

EDTC - Educational Technology | Grad

EDTC 5010 Introduction to Technologies for Education (1-3)

This course is intended as a broad-based introduction to technology. This is a hands-on, project-based course designed to help educators use technology creatively and effectively in support of curriculum in the elementary and secondary school classrooms. Topics include an introduction to media literacy, evaluation and integration of software into the curriculum, and the impact of technology on the teaching/learning process.

EDTC 5020 Assistive Technology (3)

This is a hands-on, project based course designed to help educators evaluate hardware and software in relation to a learner's specific disability. It provides an in-depth explanation of hardware and software developed for people with disabilities.

EDTC 5030 Topics in Classroom Technologies (1-3)

The courses are designed to expose students to particular classroom applications or issues on the use of technology. May be repeated for credit if content differs.

EDTC 5032 Introduction to Assessment Using Technology (2)

This course examines different methods to collect, organize, and analyze information using technological tools. It examines substantive and evidentiary learning processes, ISTE NETS, psychology of learning, pros and cons of using technology to assess, and the ethical and social aspects of evaluation and what assessment means in any curriculum and how can technology aid in the process.

EDTC 5033 Learning Communities (1)

This course is for individuals in an educational or business setting who have the desire to create and implement successful learning communities with technology in a teaching/instructing atmosphere. This course will take into account researching, creating, formulating, problem solving, grouping strategies, managing, and evaluating and assessing all aspects of learning communities in the educational/instructional setting.

EDTC 5034 Maximizing Interactive Learning with Technology (2)

This course enables educators to improve student retention, and increase learning through the use of hands-on activities that compliment curriculum across the board. This course covers the adaptation process of application software, free bundled software, and online searching and researching.

EDTC 5036 Searching for Classroom Grant Opportunities (2)

This course is for individuals who have the desire to locate grants that are offered to educators, trainers, and instructors. It covers searching for grants using the internet and traditional methods. The course also covers writing techniques, terminology, tips, and suggestions for effective grant writing to simplify the process and ensure success.

EDTC 5040 Graphic Design for Educators (2)

Computer graphics adds imagery for the web, design for the printed page, and broadcast-quality to multimedia presentations. This course covers the basic applications of computer graphics into word processing, multi-media, and web projects. The course emphasizes projects that will be useful in the classroom or online

presentations. Some topics include: downloading from the web, creating, converting, manipulating, placement, and exporting of graphics. Software is required or access to the software in the lab.

EDTC 5070 Electronic Publishing for Educators (2)

Digital publishing is a course examining and creating relevant electronic publications in a school and other learning environments. Emphasis will be placed on how to actually create a publication from start to finish. Examination of a variety of types of publications currently used in the classroom and for training will be evaluated. Software required or access to software in the lab.

Prerequisite: EDTC 5040.

EDTC 5180 Applications Software (1-3)

The courses listed below examine specific applications software, such as word processing, database, and spreadsheet packages. May be repeated for credit if content differs.

- **Microsoft Office (2-3)**

This course covers the basic software applications of Word, Excel, PowerPoint, and other supporting programs using Microsoft Office. Use of these applications as an instructional and managerial tool in an educational setting is emphasized.

EDTC 5200 Independent Study (1-3)

Students with special interests or needs that are not met by existing courses may request that a member of the faculty supervise an independent study. Together, the student and faculty member decide on the content of the independent study and the criteria for evaluation. This course may be repeated for credit if the content differs. **Prerequisite:** Permission of the Educational Technology Coordinator.

EDTC 5210 In-Service Education (1-4)

These courses are not part of the existing curricula but provide experiences important to the academic and professional development of educators. This course may be repeated for credit if the content differs. **Prerequisite:** Permission of the Educational Technology Coordinator required to apply it to the MET degree.

EDTC 5250 Coding for Learners (2)

Learners will explore fundamental principles of programming. Coding for Learners engages the students with multiple skills and learning processes. Concepts include procedural, event driven programming and stepwise refinement. Emphasis will also be on the rationale for using coding in the learning environment as a tool for teaching/instruction.

EDTC 5255 Physical and Virtual World Coding (2)

Learners will use the fundamental principles of programming to develop cross-platform online software for physical and virtual worlds. The learner will learn to apply block style programming language as well as a syntax based language. **Prerequisites:** EDTC 5250 or permission of the instructor.

EDTC 5290 Video Production for Teaching and Learning (3)

This course enables participants to plan, design, script, produce, edit and present videos. Emphasis is on classroom lesson designs and teaching-learning applications. The course focuses on teachers making videos for instructional presentations and students making video for creative writing/storytelling, reporting research, and assessment of learning.

EDTC - Educational Technology | Grad

EDTC 5295 Advanced Techniques in Video Production for Teaching and Learning (3)

This course is designed for those with some experience in video creation who want to take their skills to the next level. It will focus on creating high quality video to be used in instruction. Students will learn the importance of lighting and audio to creating good video, how to use green screens to expand your videos outside your school, bringing your videos to life with basic video animation, and a variety of options to publish your videos to the world. It will also demonstrate a variety of budget-friendly tools to improve the quality of your videos. This course is perfect for those interested in flipped learning, tutorial creation, or creating content videos for your students.

EDTC 5297 Advanced Computer Graphics and Desktop Publishing for Educators (3)

This is a course on developing students' critical and creative thinking skills using advanced computer graphics and desktop publishing. It will include topics such as an introduction to the Bezier curve, palettes, brushes, and combining applications.
Prerequisite: EDTC 5070.

EDTC 5332 Computers and Information Systems (3)

This course is for educators for whom the computer will be an everyday tool. This course covers core concepts of computers and information systems in order to be able to use the computer competently. Information is presented on the capabilities of computers that users can apply at work, home, and school. Topics covered will include computer development; input, processing, storage, and output hardware; software development; programming languages; communications; connectivity; systems development; database management; information management; ethics; privacy; security; and purchasing and maintaining a computer system.

EDTC 5334 Instructional Coaching in a Remote Environment (3)

This course will introduce students to the various roles of instructional coaching in a remote environment. Best practices regarding creating engaging and remote student-centered lessons, collaborative hands-on activities, and problem-solving projects will be addressed. Students will explore constructivism and other learning methodologies and how they inform a personal learning philosophy.

EDTC 5338 Evaluating Learning Technologies (3)

In this course the student is introduced to the basic concepts of emerging technologies. Emphasis is given to three primary functions: evaluation, selection, and integration of technology.

EDTC - Educational Technology | Grad

- **Google and Related Apps for Educators (1)**

In this course you will learn how to use a variety of Google Tools in the classroom including Google Docs, hidden tips and tricks for power searching the internet, Google Earth, YouTube and a variety of other tools. This is a hands-on, project-based course designed to help educators learn the tools and how best to integrate them into a classroom.

- **Mobile Devices in the Classroom (1)**

This course will discuss capabilities and terminology associated with mobile learning, and how mobile applications can be used in the classroom, in the business world, and in everyday life. We will examine how mobile devices are more than time and organizational managers, and how they support teaching and learning in the classroom. With a focus on educational applications, but also including business applications, we will search on the internet for free and/or low-cost educational applications and browser extensions, and practice downloading and uploading. We will share curriculum content, various mobile devices, and basic classroom management ideas for a mobile learning environment.

- **Multimedia in the Classroom (1)**

This class will introduce multimedia programs and how to integrate them in the K-12 classroom. Emphasis is on classroom lesson design and teaching-learning applications. Students will be introduced to the concept of integrating multimedia and technology into curriculum in order to engage learners in higher order thinking skills and authentic learning experiences.

- **Podcasting in the Classroom (1)**

In this course you will learn how to search for the millions of podcasts that already exist, how to subscribe to them, and how to utilize them in your classroom. You will also learn how to create your own podcasts with an emphasis on student creation. This is a hands-on, project-based course designed to help educators best choose, create and integrate podcasts in their classroom.

- **QR Codes in the Classroom (1)**

This course will demonstrate how to use Quick Response (QR) codes in the classroom to merge with curriculum and bring traditional topics to life! Topics include terminology, creating QR codes, and using them within the curriculum. Hands on activities will be demonstrated in the class. Students should bring their own mobile device to class to experience the excitement of QR codes first hand.

EDTC 5460 Curriculum Design Technology Apps (3)

This course is designed to help individuals and educational leaders plan learning experiences for the use of technology in the curriculum. Topics included are technology in the classroom, research regarding learning, models of curriculum design, and methods of evaluation. Educational leaders will explore issues of equity in schools and how to mitigate those inequities. They will also design a differentiated curriculum, a curriculum plan for their particular content area or for a school, while integrating technology into the student learning experience. Evaluating software packages for use within the curriculum is required.

EDTC 5465 Instructional Design (3)

Expert teachers and trainers are expected to create instructional materials that reflect current theory and research on learning, exemplify a creative infusion of technology into the content areas, and approach assessment as a dynamic, process-oriented component of the learning experience. This course allows students to create a comprehensive instructional project in their own content area. This project will reflect their knowledge of

learning theory, teaching strategies, leading-edge technology, and performance assessment. Students will have "hands-on" experience with leading-edge technology to assist them in instructional design processes.

EDTC 5550 Web Page Authoring and Design I (2)

This course is designed to teach educators how to use hypertext markup language (HTML) to design and create webpages for use in educational settings. Students will learn how to use HTML, tags, links, and attributes for a basic understanding of publishing HTML documents.

EDTC 5555 Web Page Authoring and Design II (2)

This course is designed to teach educators how to use hypertext markup language (HTML) to design and create webpages for use in educational settings. This is the second half of EDTC 5550. Tables, forms, and style sheets in educational settings will be covered. **Prerequisite:** EDTC 5550.

EDTC 5560 Internet Applications (2-3)

The courses listed below are designed to provide experience in internet applications in educational settings. This course may be repeated for credit if the content differs.

- **JavaScript (3)**

The integration of HTML with JavaScript enhances webpage usage in the classroom. Students learn how to add special features and make interactive webpages. Students learn how to build webpages with forms, tables, and database search functions. **Prerequisite:** EDTC 5555.

EDTC 5630 Advanced Topics in Classroom Technologies (1-3)

The courses are designed to further the student's knowledge and skills for a variety of technologies used by educators. May be repeated for credit if content differs.

EDTC 5632 Databases for Decision Making (3)

This course explores ways to manage information using databases. Students will explore a variety of database activities which will stimulate the critical evaluation of data needed for wise decision making. Students will also learn how to incorporate these activities into curriculum.

EDTC 5633 Adult Learning and Technology (3)

This class focuses on two specific areas of teaching and learning: adult learning methods and the use of technologies appropriate to environments that engage adult learners. While the material covered in this course will deal with good practices in the teaching the material

EDTC - Educational Technology | Grad

EDTC 5640 Language Arts Instruction in a Digital Classroom (3)

This class will address best practices in Language Arts instruction integrating differentiation, Reader's and Writer's workshop with digital resources in K-12 classrooms. This course will focus on making practical use of resources online and texts/literature commonly available in school settings. Participants will explore the elements of differentiated instruction specifically for high-incidence diverse student groups such as Gifted & Talented, ELL, special needs, and culturally diverse and appropriate teacher instructional responses. In this course you will gain practical experience from considering how to make the shift from differentiation theory to including differentiation into your teaching practice using the Reader's and Writer's workshop language arts model.

EDTC 5701 Operations & Methods of Teaching Robotics: Sensors (3)

This course focuses on fundamental principles and concepts of educational robots. Students will build and program robots with sensors, and explore teaching applications with robotic sensors in a variety of learning environments.

EDTC 5702 Operations & Methods of Teaching Robotics: Robotic Arms (3)

This is an interactive and hands-on course where students will learn how to code and perform virtual activities using VEXcode VR and then transfer their code to their physical robot. Students will build a physical VEX IQ (2nd Generation) clawbot robot and learn to program using the VEXcode IQ software. Robots help bring the curriculum to life and make it more meaningful and relevant to student learning. Students will earn both the Computer Science with VEXcode VR Educator Certification and the VEX IQ Educator Certification. Students also learn to program a variety of sensors (color, distance, touch, bumper) on their VEX IQ robot to perform a variety of tasks.

EDTC 5703 Operations & Methods of Teaching Robotics: Drones and UAVs (3)

This course focuses on applications and methods of teaching robots. Students will be able to program the drone and other unmanned aerial vehicles (UAV) and remote operate vehicles (ROV). Emphasis will be instructional strategies and evaluation methods of robotic drones in a variety of learning environments.

EDTC 5704 Operations & Methods of Teaching Robotics: Aerospace Exploration (3)

This course is about the exploration of Air and Space. Students begin by learning the basic principles of flight - how airplanes and rockets lift off using pitch, yaw, and roll, and using Newton's three laws of motion, students demonstrate how we explore our Earth and Space beyond. Through hands on activities such as a flight simulator and launching a variety of rockets, building a drone, students learn how to fly, how we landed on the Moon and still continue to explore the Universe. The curriculum is based on five modules from the Civil Air Patrol books on Aerospace Dimensions.

EDTC 5705 STEM Pedagogy and Instruction (3)

In this course, students will explore STEM (Science, Technology, Engineering and Mathematics) teaching strategies. Emphasis will be on strategies for understanding of complex concepts, problem solving and research. Collaborative and project-based learning approaches are modeled in this course.

EDTC 5710 Maintaining Computer Systems (2)

This course will take students from computer setup through software installations and hardware upgrades in order to maintain a well-running computer system without the need of technical support.

EDTC 5720 Computer Networks (2)

This course provides teachers with an awareness of and an exposure to educational computer networks. Participants will learn basic terminology, purpose, and functions of a computer network. The focus of this course will be computer network usage and management, not the installation and maintenance of hardware. Participants will receive hands-on experience with computer network systems.

EDTC 5730 Technical Environment Management (2)

This course is designed to provide hands-on technical management skills. Topics include equipment attainment, installation, maintenance, troubleshooting, and technical support.

EDTC 5740 Designing Educational Technology Facilities For Educators (3)

Students learn to consider the various components of educational technology facilities and their impact on education. Students will tour the educational technology facilities of several schools via video in the area to broaden their knowledge of different ways of successfully implementing technology.

EDTC 5745 Planning and Managing Instruction in a Digital Environment (3)

This course will focus on managing and planning learning in a variety of school and business environments. How to manage and facilitate repair options for laptops, tablets, ipods, and chromebooks will be discussed. Determining level of technology integration, evaluating appropriate technology acquisitions, developing successful technology plans, and planning successful technology professional development will be reviewed through readings and student projects. Additional topics include: computer-based programs for content areas, using apps, learning management systems (LMS), and rewards using collaborative tools. The goal of this course is to prepare students to plan and manage learning effectively in their institutions and organizations.

EDTC 5747 Professional Development in Educational Technology (3)

Students will learn how to facilitate, coordinate and design professional development programs for educational technology initiatives such as STEM, Project Lead the Way, Student laptop initiative and Google Classroom. Students will learn how to create a vision and culture for learning and will engage in collaboration with multiple stakeholders while building partnerships and innovation in a variety of settings.

EDTC 5750 Special Institute (1-3)

Various institutes are offered to provide a wide range of workshop experiences and contemporary topics in the area of educational technology. For more specific and current information, contact the School of Education. This course may be repeated for credit if the content differs. **Prerequisite:** Permission of the Educational Technology Coordinator.

EDTC - Educational Technology | Grad

EDTC 5780 Apps-based Learning Environments (3)

Locating, selecting and utilizing mobile applications for educational use are important skills for the digital-age educator. In this course students will explore the ways in which smartphone and tablet applications can be used in learning and training situations. Specific applications for subject area goals as well as administrative uses will be evaluated and utilized. Students will develop mobile applications for use in learning environments and examine the ways in which mobile programming environments can be developed for rapid application development.

EDTC 5823 Designing an Online Course (3)

This course will engage students in building an online course using online software and Learning Management Systems (LMS). Current curriculum and instructional design principles will be utilized. The focus is on curriculum building for a single course.

EDTC 5830 Collaboration and Learning in a Virtual Environment (3)

Students will develop collaborative and communication skills in using videoconferencing such as Zoom, Google Meet, and Teams, in support of learning and professional development. The focus of this course will be to access and share global resources to attain professional goals.

EDTC 5840 Designing an Online Curriculum (3)

This course will engage the student in designing a virtual school curriculum using current curriculum and instructional design principles. The focus is on curriculum building for an entire virtual school. **Prerequisite:** EDTC 5460.

EDTC 5900 Technology, Ethics, and Society (3)

This course will engage social ethics in response to its impact on the developing technologies of global societies, districts, and schools. Students will explore the relationship of technology through various philosophical and/or moral perspectives. This course will assist students in exploring their implicit values as they relate to technology.

EDTC 5995 Final Program Survey (0)

All educational technology MET students are required to register for this zero credit hour course during their final semester. Students complete a program evaluation survey about their participation in the educational technology program. For specific guidelines see the EDTC Coordinator. This course is graded on a credit/no credit basis only.

EDTC 5996 Digital Portfolio (3)

In this course students will demonstrate mastery in educational technology by creating a digital portfolio to demonstrate program goals and international technology coaching standards. Students will apply learning competencies with international technology facilitation and coaching standards. Discussion topics related to emerging learning technologies such as Blockchain, Gamification, Digital badges, Internet of Things (IOT) and Artificial Intelligence (AI) in learning will also be explored.

EDTC 6000 Advanced Graduate Certificate Project (3)

The advanced graduate certificate (AGC) project is the culminating experience in the AGC program. The student chooses a faculty member to supervise this final project. Examples include a presentation or demonstration for an MAT class, a school district, a local board of education, or a community group; a

paper or research project which might be published or distributed within an appropriate school, community group, or for a large audience; or an action project designed and implemented within the student's place of employment.

EDTC 6022 Designing Accessible Learning Communities (3)

Technology facilitators are increasingly called on to create safe and supportive learning environments that allow learners to be more independent and valued. Federal laws (e.g. IDEA and NCLB) require learners in schools to receive accommodations and accessibility options. Beyond such mandates, however education leaders should be able to engage in Universal Design for all populations and their environments. This course engages learners in universal design and accessibility principles and practices. **Co-requisite:** EDTC 6136.

EDTC 6136 Designing Accessible Learning Communities Internship (1)

Technology facilitators are increasingly called on to create safe and supportive learning environments that allow learners to be more independent and valued. Federal laws (e.g. IDEA and NCLB) require learners in schools to receive accommodations and accessibility options. Beyond such mandates, however education leaders should be able to engage in Universal Design for all populations and their environments. This course engages learners in universal design and accessibility principles and practices. This course is a semester long internship. It involves fieldwork in which the candidate spends an extended period of time with an individual with special needs. The candidate then proceeds to reflect on the experience and designs a technology based application (process or procedure) for enhancing the learning experiences of the individual. **Co-requisite:** EDTC 6022.

EDTC 6240 Educational Statistics (2-3)

Educational Statistics is an introductory graduate course in using quantitative methods for inquiry in education. Students will be exposed to the fundamental concepts and procedures of descriptive and inferential statistics. Students will develop competence in reading and understanding statistics topics from various sources. The course includes an introduction to the use and interpretation of SPSS.

EDTC 6245 Research Design (2-3)

Students will be exposed to various quantitative and qualitative methods as well as mixed methods. Knowing which method(s) to use with various research questions is important.

EDTC 6250 Thesis in Educational Technology I (3)

In this course students write a comprehensive thesis that focuses on original research in the field of educational technology. This thesis should include the following elements 1) identification and description of a research question, 2) examination of related bibliographic sources (literature review), 3) data collection and analysis, 4) findings, discussion, and conclusions. Ultimately students are expected to propose, develop, complete, and defend a thesis that incorporates a comprehensive understanding of research methods and critical analysis based in their coursework throughout the program. The thesis area or topic will be developed by the student in consultation with the major instructor as well as a committee comprising other faculty or local experts. The thesis proposal and document must be presented in accord with Webster University Graduate Thesis guidelines and departmental specifications.

EDTC - Educational Technology | Grad

EDTC 6255 Thesis in Educational Technology II (3)