

A Masters Program in Educational Technology for Teachers and Practitioners

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During the 2001/2002 academic year, five faculty members in the James Madison University College of Education and College of Integrated Science and Technology met to discuss the possibility of designing a masters program in educational technology. This discussion resulted from inquiries by local teachers and instructional technology personnel concerning the possibility of creating a training/education program that would enhance their skills in their current positions as well as their marketability and advancement options. This meeting resulted in a review of similar programs in the United States and the eventual design of the current program.

The Master of Education degree with a concentration in educational technology is designed for teachers, administrators and professionals in the field of staff development and training. Individuals completing the program will have developed a broad and deep framework for identifying, implementing, and assessing educational technology in the teaching and learning process. Students will have an opportunity to explore future trends in educational technology, allowing them to continue to expand their skills at the completion of the program. Students will complete course work in two concentration areas, giving them extensive experience in designing, developing and assessing different educational technology applications. Students complete the program with a practicum experience to apply their skills and knowledge in a school or workplace setting.

The presentation will outline the development of the curriculum for the masters program, the process of securing university and state approval of the program (in an extremely tight budget period) and our experiences in teaching the first two courses in the sequence to date. A very brief outline of the program follows.

To complete a Master's of Education with a concentration educational technology, the student will complete a minimum of 33 hours of course work organized as follows: professional core -- 12 hours; future trends, instructional design and practicum -- 9 hours; two concentrations -- 6 hours each. In addition, students must successfully complete a comprehensive examination consisting of an oral and written component.

Individual courses in the program include:

EDTC 510 Seminar in Educational Technology A survey in educational technology laying a framework for the effective selection, utilization, and assessment of emerging technologies for learning. Provides the foundation for research in educational technology and development of the required electronic portfolio at the conclusion of the Educational Technology Masters degree.

EDTC 520 Principles of Instructional Design Examines the overarching process of instructional design as it relates to the design, development, and implementation of technology-based instruction. Instructional design models will be compared and contrasted. Students will be challenged to develop their own model that reflects the relationships between learners, teachers, and technology. Includes discussions on design methodologies, principles, and instructional strategies.

EDTC 611 Multimedia and User-interface Design Design and evaluation of effective user interfaces, beginning with principles for product design. Considers the process for user interface development as a separate process from software design and development including such topics as life cycle development, usability, prototyping, and formative user-based evaluation.

EDTC 612 Design and Development of Digital Media The course introduces the processes for the design, development, and distribution of digital media elements. Topics will include the creation and modification of digital images and digital video for instructional settings. Effective utilization of these media elements will be explored based on specific deployment strategies

EDTC 621 Technology Planning This course introduces the process of building a technology plan for a school district or other unit. It explores the roles of the different stakeholders in the process and focuses on issues of funding, implementation and assessment.

EDTC 622 Staff Development in Educational Technology This course will focus on instructional models, strategies and assessment of professional development activities among adult leaders of K-12 educational settings. Course will focus on research supported instructional strategies and techniques to meet educational technology learned societies guidelines for instructional personnel.

EDTC 631 Imagery and Data Display Detailed study of different data visualization tools, including image processing and geographic information systems. Clear and concise displays of data are emphasized, along with the research base supporting the use of these tools in inquiry-based learning.

EDTC 632 Simulation and Modeling Exploration of simulation and modeling tools and their application to science and mathematics learning. Software addressing a variety of grade levels and content areas will be explored and assessed for its value in inquiry-based learning. Emphasis will be given to curricular design and implementation.

EDTC 670 Instructional Technology Practicum Presents various topics that provide students with opportunities to integrate and apply instructional technology theories, practices, and skills in a variety of authentic client-designer settings. This course represents a "clinical" approach to project development in which students will become part of design teams assigned to work with real-world clients in an effort to produce real-world instructional and training solutions.

Purpose and/or justification:

The purpose of the concentration is to provide opportunities for teachers and other professionals to learn more about and find new and effective ways to use the technology that has become a major part of their work environment. Many teachers/administrators in our service region have requested courses/programs in this area. It is an area where there is substantial local need and where the College of Education can provide leadership. This program is proposed within the context of the Master's of Education and the curriculum has been built on the foundation of the M.Ed core courses, thus limiting the number of new courses required. This program also meets currently unmet needs of other programs within the College of Education such as educational administration and adult and human resources development.

Specific objectives of the program and how they are to be assessed:

Upon completing the program, the student will be able to:

1. Identify appropriate educational technology for particular teaching and learning needs
2. Design and implement lessons using educational technology
3. Assess the learning impact of educational technology
4. Design and manage the implementation of educational technology in a building, district or business

The student's progress will be assessed through a portfolio of all work done in the program, along with a careful analysis of their practicum project and her/his performance on the comprehensive examination.