EDUCATIONAL TECHNOLOGY

Professional Studies Building, Room 209
201-200-3078
http://www.njcu.edu/department/educational-technology (http://www.njcu.edu/department/educational-technology/)

Mission Statement: Empower diverse learners to become educational technologists who develop their expertise to help others become empowered digital citizens in this evolving global environment.

Why do some technologies succeed and others fail in classrooms? What are the educational applications and policy consideration of wearable technologies, robotics, and virtual reality? What is the role of technology in international education? Addressing issues like these is the principal work of the faculty and students in the Educational Technology Master's and Doctoral programs at New Jersey City University. The purpose of the programs is to develop educators and leaders with a vision for technology in a broad spectrum of contexts. Our students work in school districts, colleges, and the private and nonprofit sector in New Jersey and around the world.

The Masters of Arts degree program in Educational Technology and the Master of Arts degree program in Educational Technology with a Specialization in School Library Media both focus on developing expertise in teaching with technology for classroom, media center, school, and district improvement. They are designed to meet the needs of educators who want to apply technology to the learning process and for individuals wishing to develop leadership skills as site-based technology coordinators. The degree is intended to develop a broad range of technological expertise while at the same time focusing clearly on the new way that technology is changing how students and educators create and understand knowledge. Students in the program learn the new role of information, not as isolated facts but as building blocks to develop cognitive skills. The program is designed for beginners with little or no background in computing as well as for experienced technology users. All courses are offered completely online and feature a highly interactive and collaborative learning community. The online Master's degree programs in the department of Educational technology are highly regarded and ranked in the field for their effective teaching, extensive faculty/student collaboration, and practical application to the real world.

The Ed.D. in Educational Technology Leadership is a three-year doctoral program where students work online for three semesters per year (Summer II, Fall, and Spring), and come to NJCU for a one-week Summer Institute. During the Summer Institute, candidates are on the NJCU campus attending classes and guest lectures, collaborating with faculty and each other, and participating in field visits with organizations such as the Liberty Science Center and the Museum of the Moving Image. The program is unique in that it looks at educational technology in higher education, K-12 environments, and the private sector. The 60-credit program is demanding, but the community likes to refer to it as 'hard fun'.

The STEM Certificate is an online, four-course program that provides K-12 educators in all disciplines including the arts and humanities, school leaders and librarians, with both the foundational STEM pedagogy, and the hands-on experience to be successful integrating STEM in their classrooms and schools. Students may complete the program within the Master's degrees with no additional coursework.

The 15-credit Assistive Technology Certificate is designed to provide training for those who work with persons with disabilities who use assistive technology. This certification has a cross-disability perspective, and each course focuses on persons with cognitive, sensory, and physical disabilities. The program is project-based and the practicum provides a capstone experience.

Laura Zieger, Chairperson
Professor of Educational Technology
Montclair State University, B.A., M.A., Pepperdine University, Ed.D.

Tracy Amerman
Professor of Educational Technology
Montclair State University, B.S., M.A.; Rutgers University, Ed.D.

Christopher Carnahan (ccarnahan@njcu.edu)
Associate Professor of Educational Technology
Indiana University of Pennsylvania, B.S., M.A., Ph.D.

Christopher Shamburg (cshamburg@njcu.edu)
Professor of Educational Technology
Rutgers University, B.A., M.A.; Teachers College, Columbia University, Ed.D.

Various discipline-specific concentrations that will prepare students for multiple fields of employment or areas of additional graduate study are noted below. Course requirements for each concentration are explained in detail. The requirements for graduation, in addition to completion of the major area, are listed on "Completing a Graduate Program (https://catalog.njcu.edu/graduate/academic-requirements-policies-procedures/)."

- Educational Technology Leadership, Ed.D. (https://catalog.njcu.edu/graduate/education/educational-technology/educational-technology-leadership-edd/)
- Educational Technology, M.A. (https://catalog.njcu.edu/graduate/education/educational-technology/educational-technology-ma/)
- Educational Technology with a Concentration in School Library Media Specialist, M.A. (https://catalog.njcu.edu/graduate/education/educational-technology/educational-technology-school-library-media-specialist-concentration-ma/)
- Associate School Library Media, Specialist Certification (https://catalog.njcu.edu/graduate/education/educational-technology/associate-school-library-media-specialist-certification-asmla/)
- Assistive Technology, Specialist Certificate (https://catalog.njcu.edu/graduate/education/educational-technology/assistive-technology-specialist-certificate/)
- STEM Certificate (https://catalog.njcu.edu/graduate/education/educational-technology/stem-certification/)

Education Technology (EDTC)

EDTC 612 Technology in the Math Science Curriculum (3 Credits)
This course focuses on the use of math/ science technology to find new ways to provide mathematics and science instruction. The goal is to develop candidates who know how to access and integrate resources to maintain state-of-the-art technological literacy. Each candidate will design instructional projects as part of this class.

EDTC 614 Introduction to Distance Learning (3 Credits)
This course provides knowledge of emerging distance learning systems. Candidates learn to enhance online learning instruction by using various methodologies. The goal is to develop candidates who know how to access resources to maintain state-of-the-art technological literacy. Each candidate will design an instructional project as part of this class.

EDTC 615 Technology In Social Studies Curriculum. (3 Credits)
This course explores the use of technology within the social studies curriculum. Candidates are asked to work with a broad range of technology. Also explored is the extent to which technology has brought a diversity of materials leading to changes in styles and content both in teaching and learning. Using existing standards, candidates are asked to analyze these standards with respect to new technologies.

EDTC 616 Technology In Special Education Curriculum (3 Credits)
This course assists candidates in understanding the roles of technology and contemporary learning theories as they relate to the education of students with disabilities. Inclusive practices and assistive technology are examined. The goal is to develop candidates who know how to access and integrate resources to maintain state-of-the-art technological literacy. Each candidate will design an instructional project as part of this class.

EDTC 617 Publishing on the Web: Design, Theory, and Applications (3 Credits)
This course focuses on emerging technologies as well as the theory of online information presentation and design. The goal is to develop candidates who know how to access and integrate resources to maintain state-of-the art technological literacy. Each candidate will design an instructional project as part of this class.
Pre-Requisite(s): EDTC 621 Using The Internet In Education

EDTC 618 Learning Theories, Motivation, & Relationship to Technology (3 Credits)
The principal theories of human learning are surveyed including behaviorism, cognitive information processing, and constructivism. Additional theories which have been shown to affect learning are examined, including motivational, developmental, biological, sociological, and physiological factors. Special emphasis is given to alternative educational approaches, methods, strategies, and technologies that increase instructional effectiveness.

EDTC 619 Advanced Authoring Tools (3 Credits)
This course examines a variety of technologies to create dynamic multimedia content. The goal is to develop candidates who know how to access and integrate resources to maintain state-of-the-art technological literacy. Each candidate will design an instructional project and a portfolio as part of this class.
Pre-Requisite(s): EDTC 642 Introduction to Authoring Tools

EDTC 620 Special Topics in Educational Technology (3 Credits)
This course examines current issues and topics in educational technology. Since the field of educational technology is ever changing, topics vary.

EDTC 621 Leading Curriculum Change Using the Internet (3 Credits)
This course develops students' capacity to create and lead school-wide STEM efforts to foster student success using internet-based tools and applications. Students will learn and practice strategies for using the internet to analyze data, determine learner needs, and generate curriculum and policies to support faculty and learner success.

EDTC 622 Research Applications in Educational Technology I (3 Credits)
(Fall only) This course provides an in-depth treatment of the research and evaluation process including design, measurement, and statistical analysis. The course emphasizes the interpretation, synthesis, evaluation, and analysis of research in the area of educational technology. During this course, candidates write their proposals for a thesis or project which is completed in EDTC 628 Research Applications in Educational Technology II.
Pre-Requisite(s): Minimum of 24 EDTC graduate credits, including EDTC 618 or EDU 628 and EDTC 631.

EDTC 623 Introductuction to Educational Technology (3 Credits)
This course provides background knowledge of basic educational technologies with particular emphasis on the applications of instructional technology in the K-12 curriculum. Candidates explore the history and direction of instructional technologies, the ethical and social issues, the importance of media literacy, as well as new forms of assignments and assessments with the new technologies.

EDTC 624 Technology in the English/Language Arts Curriculum (3 Credits)
This course focuses on creative writing, reading, literacy education, and the new forms of creative expression as they relate to educational technology. The goal is to develop candidates who know how to access and integrate resources to maintain state-of-the-art technological literacy. Each candidate will design an instructional project as part of this class.

EDTC 625 Integrating STEM Across the Curriculum (3 Credits)
Students will learn how to apply a variety of technologies in systemic approaches to STEM curriculum design and implementation. They explore leadership and supervisory approaches to the redesign of instruction through emerging and online technologies in alignment to standards that address technology integration and professional development.

EDTC 626 Technology in the Art/Music Curriculum (3 Credits)
This course focuses on the use of graphic design to find new ways of providing art and music instruction. The goal is to develop candidates who know how to access and integrate resources to maintain state-of-the-art technological literacy. Each candidate will design an instructional project as part of this class.

EDTC 627 Seminar: Current Issues and Trends in Educational Technology (3 Credits)
This course is designed to explore the latest trends and research in curriculum and technology integration and explore how these trends affect instructional settings. Candidates provide evidence of their knowledge and expertise through the creation of an electronic portfolio.

EDTC 628 Research Applications in Educational technology II (3 Credits)
(Spring only) This course is the capstone of the program. The purpose of this course is to integrate the candidate's program of study into a practical manifestation of educational change and technology innovation. Each candidate, working closely with an advisor, completes the thesis or project in this course.
Pre-Requisite(s): EDTC 622 Research Applications in Educational Technology I

EDTC 629 Graphicsand Gaphic Design in Education (3 Credits)
This course provides a conceptual bridge between language arts and visual arts. It examines the history, creative strategy, and art of written language and typography, with special emphasis on the technologies of language. During the semester students examine the genesis of the visual form of language, the material constraints on visual form, and its ability to communicate both cultural value and information. Reading, discussions, and hands-on design projects expose students to current topics of this changing field. Assignments emphasize the development of aesthetic - or "feel" - for type and the current philosophic discussions concerning the production of meaning through visual form.

EDTC 631 Administration and Supervision of Technology in Educational Settings (3 Credits)
Course prepares candidates to serve as technology facilitators-professionals who promote the development and implementation of technology infrastructure, procedures, policies, plans, and budgets for p-12 schools. An analysis of district-wide and school curriculum needs, state agency mandates and federal imperatives as well as personnel roles and services will be conducted.

EDTC 632 Technology and Methods in the ESL Curriculum (3 Credits)
This course explores the application of technology and teaching methods within the ESL curriculum. The goal is to develop ESL teachers who know how to access and integrate resources to maintain state-of-the-art technological literacy. Each candidate will design an instructional project-based learning activity as part of this class.

EDTC 633 Technology and Methods in the World Languages Curriculum (3 Credits)
This course explores the application of research, technology, and teaching methods within the World Languages curriculum. The goal is to develop world languages teachers who know how to access and integrate resources to maintain state-of-the-art technological literacy. Each candidate will design an instructional project-based learning activity as part of this class.

EDTC 639 Research Applications in Distance Learning (3 Credits)
In this course, candidates focus on educational technology research conducted by teachers around the world and design an online learning experience.
Pre-Requisite(s): EDTC 614, EDTC 622, EDTC 676, EDTC 677, and EDTC 678.

EDTC 642 Curriculum Design: STEM Authoring Tools (3 Credits)
In this course, students will explore a variety of multimedia creation tools. Students will conduct a comprehensive survey of STEM authoring tools and create projects applying design elements. Throughout the course, students will reflect upon the capabilities of STEM authoring tools that are available to instructional multimedia designers.

EDTC 645 STEM Foundations: Rethink Learning (3 Credits)
This integrated, interdisciplinary course challenges students to rethink learning by integrating innovative STEM practices and tools and providing hands-on and relevant learning experiences. Students will engage with comprehensive STEM tools to support pedagogical applications in all areas of the curriculum and in all grade levels.

EDTC 647 Educational Theory and Curriculum Design for the School Library Media Specialist (3 Credits)
Course will provide an overview of the history and philosophy of education as well as the principles and application of curriculim design integration in the P12 classroom. This course provides candidates with the foundation for teaching and learning models both in the classroom and the school library media center.

EDTC 648 Student Learning Development and Behavior Management for the School Library Media Specialist (3 Credits)
Course is designed to help candidates understand the various stages of student development and find ways to create positive learning environments for their students. A variety of theoretical perspectives, enhanced with cases taken from actual classrooms, provides candidates many choices in handling situations that may arise in their libraries.

EDTC 649 Teaching Methodologies for the School Library Specialist (3 Credits)
Course is designed to prepare School Library Media Specialists for their roles as teachers, curriculum developers, and partners with teachers. The focus of this courses is on developing effective methods and the related work of correlating content, standards, and assessment techniques.

EDTC 651 Organization of Library Media Materials (3 Credits)
This course provides an examination of the technical processes (acquisitions, cataloging, processing, and circulation) necessary for the access, organization, and maintenance of media materials in the educational media center and a general conceptual foundation for student-centered information services and instruction in educational media centers. It provides access to all types of resources and equipment by identifying, establishing, and using delivery systems to retrieve information in all formats.

EDTC 652 Computer Hardware/Courseware for the Library Media Center (3 Credits)
This course will provide an entry-level experience for the educational media specialist. The project-based format of the course will allow opportunities for students to gain valuable knowledge in computer hardware and courseware for the Library Media Center.

EDTC 653 Selection and Acquisition of Print and Non-Print Media (3 Credits)
In this course candidates will develop proficiency in the selection, acquisition, and evaluation of print and non-print, technology based materials. This course will include the theory of building a collection, developing selection policies, designing techniques for evaluating materials and collections, and applying a systems approach to media center maintenance and expansion.

EDTC 654 Educational Media Produc Techn (3 Credits)
In this course students design and produce instructional materials, focusing on selecting the appropriate media to meet the instructional objectives. This course integrates technology features with learning theories to provide effective learning environments.

EDTC 655 Internship: School Media Centers (3 Credits)
The internship is undertaken after all of the other School Library Media courses have been completed. Qualified candidates, with the approval of the department chairperson, must apply one semester in advance for placement in a school library media center. The center will provide a practical experience for the candidate to utilize the principles and techniques acquired in the coursework. (This course is taken as the last course in the sequence.)

EDTC 661 Administration and Supervision of Library Media Centers (3 Credits)
This course looks at the management of school library media centers —an analysis of policies and procedures applicable to these centers. The course will develop an understanding of the role, duties, and responsibilities of the professional school library media specialist as well as the role of school library media centers in the educational community. These are examined in light of people, procedures, and media.

EDTC 662 Advanced Field Experience (3 Credits)
Candidates are assigned to work within a school library media center, working under an established administrator in assisting in the managerial and decision-making responsibilities of the position. Through mutual agreement among the candidate, the media center administrator, and the professor, a program of work is designed that integrates the duties and responsibilities of an educational media specialist. A graduate field experience project is required.
Pre-Requisite(s): EDTC 655-Internship School Media Center

EDTC 671 Introduction to Assistive Technology (3 Credits)
This course focuses on how and why assistive technology has become an integral part of the lives of persons with disabilities, especially from the educational standpoint. The history of and the innovations in learning will be examined. Educational terminology and laws such as the ADA and Individuals with Disabilities Act, as well as Individual Educational Plans and the Core Curriculum Content Standards will be connected to the theories and the use of the assistive technology. This course has a cross-disability, project-based focus and candidates leave with projects that can be used in their particular settings.

EDTC 672 Hardware, Software, and Telecommunications AT Devices (3 Credits)
This course is designed to examine a range of educational hardware, software, and telecommunications that assist individuals with disabilities in performing functional tasks and achieving increased independence. A focus will be placed upon the evaluation of specific hardware and software and its effectiveness within the continuum of the disability spectrum. This course will address using computers and software to design effective technology solutions using a client-based needs assessment approach. This course has a cross-disability, project-based focus and candidates leave with projects that can be used in their particular settings.

EDTC 673 The Internet as Assistive Technology (3 Credits)
This course examines the research, theory, resources, and design issues related to the use of the Internet for persons with disabilities. Students will evaluate Internet-based programs and resources and apply design theory for the creation of Internet-based education material for persons with disabilities and will learn current web development tools.

EDTC 674 Assistive Technology Assessment and Evaluation (3 Credits)
This course will provide experience in the assessment and funding of assistive technology. Students will investigate technology options and appropriateness, develop training plans, and identify funding sources.

EDTC 675 Practicum in Assistive Technology (3 Credits)
In this capstone experience, students create a graduate field experience project and assist in the development or delivery of assistive technology services, designed to integrate the duties and responsibilities of an AT specialist.

EDTC 676 Effective Models of E-Learning (3 Credits)
This course focuses on concepts and strategies necessary to step into a leadership role in the integration and application of technology and distance learning. Topics include strategic planning, leadership styles, institutional change process, designing world-class e-learning, and policy issues in distance learning.

EDTC 677 Methods for Building Online Communities (3 Credits)
This course provides a background in theory and practice surrounding online interaction environments. It is concerned with the practical issues of design and use of online tools to support communities. Assignments include weekly readings, design sketches, critiques of existing systems and a final design project.

EDTC 678 Developing and Managing Distance Learning Programs (3 Credits)
This course presents the theory and techniques for developing and managing an online program. It focuses on theory and trends in distance learning, with special emphasis on determining ways to provide a high quality of education in a distance environment.

EDTC 801 Summer Institute in Educational Technology Leadership I (2 Credits)
This course is the initial intensive summer seminar for incoming doctoral cohort candidates. This is a foundation course which outlines the expectations and practices of the program. It also introduces candidates to the program's mission of preparing effective leaders for an interdependent world.

EDTC 802 Principles of Educational Technology Leadership (3 Credits)
This course focuses on concepts and strategies necessary for a leader in a technologically rich learning environment. Topics include strategic planning, leadership styles, institutional change processes, and policy issues in educational technology.

EDTC 803 Data Analysis and Report Writing (3 Credits)
This course will focus on the content and the mechanics of effective data analysis and report writing. Candidates will analyze textual and graphical data from many sources, process data in ways that readers can understand, and generate comprehensive academic and business.

EDTC 804 Global Issues in Educational Technology Leadership (3 Credits)
This course will investigate educational technology through a global perspective. The issues covered will include development strategies, diversity, cultural values, and the systemic role educational technology plays in global economic development. The course will focus on a cross-cultural examination of contemporary academic and workplace skills.
Pre-Requisite(s): EDTC 801, EDTC 802, and EDTC 803

EDTC 805 Cross-Discipline Studies in Technology (3 Credits)
The focus of the course is exploration and evaluation of advanced and emergent technologies and the means by which educational and training leaders learn about them and sustain them in a learning environment. This course assists educational and corporate professionals to develop innovative educational and organization practices across disciplines.
Pre-Requisite(s): EDTC 801, 802, and 803

EDTC 806 Research Methods in Educational Technology Leadership (3 Credits)
With the program's emphasis on the scholarship of teaching and innovative learning experiences, this course is an in-depth treatment of the research process and techniques for planning and designing research projects. Emphasis will be placed on the appropriate choice of methodologies for a variety of problem situations.
Pre-Requisite(s): EDTC 804 and EDTC 805

EDTC 807 Implementation and Evaluation of Curriculum (3 Credits)
This course will provide candidates with a comprehensive understanding of the landscape of implementation and evaluation of educational technology programs. The philosophies, methods, and processes of curriculum design in educational technology will provide the framework for curricular models; resources for decision-making; and evaluation methods for educational and corporate settings.
Pre-Requisite(s): EDTC 804 and EDTC 805

EDTC 808 Summer Institute in Educational Technology Leadership II (2 Credits)
This course is the second five-week intensive summer seminar for Year II doctoral cohort candidates. The course focuses on building the skills, knowledge, understanding and commitment necessary to become effective leaders in a variety of organizational settings.
Pre-Requisite(s): EDTC 806, and EDTC 807

EDTC 809 Assessment and Evaluation (3 Credits)
An introduction to systematic inquiry using assessment methods to understand, evaluate and solve user and organizational needs. Candidates will integrate their knowledge of research methods with real-world challenges of conducting and analyzing research in educational and corporate settings.
Pre-Requisite(s): EDTC 808, EDTC 625, and EDTC 676

EDTC 810 Statistics for Educational Research (3 Credits)
Candidates will develop competence in applying, synthesizing, and evaluating statistics from sources including dissertation, journals, technical reports, and Web sites. With an emphasis on the scholarship of teaching, candidates will move from basic to context-driven statistics, applying the fundamental concepts and procedures of descriptive and inferential statistics to real-world applications.
Pre-Requisite(s): EDTC 809 and EDTC 815

EDTC 811 Summer Institute in Educational Technology Leadership III (2 Credits)
This course is the third five-week intensive summer seminar for Year III doctoral cohort candidates. Candidates foster their development as scholars and professionals for service by presenting their original scholarly work to a wider audience and provide a professional portfolio with a growth plan for continued learning and renewal.
Pre-Requisite(s): EDTC 810, and EDTC 816

EDTC 812 Teaching in the Adult Learning Environment (3 Credits)
This course will emphasize teaching adult learners in post-secondary learning environments including the workplace and corporate settings. Topics will include: learning theories applied to the adult learner; distinctions of post-secondary learning environments; delivering instruction in non-traditional settings and time frames; and assessing adult learning.
Pre-Requisite(s): EDTC 810 and EDTC 816

EDTC 813 Advanced Using Integrated Software across the Curriculum (3 Credits)
Students will examine the patterns of traditional use, current issues and emergent trends of digital technology in learning, and develop an expertise to function as entrepreneurs in establishing new products or services. They will assess integration strategies that support and enhance educational experiences across a diverse array of learners and analyze professional development and training initiatives in technology for relevant stakeholders.

EDTC 814 Advanced Effective Models of E-Learning (3 Credits)
At an advanced level, this course focuses on concepts and strategies necessary to step into a leadership role in the integration and application of technology and E-learning. Students explore delivering instruction through multimedia and/or multiple modalities with a focus on matching appropriate technologies to learning outcomes. Students will also explore the role of leadership in balancing the priorities of technology integration and curriculum decisions.

EDTC 815 Advanced Administration & Supervision of Technology in Educational Settings (3 Credits)
This course prepares students to serve as professionals who promote the development and implementation of technology infrastructure, procedures, policies, plans, and budgets for schools and organizations at an advanced level. The course prepares students who desire to lead education and training organizations in improving teaching and learning through the scientifically sound application of educational technology.

EDTC 816 Advanced Methods for Building Online Communities (3 Credits)
The course prepares students for roles as online community researchers, designers, managers, and users. It will introduce important concepts, terms, and theories about online communities. Students will gain a better understanding of how social science research can help design interaction spaces that encourage community building.

EDTC 817 Advanced Development and Managing Distance Learning Programs (3 Credits)
Delivering high-quality distance learning programs requires innovation in program development and delivery. In this course, students will analyze the relevant issues impacting distance education and incorporate an understanding of the historical and current evolution of distance learning into a vision for the future. Students will explore industry best practices in planning, launching, maintaining, and coordinating distance education programs.

EDTC 901 Dissertation I (6 Credits)
With the emphasis on educational technology leadership and the scholarship of teaching, in Dissertation I candidates will develop and refine their hypothesis, research contemporary related literature, and explain in detail their research method and procedures, as well as design all necessary research, permission, and data collection instruments.
Pre-Requisite(s): EDTC 811, EDTC 812, and EDTC 816

EDTC 902 Dissertation II (6 Credits)
In Dissertation II candidates will conduct their research , process the data gathered, draw conclusions, and reflect upon their study.
Pre-Requisite(s): EDTC 901

EDTC 903 Maintenance of Matriculation for the Doctorate in Educational Technology Leadership (3 Credits)
This course is designed for students to work one-on-one with their dissertation chairs and other committee members to complete their dissertations. The student will demonstrate, rigorous research, ethical data collection and reporting, a synthesis of their conclusions with related literature.
Pre-Requisite(s): EDTC 902