INSTRUCTIONAL TECHNOLOGY M.S.

Degree: Master of Science
https://www.towson.edu/coe/departments/edtech/grad/instructiontechms/

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The Master of Science degree in Instructional Technology is an applied professional program that helps to educate leaders in three technology fields: training and development, school library media, and educational computing and media.

The Instructional Technology graduate program is intended for both current professionals in the fields of media, design, computing, education and libraries as well as those who are seeking advanced degrees and an upgrade in their skills and knowledge base related to technology. The program is hands-on and practical with a considerable focus of most courses being inventive and authentic learning projects.

Students select one of three concentrations. The first, Instructional Design and Development, offers a flexible program of study designed to develop instructional design and media-related competencies for those who wish to work in training or instructional settings in business, industry, government, the military or medical education. The second, School Library Media, meets the Maryland State Department of Education requirements for the Library Media Specialist Certification and is designed for students who wish to serve as directors of school library centers. The third, Educational Technology, is designed for those who wish to integrate technology into classroom teaching or to coordinate the planning and integration of educational technologies at the school, district or state level.

The program is most often completed by students on a part-time basis, although full-time study is encouraged. A majority of the graduate students in the Instructional Technology program are full-time working professionals who take classes in the late afternoon or early evening. Professionals seeking to advance or change careers comprise a substantial portion of the student population in the Instructional Technology program. These include students who intend to become school library media specialists, industry training specialists and leaders in educational computing and technology.

Please note that only one degree in Instructional Technology can be awarded; students who complete more than one concentration in Instructional Technology will earn only one degree.

This program is approved to be offered fully online.

Admission Requirements

- A minimum undergraduate GPA of 3.00 for full admission and 2.75 for conditional admission. All GPA calculations for admission are based upon the last 60 units of undergraduate and post-baccalaureate study.

- Technological literacy including the ability to use application programs is a necessary background requirement for Concentrations I, II and III.

Non-immigrant International Students

Program Enrollment: F-1 and J-1 students are required to be enrolled full-time. The majority of their classes must be in-person and on campus. See the list of programs that satisfy these requirements (https://www.towson.edu/academics/graduate/admissions/international/programs-complyingj-1-f1-regulations.html), and contact the International Student and Scholars Office (https://www.towson.edu/academics/international/issos) with questions.

Admission Procedures: See additional information regarding Graduate Admission policies (https://www.towson.edu/academics/graduate/admissions/policies.html) and International Graduate Application (https://www.towson.edu/academics/graduate/admissions/international) online.

**See Exceptions to Policy in Graduate Admissions (https://www.towson.edu/academics/graduate/admissions/policies.html).**

Instructional Design and Development Concentration Requirements

Prerequisites: None.

**Thesis Option (minimum 36 units)**

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<th>Code</th>
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<td><strong>Level I: Core Sequence</strong></td>
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<tr>
<td>EDUC 605</td>
<td>INFORMING EDUCATIONAL PRACTICE TO AFFECT CHANGE</td>
<td>3</td>
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<tr>
<td>ISTC 541</td>
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<td>ISTC 667</td>
<td>INSTRUCTIONAL DEVELOPMENT</td>
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<td><strong>Level II: Elective Sequence</strong></td>
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<td>HRD elective is required</td>
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<td>Individually selected elective at the 600-700 level</td>
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<td><strong>Level III: Advanced Sequence</strong></td>
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<tr>
<td>ISTC 655</td>
<td>MULTIMEDIA DESIGN</td>
<td>3</td>
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<td>RESEARCH IN INSTRUCTIONAL TECHNOLOGY</td>
<td>3</td>
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<tr>
<td>ISTC 767</td>
<td>ADVANCED THEORY AND INSTRUCTIONAL DESIGN</td>
<td>3</td>
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<td>ISTC 787</td>
<td>INSTRUCTIONAL TECHNOLOGY CAPSTONE</td>
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<tr>
<td>ISTC 897</td>
<td>INSTRUCTIONAL TECHNOLOGY THESIS</td>
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<td>Total Units</td>
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**Non-Thesis Option (minimum 36 units)**

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ISTC 663 APPLIED PSYCHOLOGY OF LEARNING 3
ISTC 667 INSTRUCTIONAL DEVELOPMENT 3

**Level II: Elective Sequence**

HRD elective is required 3
Individually selected elective units at the 600-700 level 9

**Level III: Advanced Sequence**

ISTC 655 MULTIMEDIA DESIGN 3
ISTC 685 RESEARCH IN INSTRUCTIONAL TECHNOLOGY 3
ISTC 767 ADVANCED THEORY AND INSTRUCTIONAL DESIGN 3
ISTC 787 INSTRUCTIONAL TECHNOLOGY CAPSTONE 3

Total Units 36

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**School Library Media Concentration Requirements**

Prerequisites: Completion of the following courses or their equivalents:

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<tr>
<td>SCED 200</td>
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<td>ISTC 301/501</td>
<td>INTEGRATING INSTRUCTIONAL TECHNOLOGY</td>
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<td>PSYC 201</td>
<td>EDUCATIONAL PSYCHOLOGY</td>
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<tr>
<td>SPED 301</td>
<td>INTRODUCTION TO SPECIAL EDUCATION</td>
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**Thesis Option (minimum 36 units)**

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<tr>
<td>ISTC 615</td>
<td>COLLECTION DEVELOPMENT</td>
<td>3</td>
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<tr>
<td>ISTC 653</td>
<td>THE ORGANIZATION OF KNOWLEDGE</td>
<td>3</td>
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<tr>
<td>ISTC 667</td>
<td>INSTRUCTIONAL DEVELOPMENT</td>
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**Level II**

EDUC 717 CHILDREN'S LITERATURE AND OTHER MATERIALS FOR TEACHING READING 3
ISTC 541 FOUNDATIONS IN INSTRUCTIONAL TECHNOLOGY 3
ISTC 663 APPLIED PSYCHOLOGY OF LEARNING 3
ISTC 667 INSTRUCTIONAL DEVELOPMENT 3

**Level III: Advanced Sequence**

ISTC 702 EDUCATIONAL LEADERSHIP AND TECHNOLOGY 3
SCED 518 YOUNG ADULT LITERATURE 3

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<tr>
<td>ISTC 601</td>
<td>SCHOOL LIBRARY MEDIA ADMINISTRATION</td>
<td>3</td>
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<tr>
<td>ISTC 789</td>
<td>PRACTICUM AND PORTFOLIO IN SCHOOL LIBRARY MEDIA</td>
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Individually selected elective units at the 600-700 level 3

Total Units 36

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**Educational Technology Concentration Requirements**

Prerequisite: Maryland State Department of Education certification as a classroom teacher, administrator or specialist.

**Degree Requirements (minimum 36 units)**

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**Level II: Elective Sequence**

Individually selected elective units at the 600-700 level 9

**Level III: Advanced Sequence**

ISTC 685 RESEARCH IN INSTRUCTIONAL TECHNOLOGY 3
ISTC 702 EDUCATIONAL LEADERSHIP AND TECHNOLOGY 3
ISTC 717 DISTANCE EDUCATION IN THEORY AND PRACTICE 3
ISTC 731 THEORY AND PRACTICE FOR INTEGRATING DIGITAL RESOURCES INTO LEARNING AND TEACHING 3
ISTC 787 INSTRUCTIONAL TECHNOLOGY CAPSTONE 3

Total Units 36

These standards apply to the candidates preparing to develop and manage school library and information services:
**ALA/AASL Standard 1: Teaching for Learning**
Candidates are effective teachers who demonstrate knowledge of learners and learning and who model and promote collaborative planning, instruction in multiple literacies, and inquiry-based learning, enabling members of the learning community to become effective users and creators of ideas and information. Candidates design and implement instruction that engages students’ interests and develops their ability to inquire, think critically, gain and share knowledge.

**ALA/AASL Standard 2: Literacy and Reading**
Candidates promote reading for learning, personal growth, and enjoyment. Candidates are aware of major trends in children’s and young adult literature and select reading materials in multiple formats to support reading for information, reading for pleasure, and reading for lifelong learning. Candidates use a variety of strategies to reinforce classroom reading instruction to address the diverse needs and interests of all readers.

**ALA/AASL Standard 3: Information and Knowledge**
Candidates model and promote ethical, equitable access to and use of physical, digital, and virtual collections of resources. Candidates demonstrate knowledge of a variety of information sources and services that support the needs of the diverse learning community. Candidates demonstrate the use of a variety of research strategies to generate knowledge to improve practice.

**ALA/AASL Standard 4: Advocacy and Leadership**
Candidates advocate for dynamic school library programs and positive learning environments that focus on student learning and achievement by collaborating and connecting with teachers, administrators, librarians, and the community. Candidates are committed to continuous learning and professional growth and lead professional development activities for other educators. Candidates provide leadership by articulating ways in which school libraries contribute to student achievement.

**ALA/AASL Standard 5: Program Management and Administration**
Candidates plan, develop, implement, and evaluate school library programs, resources, and services in support of the mission of the library program within the school according to the ethics and principles of library science, education, management, and administration.

**Courses**

**ISTC 501 INTEGRATING INSTRUCTIONAL TECHNOLOGY (3)**
Materials, devices, techniques and settings are presented in an overview of the field of instructional technology. Laboratory experiences are provided in the operation of instructional hardware. Must be taken for 2 units if student has taken ISTC 269. Prerequisite: Junior standing or departmental approval. Lab/Class fee will be assessed.

**ISTC 541 FOUNDATIONS IN INSTRUCTIONAL TECHNOLOGY (3)**
This introductory course provides an overview of the field of instructional technology. This course focuses on helping students to develop an awareness and understanding of the theories and philosophies driving the field. In addition, this course will explore common computer-related technologies used within most learning environments. Prerequisite: Acceptance into the Graduate School.

**ISTC 601 SCHOOL LIBRARY MEDIA ADMINISTRATION (3)**
The evaluation, planning, and policy development for the school library media center. Prerequisites: Graduate standing and completion of all level one and two school library media courses.

**ISTC 605 WEB-BASED INSTRUCTION IN EDUCATION (3)**
Principles of Web-based instruction in creating learning environments. Pedagogical, technological, organizational, institutional and ethical issues related to design, development and delivery. Prerequisite: ISTC 541 or equivalent.

**ISTC 615 COLLECTION DEVELOPMENT (3)**
Concepts, processes, guidelines and resources for the development of a high quality school library media center collection. Prerequisite: Graduate standing.

**ISTC 633 INSTRUCTIONAL VIDEO (3)**
Explores the design and production of video for education training. The emphasis on the instructional systems design process is supported by laboratory tasks that lead students through the process of producing instructional video. Computer-based editing is used. Prerequisite: Bachelor’s degree.

**ISTC 651 INFORMATION LITERACY AND ACCESS (3)**
Access and evaluation of information sources relevant to school library media centers. Prerequisites: Graduate standing and completion of level one school library media courses.

**ISTC 653 THE ORGANIZATION OF KNOWLEDGE (3)**
The organization of knowledge in all formats including cataloging, subject analysis and bibliographic control. Prerequisite: Graduate standing.

**ISTC 655 MULTIMEDIA DESIGN (3)**
Introduction and overview to digital media (multimedia) in instructional settings. A laboratory task enables students to develop original media, gather and edit digital media assets, integrate their products into a computer presentation program and output their results in a variety of digital and analog media formats.

**ISTC 663 APPLIED PSYCHOLOGY OF LEARNING (3)**
Behaviorist, cognitivist and constructivist learning theories are discussed. Emphasis is on the application of those theories to instruction.

**ISTC 667 INSTRUCTIONAL DEVELOPMENT (3)**
Overview and application of the instruction systems approach for problem solving and the design of instruction. Media selection, needs assessment, prototyping, implementation and evaluation of instructional systems.

**ISTC 674 SPECIAL TOPICS IN INSTRUCTIONAL TECHNOLOGIES (3-6)**
Topics selected from the instructional technology field which are innovative and of immediate concern to existing instructional needs. May be repeated to a maximum of 6 units with no topic repeated. Prerequisite: bachelor’s degree.

**ISTC 685 RESEARCH IN INSTRUCTIONAL TECHNOLOGY (3)**
Students write a research proposal and concentrate on elements of a research study, inferential statistics and research in the field of instructional technology. Prerequisites: 12 units of ISTC courses at 600-700 level.

**ISTC 687 COMPUTER-BASED INSTRUCTION (3)**
The relationship between programmed instruction and computer-assisted instruction is examined. Students are required to demonstrate competencies in the design and production of computer-assisted instruction. Prerequisite: ISTC 541 or equivalent.

**ISTC 691 DIRECT READINGS IN INSTRUCTIONAL TECHNOLOGY (1-4)**
Independent readings and research in selected areas of instructional technology. Prerequisite: consent of program director.
ISTC 692 DIRECTED READINGS IN INSTRUCTIONAL TECHNOLOGY (1-4)
Independent readings and research in selected areas of instructional technology. May be repeated for a maximum of 4 units. Prerequisite: consent of program director.

ISTC 693 DIRECTED READINGS IN INSTRUCTIONAL TECHNOLOGY (1-4)
Independent readings and research in selected areas of instructional technology. May be repeated for a maximum of 4 units. Prerequisite: consent of program director.

ISTC 694 DIRECTED READINGS IN INSTRUCTIONAL TECHNOLOGY (1-4)
Independent readings and research in selected areas of instructional technology. May be repeated for a maximum of 4 units. Prerequisites: Consent of program director.

ISTC 695 INDEPENDENT STUDY IN INSTRUCTIONAL TECHNOLOGY (1-4)
Independent readings and research in selected areas of instructional technology. Prerequisite: Consent of chairperson or program director.

ISTC 700 ASSESSMENT IN INSTRUCTIONAL TECHNOLOGY (3)
Contemporary theories and methodologies of assessment in instructional technology, including terminology and concepts, measurement principles and assessment instruments, with emphasis upon assessment of technology learning, technology integration, technology attitudes, performance, educational software designs and management of technology resource. Prerequisites: Admission to doctoral program or completion of level I: core sequence.

ISTC 702 EDUCATIONAL LEADERSHIP AND TECHNOLOGY (3)
Explores current research and theory related to technology policy, planning and leadership in education settings. Focus will include development of technology plans at the school district and state levels. Prerequisite: Admission to doctoral program or completion of level I: core sequence.

ISTC 705 ADVANCED WEB APPLICATIONS IN EDUCATION (3)
Includes contemporary theories, methodologies and advanced techniques of using Web applications in the field of education and related disciplines. Course covers application of using scripting language to produce dynamic Web pages for educational purposes. Current Web design software and graphing tools will be used. An online learning environment using course management tools will be developed. Prerequisites: Admission to doctoral program or completion of level I: core sequence.

ISTC 707 LEARNING ENVIRONMENTS IN A DIGITAL AGE (3)
Contemporary learning theory will be used to design and evaluate interactive learning environments that reflect the qualities of active, constructive, collaborative, intentional, complex, contextual, conversational and reflective learning. Prerequisites: Admission to doctoral program or completion of level I: core sequence.

ISTC 709 LEGAL AND ETHICAL ISSUES IN INSTRUCTIONAL TECHNOLOGY (3)
Legal, ethical and intellectual property issues related to the use of technology in education. Analysis of case studies related to technology use policies for education and human resource organizations. Prerequisites: Successful completion of 15 credits of graduate courses in instructional technology or education. Prerequisites: Admission to doctoral program or completion of level I: core sequence.

ISTC 711 INNOVATION, CHANGE AND ORGANIZATIONAL STRUCTURES (3)
Study of the interconnected and diverse forces of technological innovation that impact learning organizations and the change process. Departmental permit required. Prerequisites: Admission to doctoral program or completion of level I: core sequence.

ISTC 717 DISTANCE EDUCATION IN THEORY AND PRACTICE (3)
Teaching strategies, technologies, learning styles and instructional design principles with relation to distance-based and online learning are introduced and discussed. Contemporary research, theories, practices, and critical issues relevant to the field are addressed through an online learning environment. Prerequisites: Admission to doctoral program or completion of level I: core sequence.

ISTC 718 CRITICAL PERSPECTIVES OF TECHNOLOGY IN EDUCATION (3)
A reflective view of the moral, historical, social, and political views of technology in education. Students will examine technology's broader impact on society. The content to be covered by this course will not overlap with any other courses currently offered by the College of Education. Prerequisites: Admission to doctoral program or completion of level I: core sequence.

ISTC 729 DIGITAL GAME BASED LEARNING IN EDUCATION (3)
An introduction to digital game based learning. Topics include the theories, possibilities, and practices related to educational game design, as well as the use of learning and commercial entertainment games for educational purposes. Prerequisites: Six units of graduate coursework.

ISTC 731 THEORY AND PRACTICE FOR INTEGRATING DIGITAL RESOURCES INTO LEARNING AND TEACHING (3)
Focuses on current theoretical perspectives on learning that underlies decisions about technology integration in diverse educational settings. Students will examine recent technological innovations surrounding technology integration for teaching and learning, analyze effective design of computer-based instructional materials; create and evaluate case studies relating to technology integration, and critically examine their own personal and professional values as an aspect of their work as educator and instructional designers. Prerequisites: Admission to doctoral program or completion of level I: core sequence.

ISTC 741 RESEARCH FOUNDATIONS OF INSTRUCTIONAL TECHNOLOGY (3)
This seminar course will focus on examining philosophies and discourse upon which the field of instructional technology is built. This course will examine historical research, organizational and governmental standards, alternative and critical theories, and paradigms and philosophies of learning, design and technology. Prerequisite: Admission to doctoral program or completion of level I: core sequence.

ISTC 767 ADVANCED THEORY AND INSTRUCTIONAL DESIGN (3)
Designed to extend the student's understanding of instructional design, to include advanced models, non-linear models, advanced assessment and evaluation techniques, and to provide a glimpse of instructional design in the years to come. A comprehensive course project will be completed using such techniques and theories. Does not overlap with any existing course. Prerequisites: Admission to doctoral program or completion of level I: core sequence.

ISTC 780 SEMINAR I: INVESTIGATING AND EVALUATING RESEARCH IN INSTRUCTIONAL TECHNOLOGY (3)
This seminar course will focus on a critical review and evaluation of current research findings and methodology. The emphasis is upon the development of a critical perspective of ongoing research in the field of instructional technology and related specialization areas. The intent of the course is that doctoral students will develop a review of literature related to their dissertation proposal. Open only to students who have completed the required doctoral core courses and have been admitted to the ISTC doctoral program.
ISTC 782 INVESTIGATING AND EVALUATING RESEARCH IN ISTC II (3)
This seminar course will focus on a critical review and evaluation of current research findings and methodology. The emphasis is upon the development of critical perspective of ongoing research in the field of instructional technology and related specialization areas. The intent of this course is that doctoral student will develop products related to their dissertation proposal. This course may be repeated for a maximum of 6 credits. Prerequisites: ISTC 780.

ISTC 787 INSTRUCTIONAL TECHNOLOGY CAPSTONE (3)
Provides students the opportunity to demonstrate mastery of required coursework in the Instructional Technology program. Proposal and completion of a comprehensive technology-intensive project. Prerequisites: Completed 21 units in ISTC program.

ISTC 789 PRACTICUM AND PORTFOLIO IN SCHOOL LIBRARY MEDIA (3-6)
Students serve under the supervision of a school library media center director. Students present graduate portfolios to level one students and faculty in school library media. Prerequisite: Completion of all level one and level two school library media courses.

ISTC 797 GRADUATE INTERNSHIP IN INSTRUCTIONAL TECHNOLOGY (3)
Project under the direction of a faculty adviser. The course may be taken twice for credit. Prerequisites: 12 units of ISTC courses at 600-700 level and consent of program director.

ISTC 897 INSTRUCTIONAL TECHNOLOGY THESIS (6)
An original investigation, using research method and design, of a research problem. Credit granted after thesis accepted. Prerequisite: Consent of chairperson.

ISTC 898 INSTRUCTIONAL TECHNOLOGY THESIS (3)
An original investigation, using research method and design, of a research problem. Taken over two consecutive semesters. Credit granted after thesis accepted. Prerequisite: The previous course, ISTC 897, taken over two consecutive terms.

ISTC 899 THESIS CONTINUUM (1)
Continuation of thesis research. Prerequisite: ISTC 898.

ISTC 998 INSTRUCTIONAL TECHNOLOGY DISSERTATION (1-9)
An original research investigation using research literature, methods, analysis, and design. Prerequisite: consent of advisor.

ISTC 999 DISSERTATION CONTINUUM (1)
Continuing work on dissertation after completion of basic dissertation credits. May be repeated as necessary.