological time warp.

The new course title more accurately represents what the course entails than the old one did. It also avoids the misconceived, negative stigma associated with the term "media". The new title includes both learning and instruction, implying that emphasis will be on technology for acquiring knowledge, not just for imparting it.

The Educational Psychology prerequisite was dropped so that students may take CM 301 earlier and apply the skills from it to other courses in the teacher education sequence. Furthermore, the College of Education is not able to offer Educational Psychology to all teacher education students by their junior year. Enforcing the Educational Psychology prerequisite, therefore, creates a bottleneck which results in a backlog of students needing to take CM 301.

Having completed 9 credits in their respective majors, plus FE 202: American Education in Theory and Practice, teacher education students are ready to go on their first practical teaching experience. Knowledge of selection, evaluation and utilization of various technologies in learning and instruction will, therefore, be very useful at this point.

COURSE SYLLABUS

I. CATALOG DESCRIPTION

CM 301 Technology in Learning and Instruction 3 credits
3 lecture hours

Prerequisites: FE 202, 9 Credits in Major

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II. COURSE OBJECTIVES

Students should be able to:-

1. Articulate the role of media as technology applied to instructional situations.
2. Describe an instructional event using a model of human communication as a framework.
3. List general and specific characteristics of a given group of learners.
4. Write learning and performance objectives in different domains for a specified audience.
5. Construct criterion referenced test items based on specified objectives.
6. Apply a given strategy to prescribe appropriate technology for teaching a specified topic of instruction, to a specified group of learners.
7. Use a computerized library database to locate existing technologies for use in teaching a specified topic to a specified audience.
8. Prepare classroom environment for delivery of technology based instructional activities.
9. Integrate appropriate technologies into a teaching strategy.
10. Reinforce main concepts of an instructional event and

evaluate effectiveness of the presentation.

11. Articulate the importance of visuals in the learning and teaching process.
12. Identify and explain factors affecting one's ability to learn from visually coded instructional materials.
13. Evaluate various visuals in terms of their relevance to teaching or illustrating specific concepts.
14. Outline the historical development of technologies of instruction and their related learning theories and strategies of instruction.
15. Use the computer to design and produce an instructional poster within guidelines given for display visuals.
16. Use the computer to produce text and graphics for a multiple cell overhead transparency.
17. Produce a multiple cell overhead transparency using an infra red thermal transparency maker.
17. Apply a working knowledge of traditional and computer based techniques to produce an instructional slide-sound program.
20. Select and use the right materials and equipment to preserve various 2-d instructional materials.
21. Articulate the role of computers and other forms of interactive, digital media and their current and possible future role in schools.
22. Develop a strategy for teaching basic computing skills to students in grades K through 12.
23. Select and evaluate various forms of computer productivity tools for a variety of teacher and student applications, including graphics, word processing, etc.
24. Select and evaluate software for various forms of computer assisted instruction (CAI) including drill and practice, tutorials, simulations, problem solving, etc.
25. Select and evaluate software for computer managed instruction (CMI) including programs for class records management, individualized education plans, test item

generation, examination scoring, and analysis of student progress.

26. Demonstrate an awareness for current copyright law in relation to instructional materials in general and computer software in particular.
27. Select, evaluate and integrate still and motion media, both projected and video, in an instructional event. Such media will include video, computer animated graphics, slides, etc.
28. Demonstrate a practical application of computer, video, and projected hardware to instructional situations.

III. COURSE OUTLINE

- Lecture 1: Role of Technology in Instructional Settings.
Communication Theory applied to Instruction
- Lecture 2: Analysis of learner characteristics.
Specifying Behavioral Objectives.
- Lecture 3: Strategies for Prescribing Technologies for Learning
and Teaching.
Using Computerized Databases to Locate Available
Technologies for Learning and Teaching.
(Demonstration of Online Data Search).
- Lecture 4: Preparing the environment for technology based and
technology supported learning and teaching.
Preparing the learners for technology based and
technology supported learning.
- Lecture 5: Visually Coded Instructional Materials.
Factors affecting one's ability to learn from visual
instructional materials.
Evaluating visual instructional materials.
- Lecture 6: Skinner's Reinforcement theory as it relates to
Technologies of Instruction.
Role of the computer in programmed instruction.
(In-class demonstration)
- Lecture 7: Audio-tutorial instruction
Games and simulations
Role of computers in gaming and simulation
(In-class demonstration)
- Lecture 8: Attributes of Overhead Transparencies.
Using a computer paint program
Thermal transparency making.
(In-class demonstration)
- Lecture 9: Attributes of slides
How to use slide and filmstrip projectors
Slide-sound synchronization
(In-class demonstration)
- Lecture 10: Preservation of 2-d Instructional Materials.
Thermal dry mounting
Thermal cloth backing
Thermal laminating
(In-class demonstration)

- Lecture 11: Teaching Basic Computing Skills to Young People.
Positive & negative attributes of computers
Components of a computing system
Parts of a computer
(In-class demonstration)
- Lecture 12: Teaching Basic Computing Skills to Young People.
Keyboarding excercises.
Booting a disk.
Formatting a disk.
Write protecting a disk.
(Hands-on Lab session)
- Lecture 13: Teaching Basic Computing Skills to Young People
Creating and naming files
Reading and writing to a file
Copying a disk
(Hands-on Lab session)
- Lecture 14: General Applications of Computers
Word processing
Communications
Music and speech synthesis, etc.
(Hands-on Lab session)
- Lecture 15: Modes of Computer Assisted Instruction
Drill and practice
Tutorial
Gaming and simulation
(In-class demonstration)
- Lecture 16: Modes of Computer Assisted Instruction
Discovery
Problem solving
Analysis
(In-class demonstration)
- Lecture 17: Midterm Examination on all the theory and hands-on
units of the course covered from the first day of
class through lecture 16.
- Lecture 18: Computer Managed Instruction
Test item generation
Test scoring
Statistical analysis
(In-class demonstration)
- Lecture 19: Computer Managed Instruction
Creating an Instructional Database
Instructional data entry and retrieval

Keeping Individual Student Records
Generating Progress Reports
(In-class demonstration)

- Lecture 20: Creating and Using an Electronic Gradebook
(Hands-on Lab session)
- Lecture 21: Criteria for Instructional Software Evaluation
(In-class demonstration)
- Lecture 22: The Multimedia Approach to Instruction
Copyright Law Awareness
Rationale for Multimedia Instruction
US Copyright Law and the Teacher
- Lecture 23: Computer based Interactive Technologies for
Instruction
Interactive Video
(In-class demonstration)
- Lecture 24: Modern Trends in Instructional Use of Computers
Distance learning
Classrooms of the future
Instructional Computer Networks
- Lecture 25: Computer based Instructional Hardware
Computer projection systems
Voice synthesizers
Image scanners, etc
(In-class demonstration)
- Lecture 26: Instructional Motion Media Systems
Attributes of instructional video programs
Operation of video systems
Computer generated video
(In-class demonstration)
- Lecture 27: PRESENTATION OF FINAL TEAM PROJECTS
- Lecture 28: PRESENTATION OF FINAL TEAM PROJECTS

IV. EVALUATION METHODS

The final grade for the course will be determined as follows:

- 42% Assignments. There will be a total of 8 assignments, six written, two materials production.
- 30% Written Tests. There will be two tests (midterm and final) consisting of multiple choice, completion, true-false, and short essay. The final test will be comprehensive.
- 8% Performance Test. Each student will be tested on the operation of 3 randomly selected instructional delivery systems, one of which will be computer based.
- 20% Final Team Project. Each team of 5 will plan and deliver an instructional presentation that integrates the skills for systematic planning and delivery of technology-supported instructional presentations

Assignments	105 = 42%	225 and above	A
Midterm Exam	25 = 10%	200 to 224	B
Equipment Test	20 = 8%	175 to 199	C
Final Project	50 = 20%	150 to 174	D
Final Exam	50 = 20%	0 to 149	F
Total	<u>250 = 100%</u>		

ASSIGNMENTS

1. Describe an instructional event using the terms of a human model of communication. (10 points)
2. Analyze an audience of learners in terms of their general and specific characteristics. (10 points)
3. Write behavioral objectives in different domains of learning. (15 points)
4. Choose a topic of instruction and use a technology prescription model to specify appropriate technologies for teaching/learning that topic. The student will then use the computer based indexes in the library to locate available technologies for teaching/learning the topic. (10 points)
5. Use a computer paint program to produce art and lettering for an overhead transparency. The student will then produce the transparency using an infra red transparency maker, or a direct-type-on computer program. (10 points)

6. Use the thermal process to dry mount and laminate an instructional visual. (20 points)
7. Conduct a detailed, subject-specific evaluation of a commercially published instructional software, then use a word processing program to report the evaluation. (20 points)
8. Use the computer to organize a set of student data to prepare an electronic grade book, and print report cards for each student. (20 points)
9. Take an equipment operation test as specified by the instructor. (20 points)

FINAL TEAM PROJECT

Each team will plan and deliver a technology supported instructional presentation. Use of computer-based technology must be evident in the presentation. (50 points)

V. REQUIRED TEXTBOOKS, SUPPLEMENTAL BOOKS AND READINGS

Textbooks: Heinich, R et al, Instructional Media and the New Technologies of Instruction, Third Edition. Macmillan Publishing Company, New York 1988.

Geisert, P. Futrell, M., Teachers, Computers, and the Curriculum: Microcomputers in the Classroom. Allyn and Bacon, Boston, 1990.

Flake, J. et al, Fundamentals of Computer Education, Second Edition. Wadsworth Publishing Company, 1990.

VI. SPECIAL RESOURCE REQUIREMENTS

Each student will be expected to supply the following:

- 1 Computer disk size 3 1/2 inch
- 1 Computer disk size 5 1/4 inch
- 1 Heavy duty utility knife
- 1 size 11" x 14", medium wt. Crescent illustration board
- 1 thermal transparency film, color on clear
- 1 thermal transparency film, black on clear
- 1 transparency mounting frame
- 1 size 8" x 10" thermal dry mounting tissue
- 1 steel ruler

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- Strickland, Dorothy. USING COMPUTERS IN TEACHING READING. New York, NY: Teachers College Columbia Press, 1987.
- Bell, Margaret. LEARNING AND INSTRUCTION: THEORY INTO PRACTICE. New York, NY: McMillan Publishing Company, 1986.
- Kaplan, Don. TELEVISION AND THE CLASSROOM. Knowledge Industry Publications, 1986.
- Price, Robert. BASIC SKILLS FOR AUDIOVISUAL INSTRUCTION. Des Moines, IA: Kendall Hunt Publishers, 1985.
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- Spillex, Rex. "Full Motion Video Teleconferencing: How and When to Use a New Technology". T.H.E. Journal, April 1984, pp. 86 - 88.
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- Keller, Fred, S. and Gilmour, Sherman, J. THE PSI HANDBOOK: ESSAYS ON PERSONALIZED INSTRUCTION. Lawrence, KS: TRI Publications, 1982.
- Riedesel, Alan, C. and Clements, Douglas H. COPING WITH COMPUTERS IN THE ELEMENTARY AND MIDDLE SCHOOLS. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1985.
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- Atkinson, Martha, L. "Computer Assisted Instruction: Current State of the Art". Computers in Schools, volume 1, Spring 1984, pp. 91 - 99.
- Cohen, Vicki Blum. "What is Instructionally Effective Microcomputer Software?" Viewpoints in Teaching and Learning, Spring 1983, pp. 13 - 27.
- Helm, Virginia. SOFTWARE QUALITY AND COPYRIGHT: ISSUES IN COMPUTER ASSISTED INSTRUCTION. Washington, DC: AECT, 1984.
- Luehrman, Arthur. "The Best Way to Teach Computer Literacy". Electronic Learning, April 1984, pp. 37 - 44.
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- Wright, Edward. COMPUTER: A TOOL FOR THE TEACHER. Belmont, Ca. Wadsworth Publishing Company, 1985.
- Behrmann, Michael. APPLICATION OF COMPUTERS IN THE CLASSROOM. College Hill Publishing Company, 1987.
- Hoot, James. COMPUTERS IN EARLY CHILDHOOD EDUCATION. Englewood Cliffs, NJ: Prentice Hall, 1986.
- Roberts, Nancy and Carter, Richard. INTEGRATING COMPUTERS INTO ELEMENTARY AND MIDDLE SCHOOLS. Englewood Cliffs, NJ: Prentice Hall, 1988.

COURSE ANALYSIS QUESTIONNAIRE

A. Deatails of the Course

- A1 This course will be required for all preservice teachers to meet PDE's requirement for selection and utilization of technology in learning and instruction. The course is not intended for inclusion in the Liberal Studies program.
- A2 This course does not require changes in any other courses in the department.
- A3 This course will be offered as a mixture of lecture, demonstration, and hands-on activities.
- A4 This course has never been offered as a Special Topic.
- A5 This course is not intended to be dual level.
- A6 This course is not to be taken for variable credit.
- A7 Similar courses are offered at these institutions:
- A8 The skills provided to preservice teachers, through this course, are mandated by PDE's Program for Instructional Certification, Specific Standard XIV.

B. INTERDISCIPLINARY IMPLICATIONS

- B1 Each section of the course will be taught by one instructor. There will be no team teaching.
- B2 It is not anticipated that any additional corollary courses will be needed, now or later.
- B3 This course does not overlap with any other courses at the University.
- B4 One seat in each section of this course will be reserved for a student in the School of Continuing Education.

C. IMPLEMENTATION

C1 Resources

- a. No new faculty are needed to teach this course.
- b. Current space allocations are adequate to offer this course.

- c. There is adequate equipment to use in teaching the course. Students will have access to the department's instructional hardware and graphic materials laboratories. Instructors will have a mobile computer system with a projection unit. The College of Education computer laboratory will be used for some of the class sessions as well as development of skills in integrating the computer in learning/teaching activities.
- d. Students will supply their own laboratory supplies and other consumable materials as recommended in the syllabus. The cost of these materials will not exceed \$25.
- e. Library holdings are adequate and will be updated on a yearly basis through the department's allocation for library materials acquisitions.
- f. Any course related class trips will be covered by departmental travel funds, using State vehicles.

C2 No grant funds are associated with this course.

C3. This course will be offered every semester, including both summer sessions.

C4 Ten sections of this course will be offered during Fall and Spring semesters. An additional 4 to 6 sections will be offered during the ten weeks of Summer School.

C5 Twenty Five students will be enrolled in each section of the course.

C6

C7 This course will be required of all preservice teachers in order to meet PDE instructional certification requirements.

D. MISCELLANEOUS

No additional information is necessary.

OCT - 1 1990 16

September 26, 1990

Subject: CM 301 Redesign

To: Gary Buterbaugh, Chair
Senate Curriculum Committee

From: Kurt P. Dudd, Chairperson *K.P.D.*
Communications Media Department

Attached is a course that the Communications Media Department redesigned. This course was formerly called CM 301 Instructional Media.

The course has been approved by the Department Curriculum Committee and the Department's faculty (April 4, 1990).

The Teacher Education Coordinating Council (TECC) has also approved the course.

You stated to me that four copies should be placed in the Provost's office, and that I'd hear from you. I'll await your call.

KPD:mar

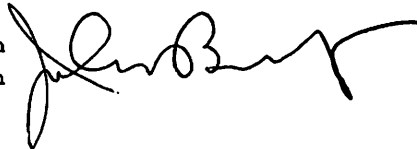
cc: Dr. Hilda Richards, Provost and
Co-chair Senate Curriculum Committee
Attachment - CM 301 Course Redesign

Date: September 18, 1990

Subject: CM 301, Technology in Learning and Instruction, Proposal

To: Dr. Kurt Dudt, Chairperson
Communications Media Department

From: John W. Butzow, Dean
College of Education



I am pleased to report that the TECC Curriculum Committee, which serves all teacher education programs, has reviewed and recommends approval of the revised CM 301 course proposal.

JB:jk