INSTRUCTIONAL TECHNOLOGY

Department of Computer Science and Information Technology

Program Contact Information

Yefim Kats, Ph.D., Department Chair and Graduate Program Coordinator

Program Offerings

Master's Degrees

Master of Science in Instructional Technology

Specialization Options:

- *Multimedia Design and Development*
- *Instructional Design and E-Learning*
- *Instructional Design and E-Learning with Instructional Technology Specialist Certification Preparation (Pennsylvania Department of Education approved)*

Combined Program: B.S. in Computer & Information Sciences or B.S. in Computer & Information Technology/M.S in Instructional Technology

Certifications and Certificates

Instructional Technology Specialist Certification (*Pennsylvania Department of Education approved)*)
Certificate of Advanced Study in Instructional Technology (Post-Master's)
Certificate of Professional Development in Instructional Technology (Post-Bachelor's)

Career Opportunities

There are multiple career opportunities for an individual who completes one of the Information Technology Programs. These include: Instructional Designer, Education/Training Course Evaluator, Instructional Technology Specialist, Online Program Coordinator, Distance Learning Specialist, Educational Technology Manager, Technology Director, and Learning Management System Administrator.

Program Completion Information

Masters of Science in Instructional Technology

All students entering the Instructional Technology Program are expected to have a certain facility in using technology including simple operation of a computer, familiarity with word processing, and the ability to use the Internet. Additionally, to establish that students have the required background for a specialization, specific prerequisite courses may be required. The Master of Science in Instructional Technology requires thirty-six (36) credit hours, including thirty (30) credit hours of core courses listed for existing specializations and six (6) credit hours of courses listed as electives.
In addition, the Masters of Science in Instructional Technology degree offers three specialization options to meet the varied needs and goals of today's wide range of instructional technology professionals.

Specializations require that students attain a certain level of sophistication in the following areas of study:

- Use of appropriate technology as a tool in achieving professional goals
- Analysis of current theories specific to the disciplines of the specialization
- Evaluation of the effects of technology on cultures and contexts

The specializations share a common philosophy, addressing key concepts and skills related to learning, technology, and culture. The core courses provide the theoretical understanding of instructional technology and hands-on experience with state-of-the-art hardware and professional level software. The Program emphasizes the reflective nature of learning, the need for each learner to construct unique meaning and the process of building learning communities.
Each specialization requires thirty (30) credits of required coursework and six (6) credits of elective courses.
As part of meeting criteria for coursework, students design and present in a scholarly written format a research project completed as part of the course GRIT 791 Seminar in Instructional Technology. A student who has not completed the study during Seminar in Instructional Technology registers for GRIT 795 Research Guidance until its completion. The study cannot be held in abeyance for more than two years.

Guidelines for Participation

Students are encouraged to register early in the time frame provided by the School of Graduate Studies. Students will need to provide an email address after which they will be assigned a username. Once the username has been assigned students are expected to gain access to Blackboard leaning management system at chc.blackboard.com following password instructions that will have been provided. On the Instructional Technology site within Blackboard students will initially access partial syllabi for their courses that may include initial course assignments. Current partial syllabi will be posted by the Jump Start date announced on Blackboard, with a full syllabus and detailed course information available at a later time. The Blackboard learning environment complements students' activities in the campus labs, and students are expected to monitor their CHC email accounts and designated course shells on the regular basis.

Course Structure

Instructional Technology program offers face-to-face and blended courses, which are a combination of online participation and on-site class meetings that provide students with the advantages of distance education without sacrificing the richness of a face-to-face learning experience. Courses are conducted in modern technology-rich environment, utilizing classroom-based and cloud-based tools. The use of particular technology tools and instructional methodology are determined by the nature of each course. **Attendance at each of the face-to-face meetings is a strict requirement for every course.** Assignments for some courses may be submitted online and be due as early as the first face-to-face meeting. Instructional Technology instructors provide a Jump Start date by which students and instructors will be expected to communicate regarding course information and possible assignments. Courses also may include virtual meetings for which students will be required to make time in their personal schedules but for which travel to campus or another learning site is not necessary.

Program Schedules

See Academic Calendar.

Instructional Design and E-Learning Specialization

The specialization is designed for those eager to develop the technical skills necessary for the appropriate use of technology as a tool in the network-based academic or/and corporate learning environment. Students will be required to design instructional content to meet context specific training and learning needs within the school or workplace. The candidate for this specialization emerges from the program with newly developed distance learning design, management and leadership skills, expertise in the use of educational state-of-the-art technologies and a thorough understanding of the role distance learning technology can play for learning communities. Throughout their coursework students are encouraged to develop their potential as technology facilitators and leaders by presenting at professional meetings, and possibly publishing their research project.

Course Requirements:
Candidates for M.S in Instructional Technology with an Instructional Design and E-Learning specialization complete thirty six (36) credit hours of coursework including the required courses listed below:

	Course Code	Course Name
Core Courses (30 credits) *Complete all*	**GRIT 541**	Video Communications
	GRIT 598	Scientific Inquiry: Tools for Research
	GRIT 645	Introduction to Online Learning
	GRIT 651	Technology Based Learning Environments Management
	GRIT 654	Instructional Technology Theory and Practice
	GRIT 671	Principles of Instructional Design
	GRIT 699	Image Processing in Multimedia Design
	GRIT 700	Technology Integration in Multimedia Development
	GRIT 791	Seminar in Instructional Technology
	GRIT 798	Ethics and Technology Leadership

	Course Code	Course Name
	GRIT 550	Social Media

Elective Courses (6 credits) *select two*	**GRIT 551**	Networking Organizations
	GRIT 593	Web Design for eLearning
	GRIT 611	ePublishing
	GRIT 661	Introduction to Studio TV
	GRIT 704	Practicum and Portfolio
	GRIT 710	Applied Instructional Design
	GRIT 781	Special Topics

Multimedia Design and Development Specialization

The specialization is designed for those interested to acquire the multimedia design and development proficiency necessary for modern academic and corporate learning environments. Students will learn to design and manage multimedia content to meet context specific training and learning needs within the school or workplace. The candidate for this specialization emerges from the program with newly developed multimedia design, management and administration skills and expertise in the use of state-of-the-art multimedia and Web technologies. Throughout their coursework students are encouraged to develop their potential as technology designers, developers and leaders by presenting at professional meetings, and possibly publishing their research project.

Course Requirements:
Candidates for M.S in Instructional Technology with a Multimedia Design and Development specialization complete thirty six (36) credit hours of coursework including the required courses listed below. Depending on their background, students may be required to complete additional coursework to meet Pennsylvania Department of Education requirements.

	Course Code	Course Name
Core Courses (30 credits) *Complete all*	**GRIT 541**	Video Communications
	GRIT 593	Web Design for eLearning
	GRIT 598	Scientific Inquiry: Tools for Research
	GRIT 654	Instructional Technology Theory and Practice
	GRIT 661	Introduction to Studio TV
	GRIT 671	Principles of Instructional Design
	GRIT 699	Image Processing in Multimedia Design
	GRIT 700	Technology Integration in Multimedia Development
	GRIT 791	Seminar in Instructional Technology
	GRIT 798	Ethics and Technology Leadership

	Course Code	Course Name
Elective Courses (6 credits) *select two*	**GRIT 550**	Social Media
	GRIT 551	Networking Organizations
	GRIT 611	ePublishing
	GRIT 645	Introduction to Online Learning
	GRIT 651	Technology Based Learning Environments Management
	GRIT 704	Practicum and Portfolio
	GRIT 710	Applied Instructional Design
	GRIT 781	Special Topics

Instructional Design and E-Learning with Instructional Technology Specialist (ITS) Certification Preparation

The specialization is for students planning to become Instructional Technology Specialists in Pennsylvania schools. This specialization prepares students to advise and lead at the building or district level. Students taking this specialization are given

the opportunity to expand understanding of instructional technology through theoretical and project-oriented study. It addresses legal and ethical issues, leadership, technology planning, and other practical aspects of the role of the Instructional Technology Specialist. Students may have an opportunity to interact with guest lecturers who share informed academic and practical knowledge, receive supervision through field experience, and obtain guidance in the compilation, presentation and defense of a professional portfolio. Students who graduate with a Master of Science Degree with an ITS specialization become ITS certification candidates. Candidates who successfully complete the ITS Certification Interview are eligible to apply for certification through the Pennsylvania Department of Education Instructional Technology Specialists (ITS).

Course Requirements:
Candidates for the M.S in Instructional Technology with Instructional Technology Specialist specialization complete thirty nine (39) credit hours of coursework including the three credits courses listed below.

	Course Code	Course Name
Core Courses (33 credits) *Complete all*	**GRIT 541***	Video Communications
	GRIT 598*	Scientific Inquiry: Tools for Research
	GRIT 654 *	Instructional Technology Theory and Practice
	GRIT 671*	Principles of Instructional Design
	GRIT 685*	Technology Planning**
	GRIT 699*	Image Processing in Multimedia Design
	GRIT 700	Technology Integration in Multimedia Development
	GRIT 704*	Practicum and Portfolio
	GRIT 785*	Instructional Technology and Special Education
	GRIT 791	Seminar in Instructional Technology
	GRIT 798*	Ethics and Technology Leadership
	** Courses required for those looking for ITS certification only*	

	Course Code	Course Name
Elective Courses (6 credits) *Select two*	**GRIT 550**	Social Media
	GRIT 551	Networking Organizations
	GRIT 593	Web Design for eLearning
	GRIT 611	ePublishing
	GRIT 645	Introduction to Online Learning
	GRIT 651	Technology Based Learning Environments Management**
	GRIT 687	Technology and Administrator**

***Students may take one of these two courses.*

Students who graduate with a Master of Science Degree with an ITS specialization become ITS certification candidates. Candidates who successfully complete the ITS Certification Interview become certified as Pennsylvania Department of Education Instructional Technology Specialists (ITS). Candidates have two years to complete ITS certification interview. Those who have not completed the interview within the required time-frame may be granted an extension, with additional coursework required at the discretion of Program Coordinator.

Combined Degree
B.S. in Computer & Information Sciences or B.S. in Computer & Information Technology/M.S in Instructional Technology
In conjunction with the School of Undergraduate Studies at Chestnut Hill College, the Instructional Technology Program offers qualified undergraduate students the chance to complete both a bachelor's degree with Computer Information Science or Information Technology specialization and a Master of Science in Instructional Technology. Typically, qualified students

enrolled in this program begin taking graduate courses after their sophomore year as they continue to pursue their undergraduate studies. Undergraduate students are charged undergraduate rate tuition for both undergraduate and graduate courses during the regular academic year. The Program includes specific course requirements and qualifying levels of student performance. Contact the Coordinator of the Instructional Technology Program for details.

Certifications and Certificates

Instructional Technology Specialist (ITS) Certification

The PDE approved Instructional Technology Specialist certification option is available for students who are seeking ITS certification as a means to achieve their career goals as technology facilitators at the school or district level. This option is open for those with either a Bachelor's or a Master's degree**.** Depending upon the student's experience and previous coursework, a variety of options for becoming an ITS candidate may be available. Schedule an appointment with the Program Coordinator for a transcript review.

Course Requirements:
Certification candidates with a **Master's degree in instructional technology or its equivalent** typically complete twelve (12) credit hours with the distribution listed below.

	Course Code	Course Name
Core *Complete four courses*	**GRIT 651**	Technology Based Learning Environment Management**
	GRIT 654	Instructional Technology Theory and Practice
	GRIT 685	Technology Planning**
	GRIT 687	Technology Administrator**
	GRIT 704	Practicum and Portfolio
	GRIT 785	Instructional Technology and Special Education

***Students may take one of these two courses.*

As with the option for the Master of Science Degree in Instructional Technology, upon completion of the coursework students become ITS certification candidates. Candidates who successfully complete the ITS Certification Interview become certified as Pennsylvania Department of Education Instructional Technology Specialists (ITS).

Certificate of Advanced Study in Instructional Technology (CAS)

The Certificate of Advanced Study program is open to applicants who **have a Master's degree** and are seeking to enrich their professional portfolios with current technology-related skills and understandings. We offer the certificate with specializations in **Instructional Design and E-learning** and **Multimedia Design and Development.**

The candidate for the CAS completes eighteen (18) credit hours in Instructional Technology with the course requirements as designated for each specialization. If a required course is waived because of previous coursework or experience, the candidate registers for an alternate course. Certificate candidates take four (4) required courses as indicated below. They are given an opportunity to pursue their professional interests in their studies with a choice of two elective courses.

	Course Code	Course Name
Core *Complete eight course*	**GRIT 541**	Video Communications
	GRIT 671	Principles of Instructional Design
	GRIT 699	Image Processing in Multimedia Design
	GRIT 700	Technology Integration in Multimedia Development
	Electives	Two Electives (6 credit hours) Certificate candidates choose two (2) additional courses selected from the Instructional Technology course list.

Note: Prerequisites for a Certificate of Advanced Study are the same as those for the Master's degree in the selected specialization. Certificate candidates choose two (2) additional courses selected from the Instructional Technology course list.

Certificate of Professional Development in Instructional Technology (Post-Bachelor's)

Persons who have successfully completed a Bachelor's degree at an accredited institution of higher learning are welcomed into our professional development certificate program. It is a program designed for the professional who wishes to acquire expertise in instructional technology for a specific area of study. The certificate requires the completion of twelve (12) credit hours or four (4) courses with three (3) of the courses required and the fourth an elective, thus giving the candidate the opportunity to complete the certificate requirement with an elective that best brings the experience to closure for the individual person.

Change of Status from Certificate to Degree

Students in the certificate program who wish to continue in the degree program must follow the *Change in Program of Study* policy in the current catalog of the School of Graduate Studies. If the student is accepted into the degree program, credits in the certificate program will then be transferred to the degree program.

Course Descriptions

GRIT 541 Video Communications **3 credits**
The increasing computer power has enabled sound and video to be manipulated much the same as graphics and text to create an explosion of multimedia materials. The course provides an important perspective of video communications, giving the student practical experience with video tools in the video lab environment. Students use advanced hardware and software tools such as Final Cut Pro and Adobe Premier. Class assignments are shared, either electronically with classmates and instructor or through cooperative planning and/or construction of video projects.

GRIT 550 Social Media **3 credits**
This class provides an introduction to multiple Web 2.0 social media technologies and their usage in academic as well as corporate world as teaching, training and communication tools. Each student will design and deliver a Web-based full analysis of a social media tool. The course emphasizes the role of emerging collaborative technologies in a variety of learning environments.

GRIT 551 Networking Organizations **3 credits**
Students investigate the key hardware and networking concepts and troubleshooting techniques as well as problems and promise of online communications for the business, service, community, and educational environments, and related research. They investigate typical hardware and networking configuration with software specifications, cost estimates, and probable impact on the environment for which it is designed. They research appropriate networks and hardware for specific constituencies. Readings address the ethical issues inherent in the networking of an organization.

GRIT 593 Web Design for eLearning **3 credits**
This is an introduction to basic principles and practice of educational Web design and development. Students plan, design and construct an interactive, multimedia website with eLearning content relevant to their personal or professional interest using HTML and Adobe Dreamweaver. They acquire an understanding of Web design, usability principles, and standards compliance issues in eLearning environment.

GRIT 598 Scientific Inquiry: Tools for Research **3 credits**
This course focuses on basic elements inherent in the design and execution of qualitative and quantitative research projects. Its overall purpose is to introduce the student to the process of conducting educational, technology-oriented research and its attendant methodological and ethical issues. Students develop a problem statement, review the literature, and begin to create a research design for their research projects.

GRIT 611 ePublising **3 credits**
This project-based course introduces students to a wide range of with e-publishing technologies and authoring tools. It covers a broad range of free and commercial e-publishing resources for accessing, creating, and formatting e-books. Students learn how to choose appropriate authoring tools depending on the available hardware, targeted audience, and the level of desired multimedia content interactivity.

GRIT 645 Introduction to Online Learning **3 credits**
The purpose of this course is to guide educators and trainers in the formulation of norms and guidelines for interactive online communications in collaborative, problem-solving learning modes. Topics include: the integrity of an academic online program, alternative modes of course delivery and course delivery environments, administrative and technology requirements, faculty development, and program evaluation. Students research the literature on effective online instructional programs and work to create an effective course module for a given population.

GRIT 651 Technology Based Learning Environments Management **3 credits**
The focus of this course is on the competence in the planning and management of a technology-based, project-driven learning environment. The special emphasis is placed on the characteristics of learning management systems (LMS) and related applications and tools. Students are also introduced to the basic hardware and networking concepts and troubleshooting techniques. Students design and implement a technology plan for evaluating and transforming an aspect of a learning environment. In evaluating their project they utilize observations, journals, and other data-collection strategies. They bring their project to closure with a written report on their research as well as an in-class presentation of the experience. The course may be also taken as an equivalent of GRIT 685 by those looking for ITS certification.

GRIT 654 Instructional Technology Theory and Practice **3 credits**

Students examine the fundamentals of technology-based learning and gain comprehensive understanding of the integration of Web 2.0 tools, podcasting, video editing software, interactive white boards, and hand-held technologies into educational practice. This course emphasizes an understanding of the learning process and the planning and evaluation of activities that utilize state-of-the-art educational technologies effectively. Students create products using the stand-alone and Web-based tools while also collaborating with each other in constructivist learning environment through the Blackboard learning management system. The course culminates with the creation of a technology-integrated mini-unit relevant to students' current or prospective roles in instructional technology.

GRIT 661 Introduction to Studio TV: Introduction **3 credits**
Students script and direct a studio interview using production techniques, such as camera operation, lighting, graphics, audio, and staging components of a state-of-the-art studio production environment. The class is application-based and students work in teams to plan and develop short quality TV presentations. They are required to participate in all productions and critically evaluate their final projects. *Prerequisite: GRIT 541*

GRIT 671 Principles of Instructional Design **3 credits**
Project management and basic skills in instructional design and development are covered in this course. Students' design projects will show the ability to link major learning theories, such as constructivism, cognitivist, and behaviorism to competent determination of instructional content, accurate identification of learner characteristics and effective instructional strategies. Class activities include extensive in-class and online collaboration and adequate reflection on situations for which learning design and effective content delivery solutions may be required.

GRIT 685 Technology Planning **3 credits**
Designed for students intending to acquire ITS certification, this course prepares students to construct a comprehensive technology plan as required by the Pennsylvania Department of Education at the building and district level. In this project oriented course, students engage in the process of constructing a technology plan in an actual or hypothetical school and district and interact with technology administrators in area schools. Students are also introduced to the basic hardware and networking concepts and troubleshooting techniques. Other leadership, administrative, and technical skills are developed as well.

GRIT 687 Technology and Administrator **3 credits**
The course is intended for students who are looking for ITS certification. It is based on Pennsylvania Department of Education guidelines and requirements and includes technology planning and school administration and leadership components. Students will acquire new and enhance their existing school management, administration, and technology planning skills.

GRIT 699 Image Processing in Multimedia Design **3 credits**
Students apply principles of instructional and graphic design to develop multimedia graphics and images and then integrate their original graphics into a Web-based portfolio presentation. Students will be introduced to Web design and development using one of the content management systems (CMS). The course provides an introduction to digital photography as well as a focus on state-of-the-art graphics technologies such as Adobe Photoshop and Macromedia Flash. Students are also required to research issues related to the ethical use and effective implementation of imagery in educational and/or corporate contexts.

GRIT 700 Technology Integration in Multimedia Development **3 credits**
This introduction to multimedia initiates course participants into the theory and practice of eLearning content development. Students explore and analyze the various software and hardware technologies necessary for the creation, storage and distribution of multimedia elements. They investigate the different authoring tools used in the design of multimedia presentations as well as explore the concepts important in the design of interactive presentations. They analyze the legal and ethical issues pertaining to the use and distribution of media elements. Adobe Captivate is the required software application. *Prerequisites: GRIT 541, GRIT 593*

GRIT 704 Practicum and Portfolio **3 credits**
This course offers students the opportunity to apply their skills to a real- life research project. In particular, students in the Pennsylvania Department of Education Certification Program have the opportunity to complete their required 75 hours site-based internship in instructional technology. Students demonstrate through their portfolios their achievement of the Pennsylvania Department of Education standards. In their preparation for professional life and the ITS Certification Interview, students demonstrate their technical expertise, organizational skills, and presentation and leadership potential. *Prerequisite: GRIT 685 or GRIT 687*

GRIT 710 Applied Instructional Design **3 credits**

Students research current issues related to the impact of authoring software on the learning process. Flash, the popular web software for animated graphics provides the software context for this course. Relationships between creativity, copyright law, and rapidly changing technology are also examined by students in this course. Projects developed with Adobe Flash may become part of the student's thesis research. *Prerequisite: GRIT 700*

GRIT 781 Selected Topics **3 credits**
This course offers an opportunity for an advanced student to develop a project in response to a specific problem. Topics are selected from corporate practice, current research on curricular issues including special education, leadership, technology planning, distance learning, multimedia design or potential roles of state-of-the-art technologies in emerging environments. Participants review the literature on the selected topic, develop related technical skills, and prepare an original blueprint for the implementation of these technologies in the solution project. Students design an interactive virtual environment that they test on a given population.

GRIT 785 Instructional Technology and Special Education **3 credits**
This course prepares prospective Instructional Technology Specialists to coach and consult with Pennsylvania educators as they accommodate the varied educational needs of learners, including those with disabilities and minorities. Students complete 30 hours internship and become familiar with the work of those who play key roles in the overall education process and gain insight into the ways in which technology may be accessed and used to meet those with special needs. *(ITS specialization only) Prerequisites: GRIT 685 or GRIT 687*

GRIT 791 Seminar in Instructional Technology **3 credits**
This course is structured to provide guidance during the research process, and to provide sufficient time to complete a meaningful research project. The student who successfully completes the course will demonstrate the ability to design and conduct an original research study. Students complete and present, in both written and oral presentation formats, the results of the research projects begun in earlier courses. *Prerequisite: GRIT 598*

GRIT 795 Research Guidance **1 credit**
Students who do not complete a thesis in GRIT 791 Seminar in Instructional Technology may qualify to register for this course. Qualification depends upon the extent to which course requirements for GRIT 791 have been met as well as the circumstances that prevent the student from completing the thesis. Grade is pass/fail.

GRIT 798 Ethics and Technology Leadership **3 credits**
To ensure that Instructional Technology graduates have a comprehensive understanding of the impact of technology on society, this course reviews the literature addressing social and ethical leadership issues surrounding the use of technology, and encourages students to synthesize their knowledge in the construction of a personal philosophy that will facilitate responsible leadership style in technology with a special focus on recent advances in information technology.