INFORMATION TECHNOLOGY, M.S.

The Master of Science in Information Technology enables students to advance their technical expertise and their ability to integrate technologies into organizations. The degree addresses workforce demand for expertise in information technology and digital transformation needed to work effectively in today's data and technology-centric environments. The digital revolution is impacting all aspects of our lives, reshaping both personal and work lives everywhere. Students in the master's program have the opportunity to advance their knowledge in areas such as cyber-infrastructure, networking, data analytics, artificial intelligence, user experience and interface design. Students can work with faculty in a wide range of research endeavors, depending on their interests and career goals. Opportunities for research expands students' opportunities to pursue their own research interests and to publish papers at national conferences.

Learning Outcomes

1. Demonstrate the ability to apply advanced information technology principles to solve complex problems.
2. Analyze client information technology needs and develop, integrate, and evaluate innovative solutions.
3. Exhibit professional skills such as technical writing, oral communication, and working in trans-disciplinary teams.
4. Execute a rigorous research project in a specific information technology area of interest (Research Track only).
5. Design and conduct a development project in a specific information technology area of interest. (Professional Track only)

Admissions

Requirements for admission to the Master of Science in Information Technology (MSIT) program include the general admission requirements of The Graduate School, including the TOEFL for non-native English-speaking applicants. The admission process is highly competitive. Admissions decisions are based on the quality of the applicant's previous university-level academic work, prior work experience, letters of recommendation and other evidence of past accomplishments. While, the GRE is not required, a GRE score may be submitted to support the application and demonstrate the candidate's qualifications.

For admission to the MSIT, applicants normally hold a B.S. degree in information technology, computer science or a related field. Applicants without such a degree should have completed courses in software development, networking, databases, and web systems. Applicants not having courses in these subjects may be conditionally admitted to allow completion of required prerequisite courses before full admission is granted.

Degree Requirements (30-33 hours)

The Master of Science in Information Technology may be earned through either a Professional Track or a Research Track. In both tracks, at least half of the credit hours (exclusive of thesis preparation) must be earned in courses number 700 and above. All MSIT students are subject to the academic regulations and degree requirements of the Graduate School and the program-specific requirements described here.

Professional Track Program of Study (30 hours)

The MSIT Professional Track is available 100% online and as a residential program. Students who choose this track must take 12 hours of IT Core Courses, 15 hours in IT Electives, a 3-hour ITEC 766, IT Project Management course, and pass a written comprehensive examination offered at the end of Fall and Spring semesters.

Requirements	Credit Hours
IT Core Courses	12
IT Elective Courses	15
ITEC 766 IT Project Management	3

Research Track Program of Study (33 hours)

The MSIT Research Track is a residential program not available 100% online. Students who choose this track must take 12 hours of IT Core Courses, 12 hours in IT Elective Courses, a 3-hour Research Methods course, and 6 hours of ITEC 799, Thesis Preparation. Student must successfully write and defend a thesis under faculty guidance.

Requirements	Credit Hours
IT Core Courses	12
IT Elective Courses	12
Research Methods Course	3
ITEC 799 Thesis Preparation	6

Courses

IT Core Courses (12 hours)

Course	Title	Credits
ITEC 749	Principles of Informatics	3
ITEC 754	Analysis and Design of Information Systems and Technology	3
ITEC 772	Database Systems	3
ITEC 785	Enterprise Data Analytics	3

IT Elective Courses (12-15 hours)[1]

Course	Title	Credits
ITEC 510	Emerging Information Technology Trends	3
ITEC 534	Advanced Human Computer Interaction	3
ITEC 544	Training Systems	3
ITEC 545	Telecommunications	3
ITEC 552	Linux Programming and Administration	3
ITEC 562	Advanced Web Support Systems	3
ITEC 570	Database Management and Administration	3
ITEC 590	Special Topics in Integrated Information Technology	3
ITEC 742	Enterprise Network Management	3
ITEC 743	Health Information Privacy and Security	3
ITEC 745	Telecommunications for Health Information Technology	3
ITEC 747	Management of Health Information Systems	3
ITEC 760	Cyberinfrastructure and Information Assurance	3
ITEC 761	Management of Cyberinfrastructure	3
ITEC 762	Health Information Technology Usability and Interface Design	3
ITEC 764	Project Management for Health Information	3

ITEC 765	Human Computer Interaction, Usability and Interface Design	3
ITEC 766	IT Project Management (*)	3
ITEC 770	Health IT Database Systems	3
ITEC 775	Large-Scale Health and Information Systems	3
ITEC 776	Health Information Technology and Clinical Transformation	3
ITEC 781	Artificial Intelligence and Informatics I	3
ITEC 782	Artificial Intelligence and Informatics II	3
ITEC 786	Advanced Enterprise Data Analytics	3
ITEC 787	Advanced Data Analytics Tools	3
ITEC 790	Special Topics in Informatics	3
ITEC 791	Introduction to Management of Information Security	3
ITEC 792	Management of Cyber Operations	3
ITEC 793	Cybersecurity Risk Management	3
ITEC 795	Independent Study in Health Information Technology	1-3

[1] Courses from other departments may be used with approval of the advisor and Graduate Director.
*ITEC 766 is an elective for Research Track only (it is a requirement in the Professional Track)

Research Methods Courses (0-3 hours)[2]

Course	Title	Credits
BIOS 700	Introduction to Biostatistics	3
EDFI 731	Qualitative Inquiry	3
EDRM 710	Educational Statistics I	3
SOCY 515	Scientific Methods and Sociological Inquiry	3
SOCY 562	Advanced Sociological Research Methods	3
STAT 506	Introduction to Experimental Design	3
STAT 509	Statistics for Engineers	3
STAT 515	Statistical Methods I	3
STAT 700	Applied Statistics I	3

[2] Courses in quantitative research from other departments may be used with approval of the advisor and Graduate Director.