INSTRUCTIONAL TECHNOLOGY (ISTC)

Courses

ISTC 501 INTEGRATING INSTRUCTIONAL TECHNOLOGY (3)

Examines operations, applications, and affordances of technologies for learning and teaching. Offers hands-on experience in integrating learning technology into classroom activities. Critically examines strategies that use a variety of technology tools to create learning environments that actively engage students in projects where technology tools enhance the learning process. Laboratory experiences are provided in the operation of instructional hardware and software. Lab/Class fee will be assessed.

ISTC 541 FOUNDATIONS IN LEARNING TECHNOLOGY AND DESIGN (3)

Exploration of conceptual and theoretical foundations of learning design and application in learning technologies. An Examination of a broad range of current learning design research and theory, the role of learning technologies, and their affordances to create innovative learning solutions to performance problems.

ISTC 601 SCHOOL LIBRARY MEDIA ADMINISTRATION (3)

The evaluation, planning, and policy development for the school library media center. Prerequisites: Graduate standing and completion of all level one and two school library media courses.

ISTC 603 FOUNDATIONS OF DISTANCE EDUCATION (3)

Analysis of the history and evolution of distance education. Examination of theories, principles, learning design models, and technologies used in teaching and learning of distance education and e-learning. Opportunities to apply conceptual frameworks, instructional design guidelines, and principles, current technologies in planning, development, and implementation of distance education.

ISTC 605 E-LEARNING DESIGN AND DEVELOPMENT (3)

Application of learning design principles and research-based best practices for distance education and online learning in designing, developing, and evaluating e-learning environments for a wide range of learners. A variety of online tools and applications will be evaluated and used to support learning. Prerequisite: ISTC 603 or equivalent.

ISTC 615 COLLECTION DEVELOPMENT (3)

Concepts, processes, guidelines and resources for the development of a high quality school library media center collection. Prerequisite: Graduate standing.

ISTC 651 INFORMATION LITERACY AND ACCESS (3)

Access and evaluation of information sources relevant to school library media centers. Prerequisites: Graduate standing and completion of level one school library media courses.

ISTC 653 THE ORGANIZATION OF KNOWLEDGE (3)

The organization of knowledge in all formats including cataloging, subject analysis and bibliographic control. Prerequisite: Graduate standing.

ISTC 655 DEVELOPING DIGITAL MULTIMEDIA MATERIALS FOR LEARNING DESIGN (3)

Design and develop digital multimedia learning materials for various learning environments. Specifically, use advanced authoring technology applications. Students apply basic principles of visual design and gain practical experience with text, graphics, and web design for the creation of interactive learning materials.

ISTC 663 INTRODUCTION TO LEARNING SCIENCES (3)

Introduction to influential and powerful ideas in learning sciences. Examination of unique research approaches used by learning scientists to study and to design new learning environments. Study of the nature of knowledge, new research on expert activity and underlying explanations and causes of how to solve complex, real-world problems.

ISTC 667 INSTRUCTIONAL DESIGN AND DEVELOPMENT (3)

A hands-on, project-based approach to the analysis, design, development, and evaluation of instructional solutions to address performance gaps. Includes instructional design, content development, configuration and testing of learning environments, and use of appropriate current technologies.

ISTC 674 SPECIAL TOPICS IN INSTRUCTIONAL TECHNOLOGIES (3-6)

Topics selected from the instructional technology field which are innovative and of immediate concern to existing instructional needs. May be repeated to a maximum of 6 units with no topic repeated. Prerequisite: bachelor's degree.

ISTC 685 RESEARCH IN INSTRUCTIONAL TECHNOLOGY (3)

Application and examination of elements of research design. Students will write a research proposal applying accepted procedures in qualitative and quantitative inquiry in the field of instructional technology. Prerequisite: EDUC 605.

ISTC 688 AUGMENTED AND VIRTUAL REALITY LEARNING & DESIGN (3)

Foundational understanding of VR (Virtual Reality), MR (Mixed Reality), and AR (Augmented Reality) technologies. Students will learn how to design and implement immersive 3D content for AR and VR environments that provides rich user experiences. The industry-standard tools will be used for developing successful interactive VR/AR software. Prerequisites: completion of core level 1 and ISTC 767.

ISTC 691 DIRECT READINGS IN INSTRUCTIONAL TECHNOLOGY (1-4)

Independent readings and research in selected areas of instructional technology. Prerequisite: consent of program director.

ISTC 692 DIRECTED READINGS IN INSTRUCTIONAL TECHNOLOGY (1-4)

Independent readings and research in selected areas of instructional technology. May be repeated for a maximum of 4 units. Prerequisite: consent of program director.

ISTC 693 DIRECTED READINGS IN INSTRUCTIONAL TECHNOLOGY (1-4)

Independent readings and research in selected areas of instructional technology. May be repeated for a maximum of 4 units. Prerequisite: consent of program director.

ISTC 694 DIRECTED READINGS IN INSTRUCTIONAL TECHNOLOGY (1-4)

Independent readings and research in selected areas of instructional technology. May be repeated for a maximum of 4 units. Prerequisites: Consent of program director.

ISTC 695 INDEPENDENT STUDY IN INSTRUCTIONAL TECHNOLOGY (1-4)

Independent readings and research in selected areas of instructional technology. Prerequisite: Consent of chairperson or program director.

ISTC 700 ASSESSMENT IN INSTRUCTIONAL TECHNOLOGY (3)

Contemporary theories and methodologies of assessment in instructional technology, including terminology and concepts, measurement principles and assessment instruments, with emphasis upon assessment of technology learning, technology integration, technology attitudes, performance, educational software designs and management of technology resource. Prerequisites: admission to doctoral program or completion of level I: core sequence.

ISTC 702 EDUCATIONAL LEADERSHIP AND TECHNOLOGY (3)

Explores current research and theory related to technology policy, planning and leadership in education settings. Focus will include development of technology plans at the school district and state levels. Prerequisites: admission to doctoral program or completion of level I: core sequence.

ISTC 707 LEARNING ENVIRONMENTS IN A DIGITAL AGE (3)

Contemporary learning theory will be used to design and evaluate interactive learning environments that reflect the qualities of active, constructive, collaborative, intentional, complex, contextual, conversational and reflective learning. Prerequisites: admission to doctoral program or completion of level I: core sequence.

ISTC 709 LEGAL AND ETHICAL ISSUES IN INSTRUCTIONAL TECHNOLOGY (3)

Legal, ethical and intellectual property issues related to the use of technology in education. Analysis of case studies related to technology use policies for education and human resource organizations. Prerequisites: admission to doctoral program or completion of level I: core sequence.

ISTC 711 INNOVATION, CHANGE AND ORGANIZATIONAL STRUCTURES (3)

Planning and management of successful technology innovations and change through training, professional development, and technological projects in public or private schools as well as government, non-profit and for-profit organizations. Topical areas include planning and developing technology innovation projects, evaluating and analyzing organizations, analyzing capacity and readiness for a new technology project, organizing and managing human resources and support systems, scheduling, budgeting, team structures, defining project requirements, and quality assurance. Prerequisites: completion of level 1 Core (ISTC 663 or EDUC 755 and ISTC 541, ISTC 655, ISTC 667), admission to doctoral program, or completion of ISTC 715.

ISTC 715 PROJECT MANAGEMENT (3)

Foundational understanding of project management concepts, principles, skills, tools, and techniques necessary to effectively manage projects. Key components of project management, including integration, scope, time, cost, quality, human resource consideration, communications, risk, and procurement management. Prerequisite: ISTC 667.

ISTC 729 SIMULATION AND GAME-BASED LEARNING AND DESIGN (3)

Examination of theories and practices of games and simulations as learning technologies. Emphasis is placed on the process of designing and selecting educational games, and simulations. including issues associated with assessment and implementation will be addressed. Prerequisites: ISTC 667 and ISTC 655 are recommended.

ISTC 731 THEORY AND PRACTICE FOR INTEGRATING DIGITAL RESOURCES INTO LEARNING AND TEACHING (3)

Focuses on current theoretical perspectives on learning that underlies decisions about technology integration in diverse educational settings. Students will examine recent technological innovations surrounding technology integration for teaching and learning; analyze effective design of computer-based instructional materials; create and evaluate case studies relating to technology integration, and critically examine their own personal and professional values as an aspect of their work as educator and instructional designers. Prerequisites: admission to doctoral program or ISTC 541.

ISTC 735 TECHNOLOGY, LEARNING, AND DESIGN (3)

Focuses on the design and implementation of effective instruction in the 21st Century classroom. Studies the practical application of current and emerging technologies, one to one device learning techniques for students and teachers, and explores adult uses of learning technology. Culminates in a guided technology use self-reflection activity. Prerequisite: ISTC 731.

ISTC 741 RESEARCH FOUNDATIONS OF INSTRUCTIONAL TECHNOLOGY (3)

This seminar course will focus on examining philosophies and discourse upon which the field of instructional technology is built. This course will examine historical research, organizational and governmental standards, alternative and critical theories, and paradigms and philosophies of learning, design and technology. Prerequisites: admission to doctoral program or completion of level I: core sequence.

ISTC 767 ADVANCED INSTRUCTIONAL DESIGN AND DEVELOPMENT (3)

Intended for those who already have an existing foundation in the basic principles of instructional design and development of learning solutions. Analysis of a variety of advanced instructional design models. Provides an opportunity for creating, implementing, managing and evaluating digital learning solutions. Prerequisites: ISTC 667 and ISTC 655 or admission to Doctoral program.

ISTC 780 SEMINAR I: INVESTIGATING AND EVALUATING RESEARCH IN INSTRUCTIONAL TECHNOLOGY (3)

This seminar course will focus on a critical review and evaluation of current research findings and methodology. The emphasis is upon the development of a critical perspective of ongoing research in the field of instructional technology and related specialization areas. The intent of the course is that doctoral students will develop a review of literature related to their dissertation proposal. Prerequisites: required doctoral core courses and admission to ISTC doctoral program.

ISTC 782 INVESTIGATING AND EVALUATING RESEARCH IN ISTC II (3)

This seminar course will focus on a critical review and evaluation of current research findings and methodology. The emphasis is upon the development of critical perspective of ongoing research in the field of instructional technology and related specialization areas. The intent of this course is that doctoral student will develop products related to their dissertation proposal. This course may be repeated for a maximum of 6 credits. Prerequisites: ISTC 780.

ISTC 787 INSTRUCTIONAL TECHNOLOGY CAPSTONE (3)

Opportunity to demonstrate mastery of required coursework by designing, developing, implementing, or evaluating technology-mediated learning solutions. Proposal and completion of a comprehensive technology-intensive project or portfolio are required. Prerequisites: 21 units in ISTC program; department consent.

ISTC 789 PRACTICUM AND PORTFOLIO IN SCHOOL LIBRARY MEDIA (3-6)

Students serve under the supervision of a school library media center director. Students present graduate portfolios to level one students and faculty in school library media. Prerequisite: completion of all level one and level two school library media courses.

ISTC 797 GRADUATE INTERNSHIP IN INSTRUCTIONAL TECHNOLOGY (3)

Individually supervised field experience in a setting that provides direct experience with the design, development, implementation, or evaluation of technology-mediated learning experiences. Proposal and completion of a technology comprehensive project are required. Prerequisite: 21 units in ISTC Master's or Doctoral program.

ISTC 897 INSTRUCTIONAL TECHNOLOGY THESIS (6)

An original investigation, using research method and design, of a research problem. Credit granted after thesis accepted. Graded S/U. Prerequisite: consent of chairperson.

ISTC 898 INSTRUCTIONAL TECHNOLOGY THESIS (3)

An original investigation, using research method and design, of a research problem. Taken over two consecutive semesters. Credit granted after thesis accepted. Graded S/U. Prerequisite: the previous course, ISTC 897, taken over two consecutive terms.

ISTC 899 THESIS CONTINUUM (1)

Continuation of thesis research. Graded S/U based on making satisfactory progress on thesis. Prerequisite: ISTC 898.

ISTC 970 DISSERTATION PROPOSAL - INDEPENDENT STUDY (3)

Designed for doctoral students who are preparing to write a dissertation proposal. Will provide students with the necessary skills, knowledge, and resources to develop a comprehensive and effective dissertation proposal. Students will work closely with their dissertation advisor to design a research proposal that meets the requirements of their doctoral program and reflects their unique research interests. Graded S/U. Prerequisite: program admission.

ISTC 998 INSTRUCTIONAL TECHNOLOGY DISSERTATION (1-9)

An original research investigation using research literature, methods, analysis, and design. Graded S/U. Prerequisite: consent of advisor.

ISTC 999 DISSERTATION CONTINUUM (1)

Continuing work on dissertation after completion of basic dissertation credits. Graded S/U based on making satisfactory progress on dissertation. May be repeated as necessary.