**INSTRUCTIONAL TECHNOLOGIES (ITEC)**

**ITEC 299 How to Learn with Your iPod (Units: 3)**
How to identify your learning preferences and styles, create learning strategies to improve and augment learning, and use a variety of learning aids and devices to support learning. E-learning aids to include Podcasts, web searches, electronic note-taking, cell phones, blog and wikis, intelligent tutors, etc.

**Course Attributes:**
- **E1:** Lifelong Learning Develop

**ITEC 315 Learning 21st Century Skills with Emerging Instructional Technologies (Units: 3)**
Prerequisite: Upper division standing or consent of instructor.

Acquiring essentials of learning 21st century skills such as problem solving, critical thinking, creativity, and collaboration using cutting edge digital technologies within the framework of contemporary learning theory/instructional design principles. Interaction with and examination of an array of software applications to develop 21st century skills.

**Course Attributes:**
- **E1:** Lifelong Learning Develop

**ITEC 333 Digital Pioneers: Creating Innovative Digital Entrepreneurs (Units: 3)**
Prerequisite: Upper division standing or consent of instructor.

Learning and practice in advanced digital literacy, production and critical evaluation of digital products; create and evaluate personal product. Students advance from naïve digital creators to apprentice-level experts, manage and produce effective and innovative digital products, and learn critical evaluation techniques to validate product, sources, and online presence. (Plus-minus letter grade only)

**Course Attributes:**
- **E1:** Lifelong Learning Develop
- **UD-C:** Arts and/or Humanities
- **Am. Ethnic & Racial Minorities**

**ITEC 487 Children and Television (Units: 3)**
Prerequisite: Upper division standing.

How children use and are affected by mass media, particularly television. Theory and research describing children and television. Role of television in children's development.

(This course is offered as BECA 487 and ITEC 487. Students may not repeat the course under an alternate prefix.)

**ITEC 601 Computer Fundamentals for Teachers (Unit: 1)**
Prerequisite: Senior standing.

Basic computer skills as they apply to teaching. Development of competencies in operation and care of computer-related hardware, basic trouble-shooting techniques, appropriate uses of computer-based technology in teaching and learning, and evaluation of educational software. Students will demonstrate basic skills in writing, presentation, e-mail, and database software as applied to instruction.

**ITEC 699 Independent Study (Units: 1-3)**
Prerequisite: Upper division standing or consent of instructor. Open to regularly enrolled students only.

An intensive study of a particular problem under direction of a member of the department. Enrollment by petition approved by the instructor, adviser, and department chair.

**ITEC 700 Strategic Approaches for Instructional Technologies (Units: 3)**
Prerequisite: Graduate standing or consent of instructor.

Utilize current recognized strategic approaches and procedures to design and develop your professional collateral or brand, your instructional technologies area(s) of expertise, and your workplace, introduction to your new or updated career. Self-directed projects guide you to your results.

**ITEC 711 Instructional Computing in Elementary and Middle Schools (Units: 3)**
Prerequisite: Graduate standing or consent of instructor.

Practice with computers in laboratory classroom; instructional applications of software. Integration of computing in teaching and in determining appropriate uses of technology. Equivalent to ITEC 712. Cannot be applied to degree in instructional technologies. Meets multiple subject credential state requirements.

**ITEC 712 Instructional Computing in Secondary Schools (Units: 3)**
Prerequisite: Graduate standing or consent of instructor.

Practice with computers in laboratory classroom; software applications in the secondary school classroom. Integrating computing in teaching and determining appropriate use of technology. Equivalent to ITEC 711. Cannot be applied to degree in instructional technologies. Meets single subject credential state requirements.

**ITEC 715 Foundations of Instructional Multimedia (Units: 3)**
Prerequisite: ITEC 740 or equivalent.

Plan, design, and develop computer-based multimedia using current theories and practices. Includes graphic screen design, navigation, user interface design, and audio and video files. Components are combined using authoring software into a working interactive project.

**ITEC 720 Fieldwork in Educational Technology (Units: 3-5)**
Prerequisites: At least 12 units in Instructional Technology including ITEC 801, and consent of instructor.

Students work in educational and business settings to select, design, create, and/or evaluate instructional materials and procedures.

**ITEC 740 Computer Design of Instructional Graphics I (Units: 3)**
Prerequisite: Demonstration of computer literacy.

Theories of visual communication and graphic design as the foundation for development of instructional computer graphics using industry standard graphic software applications. Image manipulation and typography skills support projects for computer presentations multimedia, Web and print.

**ITEC 745 Instructional Web Authoring I (Units: 3)**
Prerequisite: ITEC 715 or ITEC 740.

ITEC 770 Instructional Videography I (Units: 3)
Prerequisite: Graduate standing or consent of instructor.

Introduction to the design and production of instructional videos. Develop and produce video projects. Acquire technical competence in visualizing, scripting, aesthetics, shooting, editing, and field testing. May be repeated once for credit with instructor's permission.

ITEC 800 Theoretical Foundations of Instructional Technologies (Units: 3)
Prerequisite: Graduate standing or consent of instructor. Cannot be taken concurrently with ITEC 700.

Conceptual orientations to the theoretical structures that form the foundation of instructional systems message design: learning theories, instructional psychology, and instructional systems theory.

ITEC 801 Instructional Systems Design (Units: 3)
Prerequisite: ITEC 800.

Acquisition of competency in the design and development of instruction under the principles of cognitivism and instructional systems and its most crucial design aspects: needs and task analysis, learning strategies sequencing and formative evaluation. Should be taken after completion of ITEC 800.

ITEC 805 Contemporary Developments in Instructional Technologies (Units: 3)
Prerequisites: ITEC 800 and ITEC 801.

Topic to be specified in Class Schedule. New theoretical and technological developments as they affect the field. May be repeated when topics vary.

ITEC 815 Integration of Instructional Computing (Units: 3)
Prerequisite: ITEC 715 or equivalent.

Integration of computing into instruction and utilization of a variety of hardware, systems, and peripherals in classrooms. Development of integration projects, including desktop publishing and video, the web, and multimedia.

ITEC 816 Computer Resource Specialist (Units: 3)
Prerequisite: Graduate standing or consent of instructor.

Design, develop, and present professional development workshops and technology training. Use best practices and current resources to establish teams for technology planning and develop effective leadership skills, change management plan and grant proposals for your school or non-profit organization.

ITEC 818 Digital Game Play Design for Learning (Units: 3)
Prerequisite: Graduate standing.

Examination of game design theories, learning theories, and instructional design models. Survey of game design fundamentals and game play elements. Developing a game prototype by application theories and models. Introduction to and hands on practice with a game design engine.

ITEC 819 Mobile Application Design and Development (Units: 3)
Prerequisite: Graduate standing or consent of instructor.

Understanding the process of analytical reasoning and problem solving ability in designing a mobile application. Developing an understanding of computational thinking. Designing android mobile application for addressing the needs for assistive technology, integrating GIS capabilities, and students' assessment.

ITEC 823 Instructional Multimedia Tools: Flash I (Units: 3)
Prerequisite: Graduate standing or consent of instructor.

Multimedia skills through experience with hardware and software tools for the production of instructional multimedia. Development of competence at storyboarding, authoring, graphics, digital sound, animation, movie editing in the context of applying interactive principles which promote learning.

ITEC 825 Formative Evaluation and Usability Testing (Units: 3)
Prerequisites: ITEC 800 and ITEC 801.

Formative evaluation as an integral part of the professional practice of implementing instructional design projects. Identification and correction of problems in the usability of instructional media.

ITEC 830 Design of Learning Environments with Emerging Technologies (Units: 3)
Prerequisites: ITEC 800, ITEC 801 or consent of instructor.

Provide instructional designers with knowledge in learning theories and skills in designing personal learning environment (PLE) with emerging technologies. Exploration of new learning paradigms for 21st Century learners, educational value of emerging technologies, and interface design.

ITEC 833 Instructional Products Design Studio (Units: 3)
Prerequisites: ITEC 800 and ITEC 801.

New digital technologies and equipment in a studio environment; focus on conceptualization, design, and development of an instructional prototype; creating an appealing and effective product for today's classroom or corporate training room.

ITEC 835 Instructional Multimedia Tools: FLASH II (Units: 3)
Prerequisite: ITEC 823.

Advanced design and development techniques for Flash. Project-based learning and use of advanced authoring techniques in Flash.

ITEC 840 Computer Design of Instructional Graphics II (Units: 3)
Prerequisite: Demonstration of computer literacy.

Instruction in the creation of computer-generated graphics, typography, and principles of graphic design for instructions. Focus on how to influence learner perceptions while creating a variety of instructional graphics using industry-standard Adobe software.

ITEC 842 Cognition, Mind, and Learning for Educators (Units: 3)
Prerequisite: Graduate standing or consent of instructor.

Recent developments in cognition, learning, and instruction for educators; perspectives of behaviorism, developmentalism, socio-historical constructivism, cognitive science, metacognition, situated cognition, learning transfer, transformational learning, multiple intelligences, and cultural influences on cognition.

ITEC 845 Instructional Internet Authoring II (Units: 3)
Prerequisite: ITEC 745.

Design and development of Internet sites with platform neutral programs. Creation, maintenance, and updating of Web and Internet sites; server configuration and maintenance, shocked movies, and streaming video and audio.
ITEC 850 Design and Management of Training Projects (Units: 3)
Prerequisites: ITEC 800 and ITEC 801.

Project design and management in the context of instructional systems design, as applied to developing and implementing major training projects in corporate settings: program development, supervision, group processes, staff and client relations.

ITEC 852 Instructional Technologies in Organizations (Units: 3)
Prerequisites: ITEC 800 and ITEC 801.

Performance technology as a means of improving employee performance (TQM, reengineering, and the “learning organization”) and the use of training technologies in the context of organizational development: presentations by managers of training departments.

ITEC 854 Design of Print Instructional Materials (Units: 3)
Prerequisite: ITEC 801.

Design and production of instructional print materials for training and educational purposes, using a variety of applications: word processing, page layout, and slide presentation.

ITEC 860 Distance Education (Units: 3)
Prerequisite: ITEC 801.

Understanding of distance education development and delivery. Exploration of the complexities of designing instruction in various distance contexts (corporate training, education, etc.) and application of these concepts in a real context through online facilitation and a major design project.

ITEC 865 E-Learning Design and Development (Units: 3)
Prerequisite: ITEC 801.

Understanding instructional design and development processes in the production of e-learning for education, business, and community settings. Application of current e-learning design concepts in a major design and development project using creating simulation, game-based, or goal-based-scenario instructional approaches using emerging technologies.

ITEC 894 Creative Work (Units: 3)
Prerequisites: Consent of instructor and graduate major adviser; approval of Advancement to Candidacy (ATC) and Culminating Experience (CE) forms by Graduate Studies. ATC and Proposal for Culminating Experience Requirement forms must be approved by Graduate Studies before enrollment.

Students design, develop, and produce an instructional product or work. A CD-ROM which contains the instructional product and the design documents must be provided. (CR/NC grading only)

ITEC 895 Field Study (Units: 3)
Prerequisites: Consent of instructor and approval of Advancement to Candidacy (ATC) and Culminating Experience (CE) forms by Graduate Studies. Students design, produce, and field test an instructional unit, using the instructional systems approach. The design process must be documented in a narrative case study. ATC and Proposal for Culminating Experience Requirement forms must be approved by Graduate Studies before registration. Enrollment arranged through College of Education Graduate Office. (CR/NC grading only)

ITEC 899 Independent Study In Instructional Technologies (Units: 1-3)
Prerequisites: ITEC 800 and ITEC 801. Enrollment by petition approved by the instructor, adviser, and department chair.

Development of an instructional unit or field internship under direction of a member of the department.