

# EDET: EDUCATION IN EMERGING TECH (GRADUATE)

## **EDET 6005 Learning with Emerging Technologies: Theory & Practice (3 Credits)**

In this course students examine research, theory, and practice of using technologies for improving teaching, learning, and communications in varied settings, including K-12, higher education, public and private organizations and communities. Students experience and explore how technology can help support social, emotional and motivational learning. This course immerses students in different digital communities and virtual environments and asks them to analyze and apply current technologies to their own personal or professional settings. (Occasional synchronous meetings.)

Cross-listed with LACS 6006.

## **EDET 6010 Media Literacies in Emerging Technologies (3 Credits)**

This course is designed to explore emerging technologies and implications of new media and new literacies in social, political, economic and personal spheres. Students will investigate theories and research related to meaning-making in and around the contexts of contemporary social media. In addition, students will work collaboratively and collectively to build their knowledge in how these media are created, used, interpreted and re-used by themselves and others. They will explore how affinities for these media enable us to think differently about what it means to read, write, listen, speak, view and participate in often overlapping, and at times juxtaposed, communities of practice using emerging technologies. This course will explore the impact new media and the resulting new literacies have on membership in emerging communities of practice. This course was previously EDU-681129.

## **EDET 6015 Instructional Design for Online Learning Environments (3 Credits)**

The collaborative potential of online tools requires instructors to consider shifts in their pedagogy - to more mindfully plan, facilitate and guide. This represents a change in the roles and relationships between teachers and learners, and requires more attention to the instructional design and interactive communicative strategies of virtual learning experiences. In this course, students are introduced to instructional and digital design principles in order to apply them in a project that can be used as a component for their advanced design portfolios, or final capstone projects. Consideration is given to effective visual communication in digital environments. The course explores stages of the instructional systems design (ISD) process, and strategies for designing and developing multimedia instructional materials. An important aspect of online instructional design is understanding and responding to the context in which instructional materials will be delivered, and the needs, expectations and capacities of the participants. Students will explain their thinking during the creation of a project and demonstrate their understanding of these expectations. This is a required course for the Teaching and Learning with Emerging Technologies advanced certificate. This course was previously EDU-681103.

## **EDET 6020 Issues and Ethics in the Digital Age (3 Credits)**

In this course students will explore major issues related to knowledge production and learning in our digital age. Students will be introduced to pressing issues in the use of technology in various learning environments, and reflect on the assumptions we make about knowledge, creativity, and social dynamics based on our choices. Any one of the topics raised is suitable for more in-depth study as an elective. Topics will include: privacy and security, intellectual property rights, the nature of creative commons, access and equity, ethics and legal challenges, digital democracy. Students will consider these concerns as they move into discussions on future trends by reading a variety of current reports, such as: MIT's Technology Review, and the New Media Consortium Educause's annual Horizon Report. This course was previously EDU 681102.

## **EDET 6025 Assessing Learning in Digital Environments (3 Credits)**

Designing, developing, and learning within digital environments presents new challenges to our understanding of knowledge and skills; to the assessment of learning; and to understanding what constitutes effective participation in such environments. Using both collaborative and independent work, within this course, students will study the literature on digital environment evaluation and will seek to explore and define models of interactions and their assessment that can provide direction, support, and insight to designers and instructors of digital environments. Upon studying the rich, diverse, and novel ways in which humans can learn in these environments and the many emerging tools to assess learning, students will consider ways to value, document, capture, analyze, and evaluate the complex formal and informal ways that learners are making meaning within technology-mediated learning-and-communications environments. This course was previously EDU-681104.

## **EDET 6027 Immersion: Virtual, Augmented, & 360 Realities (3 Credits)**

Virtual and augmented realities (VR/AR) and work with 360 cameras are bringing new promise to education, organization and communication venues, industry, particularly retail and tourism, and to museum exhibitions. In this course, students will study and situate this fast-evolving field, developing a basic VR, AR or 360 application thereby giving a perspective on the current state-of-the-art in application development. Students will also research and document ways that immersive virtual and augmented reality and real-world technologies can affect cognition and behavior, considering how these realities could be integrated into a field of professional interest. Occasional synchronous online meetings will be held. No prior knowledge of VR, AR, or 360 technologies is necessary, however, students must have a willingness to work with and explore emerging technologies. This is an 8-week offering.

## **EDET 6030 Advanced Design Seminar: Portfolio Project (3 Credits)**

In this final core course students will continue to deepen their knowledge of theories and practices pertaining to instructional design and emerging technologies. Students will create a body of work that reflects the ability to integrate theory and skills of design and development, learning principles, and assessment methods. This knowledge and skill will be demonstrated in the creation of a comprehensive multimedia project for their ePortfolio or their professional work environment. This project should demonstrate the student's growth as a specialist in emerging technologies as well as incorporate their own past skills, knowledge, and/or interests on their chosen topic. Personal reflection will be used to self-evaluate one's own evidence of learning and to make deeper connections between the concepts learned in the other courses. This course was previously EDU-681105.

**EDET 6035 Advanced Instructional Design with Multimedia (3 Credits)**

This course focuses on the advanced instructional design techniques and related practices necessary to complete an independent online project in collaboration with a subject-matter-expert. The course will also consider approaches to organizing, scaling and administering instructional design with content developers. The culminating project will demonstrate capacities to work with a subject-matter-expert and to provide potential learners with a collaborative learning environment. Instructional design, project planning, accessibility and universal design principles will be covered and applied in the development of a pilot version of the project. In addition, the project will be contextualized within a larger environment of managing multiple instructional design projects. For students without a connection to a subject-matter-expert, opportunities will be provided for projects. This course was previously EDU 681128.

**EDET 6040 Performance Theory (3 Credits)**

This study begins from the premise that theory is practice and practice is theory. During the course of the term students will critically think about performance, and make performance in their own contexts. This course engages performance as an object of study, a method of research, and a theoretical paradigm in a range of interdisciplinary contexts with a focus that returns to theatre and media studies. This study is structured in a way that allows students and faculty to connect with each other and the material through readings, discussions, and performance attendance/viewings and critique. We will examine an array of performance theorists, artists, artist/theorists, and theorist/artists in order to practice performance as a way of thinking about the complexities of the world(s) we live in. This course is required for the Advanced Certificate in Emerging Media and Technology for the Arts. This course was previously EDU-681114.

**EDET 6045 Digital Games Simulations & Learning (3 Credits)**

Games, simulations, game elements and playful learning provide different ways to think about how, when and what we learn. Students will explore the research and theory in game and simulation based learning as well as the related fields of game design, psychology, instructional design and education. This will include the analysis and evaluation of when games and simulations are most effective for learning and the associated recommended supportive practices. The theory and practice of game design will be introduced and applied in the development and creation of digital game and simulation prototypes for instruction and learning. Students will have the opportunity to pursue individual areas of interest in digital game or simulation development. This course was previously EDU-681109.

**EDET 6050 Digital Identity & Virtual Communities (3 Credits)**

We are increasingly engaged as actors within digital spaces governing critical aspects of our 'physical' lives: our learning, labor, finances, legal transactions, confidential health records, social spheres and the locus of our participation in civil society. We interact within virtual communities, both local and global, many of which are regulated by private corporations rather than through democratic processes. These phenomena raise questions of agency, autonomy, ethical considerations, privacy, security and data protection. Students will examine what constitutes digital identity and virtual communities, and how they blur boundaries between private, public, and personal spheres. They will analyze issues related to digital identity management, such as engaging multiple representations of the self, the ethics and implications of being active in digital social media, and the establishment of telepresence. Readings and research for the course will include historical and current developments in regulatory environments, legislation and policies related to digital identity and virtual communities. Learning activities will include a phenomenological analysis of identity development in virtual worlds, immersive role play, a comparative analysis of two personal digital identities, participant/observation in a virtual community, 'live' roundtable discussions in virtual worlds, and final project that may be creative, a case study, analytical, or research focused. Students will be expected to meet in real-time in virtual worlds such as Second Life. This course was previously EDU-681122.

**EDET 6055 Digital Media Arts & Technologies (3 Credits)**

This interdisciplinary project-based course applies theoretical learning in digital media arts and technologies to individualized projects that incorporate at least one arts-based technology. Students will have the opportunity to develop their unique aesthetic vision and technical expertise while experimenting with new forms, within the framework of arts-based learning and research. They will design, implement, build, install, program and/or perform for an audience/viewer/learner within the context of their choice, whether this is within mixed media installations, virtual worlds, a live simulcast, or other digital distribution systems. The primary course project will be threaded throughout the course, including processes such as a proposal, storyboard, script, rough cut/dry run, and refined project. The course will include a critical analysis of aesthetic, ethical, social and professional considerations. Students will be expected to use social media, web 2.0 tools, and emerging media environments for course communications and research. This course is required for the Advanced Certificate in Emerging Media and Technology for the Arts. This course was previously EDU-681115.

**EDET 6060 Digital Tools for Education & Training (3 Credits)**

Educators and training Professionals have access to an overwhelming number of technologies that offer powerful capabilities for creating high-quality digital learning tools. This course will examine and identify effective digital tools to impact participant engagement, meaning-making and improve learner outcomes for individuals with different backgrounds, learning styles, abilities, and disabilities in widely varied learning context. The experience will be hands-on and might include areas such as improving presentations and instructional materials, simplifying record-keeping, performing data analysis and graphic presentation, creating digital stories, use of communications and presentation technology in the classroom or training environment. In addition, digital tools and strategies selected will be assessed in relation to their alignment with standards for teachers and trainers. The students will research, evaluate and analyze digital tools, internet based applications, social media, mobile applications and other technologies that may be adopted for teaching and learning with diverse groups of learners in face-to-face, blended or online learning environments. Students prepare independent projects and share research. This course was previously EDU-681120.

**EDET 6065 Emerging Media & the Arts: Theory & Practice (3 Credits)**

This course builds on experience in digital media, human interaction, interface design, learning design, performance theory and practice, or any creative process or expression medium. The course explores ways in which digital media alter the potential of human interaction, learning and performance, from virtual immersion, gaming, to stage design and collaborative improvisation. It draws on theories of communication and mutual engagement from performance studies, some psychology, educational theories and applies them to the analysis of interaction in varying contexts. A core intellectual concern is the nature of human engagement – in all its forms – and the use of technology as a means of enriching or enhancing it. The course has multiple strands. One is for arts students who wish to gain additional skills in computer mediated communication, interaction design, media and electronic arts and associated technologies. The other is for technically literate students who wish to be trained in performance theory and practice. The other is for the educator exploring the potential of learning in digital immersive technologies. The course draws upon multimedia systems and interaction design, performance theory and performance practice, learning theory and technology. Group and collaborative projects will use various software applications, with a focus on ISADORA programming and will typically involve the construction of a performance/learning environment. This course was previously EDU-681112.

**EDET 6070 Innovation: Meeting the Challenges of Organization or Systems Integration (3 Credits)**

Despite the need for the adoption of technology interventions in our expanding and global networks, the integration of technology innovations can be a challenge for both those who create the innovations and the organization or systems that could possibly benefit from the adoption. Within this course, students will begin with the study of large-scale, documented organizational and institutional responses to innovation and change and then they will research responses to change within the specific organization for which they have a professional interest. This study will lead to students' designing and testing an approach to help them gain the entrance and acceptance of an innovation within the environment of their particular interest (Occasional synchronous meetings). This course was previously EDU-681117.

**EDET 6075 Accessible Design and Assistive Technologies (3 Credits)**

This course is an introduction to the study of Assistive Technology. Students will examine the use of Assistive Technology as it relates to education, communication, vocation, recreation, and mobility for individuals with disabilities. Students will investigate types of assistive technologies, functional assessments, resources, ADA compliance, legal issues, and school and workplace responsibilities. Students will discover the latest technologies to help individuals who struggle with communication, literacy, and learning. The course will feature tools that improve and compensate for challenges relating to speaking, understanding, reading, writing, and thinking and remembering, as well as an examination of strategies to help individuals become more organized and efficient. It will present an overview of the uses of technologies to help students explore specific resources they can use to enhance success in the classroom or workplace. The use of tablets and cloud-based products will be highlighted. Online resources and social networking tools are presented to enable students to learn about innovative products as they become available. Students complete a research project demonstrating their understanding of assistive technology.

**EDET 6080 Evaluation Assessment and Data Driven Learning Design (3 Credits)**

Due to shifting and emerging professional standards, educators and administrators will need to use tools that will better allow them to gauge the effectiveness of instruction at the student, course, program and institutional level. This often requires the use of data collection or mathematical models and measures to assess effectiveness an educational activities. This course will address the tools instructors and educational assessment professionals use to assess learning, processes for evaluating educational programs, and resources to help make data driven educational decisions with particular emphasis on technology mediated learning environments and tools. This course will also provide an overview the 'big data' driven field of learning analytics and how this may shape the field of educational assessment. This course was previously EDU-681110.

**EDET 6085 Field Research in STEM Education (3 Credits)**

In this study, students will become familiar with scientific and field research, as well as interdisciplinary collaboration in STEM disciplines. They will participate in the generation of new ideas and information through field data analysis. In addition to the field work, students will continue to connect with workshops presented by visiting scientists, shared field experiences, scientific presentations and diverse workshops that focus on environmental themes, like sustainability. Through discussions, students will cover basic field safety procedures, the scientific method, applied statistics, geology of the area and evolutionary biology. These discussions will help to provide the theoretical framework for conducting fieldwork. Technology instrumentation for field studies and STEM curriculum development will also be explored expanded from graduate students. The study is co-taught by three instructors: Kevin Woo (Metropolitan New York), Audeliz Matias (Center for Distance Learning) and Nathan Whitley-Grassi (School for Graduate Studies, MALET program & Niagara Frontier). Students will work online with faculty, before and after the onsite meeting. This course was previously EDU-681123.

**EDET 6095 Practicum-Virtual Worlds I: Learn Create Plan (3 Credits)**

This course provides participants with opportunities to understand the breath, depth, and applications now available for virtual environments, studying work being done by others and by organizations that are providing software and support to virtual developers. With explicit guidance by tutorials within the course, participants will also develop their own virtual environments using materials of their own creation and materials gathered from the work of other virtual developers (many now available at no cost). Participants will articulate a design framework for the work that they are creating and will consider the activities, curricula, and evaluations, that could suit the purposes for their intended audiences. At the conclusion of the course, participants will determine what they would need to create a pilot of their environment and will consider how they might continue and extend the development work that began within this course.

**EDET 6100 Practicum-Virtual Worlds II: Extend Share Pilot (3 Credits)**

In this second virtual-development course, participants have opportunities either to extend the work begun earlier or grow in a new direction. Participants also pursue an "outward bound" effort, either disseminating their emerging virtual understanding or reaching out to virtual-reality developers communities. As agreed upon with the instructor, participants extend their virtual work to suit their particular interests, for instance: extending their virtual platform, exploring ways to develop and import other three dimensional objects, designing interactive scripts or pursuing advanced topics. Participants will be encouraged to pilot their emerging island with other visitors, possibly seeking Institutional Review Board approval should the intent be to publish such work. Academic papers developed will address theoretical aspects of design, curriculum, and/or evaluation as appropriate to the participant's need. Later course work will be adapted by the instructor to the academic and development needs of the individual participant.

**EDET 6125 Developing an Integrated Immersive STEM Learning Environment (3 Credits)**

In a STEM or STEAM (science, technology, engineering, mathematics, possibly enhanced with an arts perspective) learning environment, within an area of your selection (approved by the instructor), you develop a focused learning environment and supportive technologies on a deep level, delineating a cohesive extended project, educational outreach, or professional-development framework and articulating an education and assessment plan. You will enhance your work by preparing for, and possibly even implementing, partnerships and/or grants related to your efforts. You must have a laptop or desktop computer, a Webcam, and a good Internet connection. Three online synchronous meetings are conducted at pre-announced times throughout the semester. (Required for the advanced certificate in STEM Education and Emerging Technologies.)

**EDET 6130 Facilitating Learning with Emerging Technologies in Blended & Online Environments (3 Credits)**

Students will consider facilitation and teaching approaches that enhance participant learning, engagement, collaboration and success. The seminar will involve engagement in related theory and practice of teaching in online and blended environments. Topics will include new literacies and digital epistemologies, rethinking teaching pedagogy, mediating the co-creation of knowledge within networks, and accessing and creating digital resources. Participants will develop, demonstrate and evaluate learning activities individually and in teams. Topics will include areas such as the use of games, social media in teaching, badging, and critical literacies for all generations of learners. This course is required for the Teaching and Learning with Emerging Technologies Advanced Certificate.

**EDET 6135 Practicum in Learning & Emerging Technology (3 Credits)**

Advisors and students may arrange a practicum at Empire State College or another site of practice. The practicum requires at least 100 hours of applied work. Practicums may be arranged in instructional technology, educational technology, online teaching assistantships, educational technology management or other related areas. Supervisors and instructors to be determined based on intern's learning needs. Practicums should be arranged at least one term in advance. This course was previously EDU-681126.

**EDET 6140 Socially Networked Learning: Understanding Designing Evaluating (3 Credits)**

The rapid advances in communication and learning technologies have opened new arenas for educators and communicators, however, a conceptual framework about the value and design of these new and rich types of interaction needs to be developed. Plus, for effective educational uses, one needs to assess what happens to the learners and learning and to evaluate the overall productivity of the socially networked environment itself. In this course, participants will study the research about various aspects of these emerging social networks, considering the sociology and the psychology of the individuals and interactions. Working then with their own needs, they will frame and design a social network to meet a learning or communication goal for their students or clientele, developing an implementation, assessment and evaluation plan and articulating a theoretical/conceptual framework to validate their design. (Participants can also choose to work on a project with the instructor.) Two synchronous meetings.

**EDET 6150 STEM Tools Devices & Simulations (3 Credits)**

STEM approaches (science, technology, engineering, mathematics), possibly expanded to include arts (STEAM), create problem-solving environments that are often cross-disciplinary, where technology tools can support, share and accelerate learning and where the arts can add to creativity and innovation. Application areas can range from K12, to higher education, to corporate, to healthcare. Students start by over-viewing a variety of STEM / STEAM approaches, tools and projects in multiple disciplines. Then selecting several tools relevant to their learner or client needs, they will design an environment that employs the relevant STEM or STEAM tools and that articulates the conceptual, educational, design, and assessment principles employed. Students must have a laptop or desktop computer, a Webcam, and a good Internet connection. Three online synchronous meetings are conducted at pre-announced times; for tools that are not web-based applicants must supply their own devices. (Required for the advanced certificate in STEM Education and Emerging Technologies.)

**EDET 6996 Special Topics in EDET (4 Credits)**

The content of this course will vary by term and section. Students may repeat this course for credit as long as the topic differs. Please refer to the Term Guide for course topic offerings.

**EDET 6997 Special Topics in EDET (3 Credits)**

The content of this course will vary by term and section. Students may repeat this course for credit as long as the topic differs. Please refer to the Term Guide for course topic offerings.

**EDET 6998 Individualized Studies in Education in Emerging Technologies (EDET) (1-8 Credits)**

Students have the opportunity to develop individualized studies with their mentor/advisor in Education in Emerging Technologies (EDET). Registration for this class must be approved by the student's mentor.

**EDET 7020 Capstone Project (3 Credits)**

Students who choose the 30-credit Professional focus will complete a capstone project. The capstone allows students to design a specific project, a small program, or a creative endeavor that would meet a clear need in their educational, community, or work environments. Capstone projects must be completed and demonstrated using the instructor-approved student's choice of online or emerging technology(ies), and must have a well-articulated statement of need, rationale, literature review and project design strategies (including a description of formative and summative evaluation techniques to be employed). Upon completion, the Capstone documentation must include a written and video reflective statement on the design process and on the results of evaluation components. Capstone projects may be made accessible through the MALET program's Resource Repository, at the student's discretion, for the benefit of future students, thereby advancing knowledge in the field. Using a Creative Commons license is suggested. At the conclusion of their capstone, students present their projects at the MALET Virtual Showcase. This course is typically offered in the spring and fall. Prerequisites: EDET 6005, EDET 6010, EDET 6015, EDET 6020, and EDET 6025.

**EDET 7998 Individualized Studies in Education in Emerging Technologies (EDET) (1-8 Credits)**

Students have the opportunity to develop individualized studies with their mentor/advisor in Education in Emerging Technologies (EDET). Registration for this class must be approved by the student's mentor.