Masters in Computer Education and Technology
Semester Course List

Course Number: 5012
Course Short Name: CET-TECHNOLOGY IN EDUC (CET Majors Only)
Course Long Name: Computer Education & Technology-Technology in Education: Open Source Content
Course Description:
This course designed for majors in the Computer Education and Technology Program (MED) will acquaint students with open source and cloud computing commonly found in educational settings. Students will use open source software, multimedia, collaborative tools, and the Web 2.0 technology. Emphasis will be on integrating technology within the curriculum using the TPACK model and the International Society for Technology in Education Facilitator Standards.
Outcomes:

- Procedures, Policies, Planning, and Budgeting for Technology Environments Leadership and Vision
- Technology Operations and Concepts
- Planning and Designing Learning Environments and Experiences
- Teaching, Learning, and the Curriculum
- Assessment and Evaluation
- Productivity and Professional Practice
- Social, Ethical, Legal, and Human Issues

Course Number: 6011
Course Short Name: Instructional Design
Course Long Name: Instructional Design
Course Description:
This course prepares our Masters students for designing instruction in mediated environments. Students learn how to analyze, implement and evaluate instructional experiences, particularly those delivered through or mediated through digital communication and interaction technology. Students will learn how to conduct a needs analysis, task analysis and learner analysis. Consequently, they will use those analysis skills to design instruction. Specifically, strategies for instructing declarative, conceptual, procedural, algorithmic knowledge will be covered. Learners will use these strategies to create presentations, practice and feedback systems. These systems require assessment and evaluation to create congruent learning experiences. These skills are applicable to any learning situation; however, the course will pay particular attention to mediated environments (computer tutorials, simulations, games, etc.). Students work on a component of instructional design each week leading to a final project demonstrating their abilities. Additionally, traditional midterm and final examinations are required. This course lays the foundation for the rest of the Masters program.
Outcomes:

- Demonstrate knowledge of concepts relating to instructional design, particularly instructional analysis, task analysis, assessment, instructional strategies for

problem-solving, declarative knowledge, concept learning, principle learning, procedural
- Demonstrate knowledge of project planning and management. Implement an instructional design project

Course Number: 6051
Course Short Name: Multimedia tools in education
Course Long Name: Multimedia tools in education
Course Description:
This course prepared students to design and develop interactive multimedia. Multimedia incorporates graphics, animation, images, video, sound and text. These elements are combined in an interactive environment where the user gets feedback from the computer system. These interactive environments must be designed and programmed (both skills are covered in this course).

This course introduces students to the basic logic in computing. Flash and Actionscript will be used to design thematic/integrated lessons using to demonstrate programming technics. Students will construct assignments in Flash and will work independently through the tutorials. Each face-to-face class session will be in a seminar format. The topics for the face-to-face seminars will be 1) basic programming, 2) interactive game principles, 3) programming in the classroom.
Outcomes:
- Demonstrate knowledge and skill in an appropriate high level authoring system. Demonstrate knowledge of a child centric programming environment
- Demonstrate knowledge of basic programming principles
- Demonstrate knowledge of interactive game principles
- Demonstrate knowledge of usage of programming in the classroom
- Demonstrate proficiency in independently learning complex, unfamiliar software packages.

Course Number: 6012
Course Short Name: Teaching and Learning Online
Course Long Name: Teaching and Learning Online
Course Description:
This course provides an overview of teaching and learning in online environments in both K-12 and higher education. Distance Learning and educational theory and practice will be the framework for the course. Participants will develop an online mini-course/professional development course using the Moodle Learning Management System (LMS). Participants will also work with the Blackboard LMS system as well as explore LMS sites such as Desire to Learn, Angel and Microsoft Sharepoint. This course meets the ISTE Facilitator Standard 7.
Outcomes: Analyze current research on teaching and learning using learning management systems.
- Evaluate, select and manage technology-based assessment tools.
- Promote the development and implementation of technology infrastructure, procedures, policies, plans, and budgets for PK-12 schools and higher education settings
- Apply collaborative learning theory to create and use web tools such as discussion forums, blogs, and wikis for collaborative learning

- Locate and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information resources to be used in the online classroom Demonstrate ethical use of digital information resources and understanding of educational copyright and fair use principles in e-learning environments
- Apply understanding of the impact of learner differences: culture/race, ability/disability, gender, age, socioeconomic status, and family influences in delivery of e-learning
- Analyze how accessibility of technology based resources affects planning for instruction Use the school technology facilities and resources to implement classroom instruction
- Follow procedures and guidelines used in planning and purchasing technology resources
- Participate in professional development opportunities related to the management of school facilities, technology resources, and purchases

Course Number: 6002
Course Short Name: VISUAL LIT FOR EDU
Course Long Name: Visual Literacy for Mediated Instruction
Course Description:
Visual literacy is defined as the ability to understand and use images, including the ability to think, learn, and express oneself in terms of images. The course will improve the learner's visual literacy knowledge and their ability to master image manipulation and distribution software. This course focuses on using critical thinking skills to interpret and create instructional visual images, with particular emphasis on integrating images into mediated learning experiences.
Outcomes:

- Enhance instruction through the use of the visual medium. Demonstrate the ability to understand and use images, including the ability to think, learn, and express oneself in terms of images. Demonstrate knowledge of project planning and management
- Demonstrate basic knowledge and skills of image manipulation software. Apply digital camera techniques to instruction.

Course Number: 6052
Course Short Name: ASSESS & EVAL in TECH
Course Long Name: Assessment and Evaluation in Technology-Rich Classrooms
Course Description:
Candidates apply technology in assessing student learning of subject matter using a variety of assessment techniques; use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning; and apply multiple methods of evaluation to determine students¿ appropriate use of technology resources for learning, communication and productivity
Outcomes:

- Educational technology facilitators apply technology to facilitate a variety of effective assessment and evaluation strategies
- Apply technology in assessing student learning of subject matter using a variety of assessment techniques
- Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning

- Apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity
- Complete midpoint assessment for COE dispositions

Course Number: 6042
Course Short Name: LEAD AND PROF DEV IN TECH
Course Long Name: Leadership and Professional Development in Technology
Course Description:
Designed to enhance the educator's role in providing instructional and building leadership and to become knowledgeable leaders in the use of technology in educational settings. Includes opportunities to develop and conduct professional development in K-12, higher education and industry locations. This course meets the NCATE ISTE Technology Facilitator Standards 4 and 8.
Outcomes:

- Participants will demonstrate knowledge of issues and models related to leadership in professional development and will plan and design professional development activities for educational settings
- Participants will demonstrate knowledge of strategies for and issues related to managing the change process in schools
- Participants will examine curricular plans based on local, state, and national standards for the use of computer and other associated technologies
- Participants will describe and analyze accepted principles of strategic planning to facilitate curriculum design for teaching with computers and related technologies

Course Number: 6910
Course Short Name: CET Clinical Practice
Course Long Name: CET Clinical Practice: Theory into Practice
Course Description:
The Computer Education and Technology internship allows the intern to apply theory to practice in a world setting. The clinical practitioner is expected to perform a professional development and technology training in an organization that has a definite educational technology focus. Issues of diversity in educational setting and diversity of students is a critical component. This course meets the ISTE Technology Facilitator Standards 2 and 3.
Outcomes:

- Manage student learning activities in a technology-enhanced environment Educational technology facilitators plan, design, and model effective learning environments and multiple experiences supported by technology Use current research and district/regional/state/national content and technology standards to build lessons and units of instruction
- Apply current research on teaching and learning with technology when planning learning environments and experiences.
- Design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners
- Identify and locate technology resources and evaluate them for accuracy and suitability
- Plan for the management of technology resources within the context of learning activities Identify and apply instructional design principals associated with the development of technology resources

- Plan strategies to manage student learning in a technology-enhanced environment
- Apply curriculum plans that include methods and strategies for utilizing technology to maximize student learning
- Facilitate technology-enhanced experiences that address content standards and student technology standards
- Use technology to support learner-centered strategies that address the diverse needs of students
- Apply technology to demonstrate students' higher-order skills and creativity

Course Number: 6122
Course Short Name: MASTERS PORTFOLIO
Course Long Name: Masters Portfolio in Computer Education and Technology
Course Description:
Students will develop a professional electronic portfolio and participate in a public showcase. The portfolio is the culminating experience for students in the Master of Education, Computer Education and Technology program.

The Masters Portfolio is a learning portfolio. It provides an opportunity for the student to synthesize what they learned in the Masters program, show their growth over time, and document the mastery of the National Educational Technology Standards for Teachers (NETS) developed by the International Society for Technology in Education (ISTE).
Outcomes:

- TF-III. Candidates will demonstrate Teaching, Learning, and the Curriculum
- TF-IV. Candidates will demonstrate Assessment and Evaluation
- TF-V. Candidates will demonstrate Productivity and Professional Practice
- TF-II. Candidates will demonstrate Planning and Designing Learning Environments and Experiences
- TF-VI. Candidates will demonstrate Social, Ethical, Legal, and Human Issues
- TF-VII. Candidates will demonstrate Procedures, Policies, Planning, and Budgeting for Technology Environments
- TF-VIII. Candidates will demonstrate Leadership and Vision
- TF-I. Candidates will demonstrate Technology Operations and Concepts

** These are the ISTE required standards that all candidates must demonstrate.

Course Number: 6950
Course Short Name: Thesis
Course Long Name: Thesis
Course Description: Seminar contents vary. Participant is completing empirical research leading to a thesis to be defended with a Master's review committee.
Outcomes: Completion of empirical research leading to a thesis that has been successfully defended.

Course Number: 6901
Course Short Name: WKSP: Special Topics
Course Long Name: Workshop in Computer Education: Special Topics
Course Description: Designed to provide practicing teachers and other instructional personnel with short course workshops and summer institutes directed toward their identified needs. Areas of concentration are (1) Productivity Tools, (2) Information Tools, (3) Network Tools, (4) Hypermedia Tools, (5) Programming Concepts, (6) Curriculum Development, (7) Special Topics, (8) Distance Learning/ online course development.

Course Number: 6913
Course Short Name: MASTERS RESEARCH PROJECT (Independent Study)
Course Long Name: Master's Research Project
Course Description: Non-thesis option, major research paper required under the direction of the advisor (typically action research within an educational setting).
Outcomes: Participants will develop a viable research question and research design Participants will develop viable hypotheses Participant will complete needed research (data collection, anaylsis, reporting) Participant will present research paper to faculty in field

Course Number: 6940
Course Short Name: RESEARCH IN EDUCATION (Independent Study)
Course Long Name: Research in Education
Course Description: Individualized research project.
Outcomes: Participants will complete an independent research project.