CEP 412/612 Methods of Using Information Technology in Teaching and Learning

Counseling and Educational Psychology
College of Education
University of Nevada, Reno
Spring, 2013

Section:	R001
Time:	Online
Location:	Online. Education lab (Room 1006 in Education building) is available for lab work.
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COURSE DESCRIPTION:

This course emphasizes on developing methods and materials for incorporating information technology into the classroom. Course work includes theoretical foundations and design strategies of computer based instruction (CBI), the uses a multimedia authoring system, a concept mapping tool, Web based applications, other educational software, and current interactive communication tools in constructing and delivering a CBI lesson package. On-line learning with WebCT will be integrated into the course.

This course is an on-line course using WebCampus as the learning environment. All the course work, learning activities and interactions among the class and between students and the instructor will be held on-line.
The instructor will be available through the semester for those who need one-on-one help.
Students will not be meeting during the semester.

PURPOSE AND RELATIONSHIP TO THE COE CONCEPTUAL FRAMEWORK:

The purpose of this course is to help student learn knowledge and skills in developing self-designed multimedia Computer-Based-Instruction courseware. The course is intended to contribute to the more general goals of the college, which include helping students integrate knowledge and skills to formulate a systematic and personalized approach and style. Based on the four themes guiding teacher preparation in the College of Education, this course builds upon and develops those themes in the following ways:

Possesses a love of learning – CEP412/612 encourages students to keep an open mind and a willingness to learn. Through class activities and assignments, students are required to research current theories, trends and issues in the field of technology integration, and learn contemporary knowledge and skills of computer-based instruction and multimedia courseware production that can be used to improve teaching and learning. As new knowledge and technology skills are gained, so is a greater love of learning. That love of learning should then be passed on to their students.

Develops a strong fund of knowledge - Students in CEP412/612 are required to use the theories and technology skills to develop technology integration projects (e.g., computer-based instruction units, multimedia courseware) delivered via multiple media (presentation,

online, and CD products). Assignments given require students to combine subject matter knowledge, instructional design, and technology integration.

Engages in reflective practice - Students in CEP412/612 are taught that they will have to make decisions on the information selection, design strategies, and instructional methods that best suit the goals of teaching and learning. Students are required to reflect upon the intended outcomes as they plan and make decisions on technology integration. Reflective practice is also inherent in their computer-based instruction projects.

Values democracy and multiculturalism - Students in CEP412/612 are expected to consider how they can teach multiculturally diverse students, and promote a democratic classroom with the use of a variety of Web tools and applications.

To accomplish this, specifically, the course addresses the following objectives.

COURSE OBJECTIVES:

By the end of this course, students will be able to:

1. Demonstrate an understanding of the fundamental theories related to the design of computer based instruction, including:
    - Cognitive development and learning theories
    - Information processing system theory
    - Instructional design (ADDIE model)
    - Technology integration design (ITD model)
2. Apply the principles of these theories to the design of CBI;
3. Develop an understanding of Information Systems Development Life Cycle (ISLC) and the tasks in each of the life cycle phases:
    - Systems planning
    - Systems analysis
    - Systems design
    - Systems implementation
4. Implement CBI design with the phases and methodologies of ISLC;
5. Use concept mapping tool in CBI design;
6. Create multimedia Web components for CBI;
7. Create screen-catch video for CBI;
8. Use current interactive communication tool to organize and deliver CBI lesson;
9. Create a multimedia interactive CBI lesson segment, delivered on the Web;
10. Plan and conduct a research project using your CBI lesson to investigate certain teaching/learning issue.
11. Develop a comprehensive CBI integration project.

TEXT:

- No required textbook.
- Reading materials will be provided in class.

COURSE REQUIREMENTS:

1. **Course Work**
   (Detailed requirements will be provided in class)
   - Reading and discussions
     --- Assigned reading materials/articles, on-line discussions
   - Lab assignments
     --- Lab tasks focusing on the technology skills to develop a Web-based CBI program
   - Course projects:
     --- CBI Evaluation Project
     --- CBI Design and Integration Project
     --- Research Project (for 612-graduates only)

2. **Participation/attendance:**
   Students are required to attend every class session, and on-line activity. If you have an emergency or illness that prevents attendance, you are expected to call or e-mail the instructor prior to the class. It is your responsibility to make up any work missed.

3. **Academic Honesty**:
   Students are expected to follow the university's guidelines about completion of the course requirements. Students who violate university standards will not receive course credit. Any instance of cheating on an examination or an assignment will result in a grade of zero for that particular exam or assignment. Any instance of plagiarism will result in a grade of zero for that particular paper.

GRADING:

Reading Assignment	100 points (10 points X 10)	
Lab assignments	80 points (10 points X 8)	
CBI Evaluation Project	100 points	
CBI Design & Integration Project	200 points	
Research project	**100 points**	**(for CEP 612 graduates only)**
Participation	70 points	
Total	650 points	(**550 points for CEP412 undergraduates**)

Graduates (CEP612):	Undergraduates (CEP412):
601 – 650 = A	501 – 550 = A
551 – 600 = B	451 – 500 = B
501 – 550 = C	401 – 450 = C
451 – 500 = D	351 – 400 = D
< 450 = F	< 350 = F

IMPORTANT GRADING POLICY:

- You MUST complete ALL the coursework with required quality to earn an A.
- If you miss any item of the assignments, you will receive a **NEGATIVE** score for that item. That is, your other scores will be balanced down.
- No points are available for extra credit, and plus/minus grades will NOT be used.
- No "incomplete" will be issued because of late coursework or low quality of coursework.

CEP 412/612 COURSE CALENDAR

Weeks	DATE	Topics	Lab Work Due on Fridays	Discussions & Projects Due on Fridays
1	01/21~25	Course orientation	Lab1. Self-intro Online communication tool	
2	01/28~02/01	CBI basics, types, samples **Projects:** **1. CBI Evaluation** **2. CBI Design and Integration** **3. Research**	Lab 2. Information Search	Discussion 1: Basics
3	02/04~08	CBI basics, components, structure Learning theories: constructivist	Lab 3. Web-based design	Discussion 2: CBI Quality
4	02/11~15	Design theories: Information processing system theory CBI design	Lab 4. Web-based design	Discussion 3: Subject areas
5	02/18~22	Design theories: ADDIE design model CBI design	Lab 5. Image mapping	Discussion 4: Analysis, ITD model **Project #1** **CBI Evaluation**
6	02/25~03/01	Structure design Instructional design	Lab 6. Story telling videos	Discussion 5: Structure Design
7	03/04~08	Interface design ppt as storyboarding tool	Lab 7. Screen capture tools	Discussion 6: Storyboarding
8	03/11~15	Instructional treatment design	Lab 8. Cloud resources	Discussion 7: Task design
9	**03/18~22**	**Spring Break**		
10	03/25~29	Interaction and assessment design		Discussion 8: Evaluation
11	04/01~05	Work on CBI design project		Discussion 9:Integration
12	04/08~12	Work on CBI design project		Discussion 10: Issues and findings
13	04/15~19	Evaluating/revising CBI project – feedback from the class		
14	04/22~26	Finalize CBI design project		**Project #2** **Design/Integration**
15	04/29~05/03			**Project #3 Research**
16	05/06~10	**Pre-Day May 8** **No late work accepted after this date**		

- This is tentative schedule. Topics may be adjusted according to students' experiences, interests, or special needs.

Department of Counseling and Educational Psychology
Standard Based Assessment in Information Technology Courses
Course: CEP 412/612 Methods of Using Information Technology in Teaching and Learning

ISTE/NCATE Standards for Educational Computing and Technology Leadership Advanced Programs	Course Work
Standard One. Technology Operations and Concepts: Educational technology leaders demonstrate an advanced understanding of technology operations and concepts. Candidates demonstrate: a. knowledge, skills, and understanding of concepts related to technology, b. continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.	• Reading, journals • Online discussions • Research project
Standard Two. Planning and Designing Learning Environments and Experiences: Educational technology leaders plan, design, and model effective learning environments and multiple experiences supported by technology. Candidates: a. Design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners. b. Apply current research on teaching and learning with technology when planning learning environments and experiences. c. Identify and locate technology resources and evaluate them for accuracy and suitability. d. Plan for the management of technology resources within the context of learning activities. e. Plan strategies to manage student learning in a technology-enhanced environment. f. Identify and apply instructional design principles associated with the development of technology resources.	• CBI design assignments • CBI short lesson design • Final CBI integration project
Standard Three. Teaching, Learning, and the Curriculum: Educational technology leaders model, design, and disseminate curriculum plans that include methods and strategies for applying technology to maximize student learning. Candidates: a. Facilitate technology-enhanced experiences that address content standards and student technology standards. b. Use technology to support learner-centered strategies that address the diverse needs of students. c. Apply technology to demonstrate students' higher order skills and creativity. d. Manage student learning activities in a technology-enhanced environment. e. Use current research and district/region/state/national content and technology standards to build lessons and units of instruction.	• Research project • CBI short lesson design • CBI integration design
Standard Four. Assessment and Evaluation: Educational technology leaders communicate research on the use of technology to implement effective assessment and evaluation strategies. Candidates: a. Apply technology in assessing student learning of subject matter using a variety of assessment techniques. b. Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning. c. Apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.	• CBI evaluation • Class CBI projects peer evaluation • Online portfolio

Standard Five. Productivity and Professional Practice: Educational technology leaders design, develop, evaluate and model products created using technology resources to improve and enhance their productivity and professional practice. Candidates: a. Use technology resources to engage in ongoing professional development and lifelong learning. b. Continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning. c. Apply technology to increase productivity. d. Use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.	• CBI evaluation and Design • Research project and case studies
Standard Six. Social, Ethical, Legal, and Human Issues: Educational technology leaders understand the social, ethical, legal, and human issues surrounding the use of technology in P-12 schools and develop programs facilitating application of that understanding in practice throughout their district/ region/state. Candidates: a. Model and teach legal and ethical practice related to technology use. b. Apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities. c. Identify and use technology resources that affirm diversity. d. Promote safe and healthy use of technology resources. e. Facilitate equitable access to technology resources for all students.	• Reading, journals • Research project • CBI short lesson design
Standard Seven. Procedures, Policies, Planning, and Budgeting for Technology Environments: Educational technology leaders coordinate development and direct implementation of technology infrastructure procedures, policies, plans, and budgets for P-12 schools. Candidates: a. Use the school technology facilities and resources to implement classroom instruction. b. Follow procedures and guidelines used in planning and purchasing technology resources. c. Participate in professional development opportunities related to management of school facilities, technology resources, and purchases.	• Research project • CBI short lesson design • CBI integration design
Standard Eight. Leadership and Vision: Educational technology leaders will facilitate development of a shared vision for comprehensive integration of technology and foster an environment and culture to conducive to the realization of the vision. Candidates: a. Identify and apply educational and technology related research, the psychology of learning, and instructional design principles in guiding the use of computers and technology in education. b. Apply strategies for and knowledge of issues related to managing the change process in schools. c. Apply effective group process skills. d. Lead in the development and evaluation of district technology planning and implementation. e. Engage in supervised field-based experiences with accomplished technology facilitators and/or directors	• Group work • Online communications • Case studies