

## **General Description**

The Master of Science degree in Information Technology is designed for IT professionals who want to advance their knowledge in the information technology field as a precursor for management in the IT industry. Information Technology has become crucial to success in virtually every kind of enterprise, and IT professionals are responsible for the complex technical environment the enterprise depends on. To be an effective IT leader requires a blend of operational and technical expertise, leadership and management of projects and teams, and a solid foundation in the principles of general management.

The MSIT degree melds technical knowledge and essential enterprise IT skills with the contemporary business management principles that drive 21st century organizational performance. The program weaves technical topics such as network architecture, cloud computing and data analytics with finance, law, project management and leadership.

The program is designed using a whole-systems approach. While the bachelor's degree in Information Technology focuses on preparing graduates to secure, design, and implement applications, databases and networks, the master's program provides graduates with the ability to analyze business scenarios, anticipate and respond to a continuously changing environment and effectively assign resources to the components that make up the organization's information system.

The MSIT program's goal is to create inspiring IT leaders with strong leadership and technical skills. The master's degree program is designed to provide graduates with the ability to analyze business scenarios, anticipate and respond to a continuously changing environment and effectively assign resources to the components that make up the organization's information system. Our graduates can take these skills and apply them strategically to develop a long-term IT vision that is in line with an organization's goals and mission.

The program emphasizes the relevance of continuous learning to personal and professional growth through the combination of advanced technical courses and an integrated management core. Employment opportunities may include positions such as Project Manager, Chief Information Officer (CIO), Chief Technical Officer (CTO), Chief Information Security Office (CISO), Network Manager and Systems Integrator.

The program is designed to equip the current or aspiring IT manager with the necessary tools to make deliberate decisions that affect an organization's informational needs. The program's mission is built around the components that make up the informational infrastructure: the software applications that support the business processes, the information and data sources used to store the data, the processes used to secure the data, the network used to access data and applications, and the people who design, manage and implement the applications, data and the network.



### **Mission**

The master's program in Information Technology (MSIT) is designed for IT professionals who want to advance their technical and managerial knowledge, enhanced with the education and experience for a leadership role in the IT industry. The program emphasizes the relevance of continuous learning to personal and professional growth through the combination of advanced technical courses and an integrated leadership and management core. Coursework highlights the relationship between IT and business as students utilize technology to improve business processes and help achieve and organization's strategic goals. Students receive the technical and managerial education to be successful leaders in the IT industry, both now and well into the future.

### **Program Goals**

Successful graduates of the Master's program in Information Technology will be able to successfully demonstrate each of the following learning outcomes:

- **Leadership and Management:** Effectively and ethically lead information technology projects using sound financial reasoning and project management skills, understanding and supporting the organization's goals and its connection to society.
- **Security, Infrastructure and Applications:** Design and adapt a scalable, secure corporate information technology infrastructure and applications that support specific organizational needs, for a given business model while allowing for reasonable future growth of the corporate environment.
- **Data and Analytics:** Identify, organize and analyze the informational needs of an organization using current data warehousing and analytics tools and determine a suitable implementation and integration strategies, utilizing cloud services when appropriate.
- **Critical Thinking and Problem Solving:** Bring together problem predicting, detecting, and solving skills with logically structured critical thinking to develop flexible solutions to business problems with robust information technology components.
- **Professional Growth:** Develop an appreciation for professional development and life-long learning and the character to encourage these qualities in others.

### **Learning Outcomes**

Successful graduates of the advanced degree program will be able to successfully demonstrate each of the following learning outcomes.

1. Design and adapt scalable secure corporate networks and applications that support the specific organizational needs, for a given business model while allowing for reasonable changes to the corporate environment.
2. Identify, organize and analyze the informational needs of an organization using current data warehousing and analytics tools.
3. Effectively manage Information Technology projects using sound financial reasoning and project management skills, understanding and supporting the organization and its connection to society.
4. Apply skills in problem predicting, detecting, and solving, and thinking logically, flexibly and critically about business problems with strong Information Technology components.
5. Develop an appreciation for professional development and life-long learning and the character to encourage these qualities in others.



**Curriculum**  
*Sample Plan of Study*  
*Course Schedule subject to change*

<b>Term I</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
IT	512	Network Infrastructure and Design	4	0	4
MGM	533	Advanced Project Management	4	0	4
			<b>8</b>	<b>0</b>	<b>8</b>

<b>Term II</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
IT	524	Information Systems Security	4	0	4
MGM	514	Leadership	4	0	4
			<b>8</b>	<b>0</b>	<b>8</b>

<b>Term III</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
IT	522	Software Architecture and User Interface Design	4	0	4
MGM	504	Managerial Finance	4	0	4
<b>Optional</b>					
CPT	591	Workplace Practicum I	0	20	1
			<b>8</b>	<b>0/20</b>	<b>8/9</b>

<b>Term IV</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
IT	502	Data Warehousing and Data Analytics	4	0	4
MGM	534	Technology and the Law	4	0	4
<b>Optional</b>					
CPT	592	Workplace Practicum II	0	20	1
			<b>8</b>	<b>0/20</b>	<b>8/9</b>

<b>Term V</b>					
<i>Course No.</i>		<i>Course Title</i>	<i>C</i>	<i>L</i>	<i>T</i>
IT	544	Cloud Computing	4	0	4
IT	546	IT Professional Ethics	4	0	4
<b>Optional</b>					
CPT	593	Workplace Practicum III	0	20	1
			<b>8</b>	<b>0/20</b>	<b>8/9</b>



Term VI					
Course No.		Course Title	C	L	T
IT	556	Master's Project	5	0	5
<b>Optional</b>					
CPT	594	Workplace Practicum IV	0	20	1
			<b>5</b>	<b>0/20</b>	<b>5/6</b>
<i>Total Quarter Credit Hours = 45-49</i>					

**Legend**

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

Subject to change.

**Degree Progress Checklist**

Check off each completed course.

T1	IT	512	_____
	MGM	533	_____
T2	MGM	514	_____
	IT	524	_____
T3	MGM	504	_____
	IT	522	_____
	<b>Optional</b>		
	CPT	591	_____
T4	IT	502	_____
	MGM	534	_____
	<b>Optional</b>		
	CPT	592	_____
T5	IT	544	_____
	IT	546	_____
	<b>Optional</b>		
	CPT	593	_____
T6	IT	556	_____
	<b>Optional</b>		
	CPT	594	_____

**Subject to change.  
Please see your advisor for any questions.**

## **Course Descriptions**

### **IT 502 Data Warehousing and Data Analytics**

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

This course will build upon the student's database knowledge by examining data warehousing and data mining techniques. This course will examine database architecture and implementation necessary to enable corporations to maximize their investment within their business intelligence departments. Students will compare and contrast product offerings from major vendors as well as analyze case studies of organizations using these technologies to drive their business. Students will also gain experience with the latest tools and techniques through a series of hands-on exercises.

### **IT 512 Network Infrastructure and Design**

*4 Class Hours 4 Quarter Credit Hours*

*Co-requisite: MGM 533*

The course will enhance and build upon the student's knowledge of networking. By examining the network infrastructure from the perspective of the customer's needs and goals, students will learn the practical aspects of network design. Students will learn how to characterize, classify and interpret existing networks and traffic, and how those characteristics are impacted by logical network design and physical network design. Students will discover the appropriate methodologies and acumen for examining the technologies and devices needed for a campus network and an enterprise network.

### **IT 522 Software Architecture and User Interface Design**

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

This course reviews some of the most successful strategies for building a software system, including data-flow, data-centered, hierarchical, component-based and distributed architectures. Students will gain a thorough understanding of software components, connectors and configurations and learn how to apply user interface design principles for developing systems that are intuitive and meet the client's requirements.

### **IT 524 Information Systems Security**

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

Students in this course will get a high-level overview of the information security topics for which today's corporations need competencies. Essential security topics in this course cover network fundamentals and applications, standards, privilege management, environmental security issues, defense in depth, risk management, vulnerability assessments, business continuity planning, security policies, incident handling, web application security, and advanced persistent threats.

### **IT 544 Cloud Computing**

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

This course provides students with a detailed exploration of the cloud-computing paradigm. After studying cloud architecture, students will study the strategic, risk and financial impact of utilizing this platform. Pertinent topics also include design, implementation and security aspects of applications stored in the cloud. The course will cover the entire spectrum of moving applications into the cloud.

### **IT 546 IT Professional Ethics**

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

As future managers and leaders in the information technology field, students will be confronted by many challenging ethical decisions where the correct decision is not clear or may not even exist. This course



aims to increase the student's awareness of the implications of the digitization of data, information, and communications on organizations and society and provide a strong foundation in professional ethics. Topics include but are not limited to globalization, outsourcing and ethical issues such as information privacy, accessibility, property, disclosure and accuracy. Students will be given case studies and ethical scenarios where the decision-making process is as important as the final decision students reach.

**IT 556 Master's Project**

*5 Class Hours 5 Quarter Credit Hours*

Information Technology and Cybersecurity Defense students must choose one of the following two options:

**Option 1:** The capstone project requires IT and CD students to demonstrate their competence in the skills and knowledge associated with their degree program. It is designed to show the in-depth learning and higher-order thinking of students. With this option, students must choose a project in the field of information technology or cyber security and then plan, organize, implement, and work towards the completion of the project in a controlled manner, to meet the goals and objectives of their project. The capstone project is carried out by an individual student and may be derived from the student's workplace where the student can exploit the workplace experience to benefit both the student and the student's place of employment. Before beginning work, each capstone project must first be approved by an Information Technology Faculty Advisor. At the end of the project, the student will prepare a Final Project Report and defend this work product before the Faculty Advisor and a panel of other assigned faculty members.

**Option 2:** The master's thesis requires students to carry out an investigation of technology or methodology in which the student has a strong interest. The topic of this investigation or research should be an extension or continuation of the topics covered in the MSIT or MSCD curriculum. The topic must first be approved by an Information Technology Faculty Advisor. The thesis option requires a presentation of the paper to the Faculty Advisor and a panel of assigned faculty members.

**CPT 591 Workplace Practicum I**

*20 Field Hours 1 Quarter Credit Hour*

*Prerequisite: Requires successful completion of four courses in the master's program and approval of the Graduate Director or Department Chair*

In this optional course, students will use knowledge gained through previous coursework in the master's program with planned and supervised work experiences in the public or private sector. The course allows students to enhance the practical skills necessary for success by being exposed to the reality of the world of work beyond the boundaries of the campus and enhancing their self-confidence and career direction. Students are required to provide bi-weekly status reports to the Graduate Director while enrolled in this course.

**CPT 592 Workplace Practicum II**

*20 Field Hours 1 Quarter Credit Hour*

*Prerequisite: CPT 591*

This course is a continuation of the Workplace Practicum begun in CPT 591.

**CPT 593 Workplace Practicum III**

*20 Field Hours 1 Quarter Credit Hour*

*Prerequisite: CPT 592*

This course is a continuation of the Workplace Practicum begun in CPT 591 and continued in CPT 592.

**CPT 594 Workplace Practicum IV**

*20 Field Hours 1 Quarter Credit Hour*

*Prerequisite: CPT 593*

This course is a continuation of the Workplace Practicum begun in CPT 591 and continued in CPT 593.



**MGM 504 Managerial Finance**

*4 Class Hours 4 Quarter Credit Hours*

Students will examine the basic principles of finance and their application to decision-making in organizations. The overall purpose of this course is for students to obtain a working knowledge of banking, financial statements, and capital budgeting.

**MGM 514 Leadership**

*4 Class Hours 4 Quarter Credit Hours*

Leadership is about developing a vision and inspiring others to achieve that vision. It is wayfinding through effective communication. Leaders seek to understand and shape organizational culture, while effecting and supporting positive change. This course provides aspiring leaders with tools to develop a confident voice for their own current and future leadership roles. The major theories of leading and managing people and organizations will be applied to real leadership situations in organizations ranging from start-ups to large enterprises, as well as real leaders in the student's chosen field. While seeking a deep understanding of their own leadership style, students will examine the interaction between leadership and organizational culture, culminating in the development of a personalized comprehensive leadership development plan.

**MGM 533 Advanced Project Management**

*4 Class Hours 4 Quarter Credit Hours*

Project management is more than merely parceling out work assignments to individuals and hoping that they will somehow accomplish a desired result. In fact, projects that could have been successful often fail because of such take-it-for-granted approaches. Individuals need hard information and real skills to work successfully in a project environment and to accomplish project objectives. Topics include project management life cycle and process; identifying and selecting projects; developing a project proposal; techniques for planning, scheduling, resource assignment, budgeting, and controlling project performance; project risks; project manager responsibilities and skills; project team development and effectiveness; project communication and documentation; and project management organizational structures. The concepts in the course support the project management knowledge areas of the Project Management Institute's A Guide to the Project Management Body of Knowledge (PMBOK® Guide).

**MGM 534 Technology and the Law**

*4 Class Hours 4 Quarter Credit Hours*

*Pre/Co-requisite: MGM 533*

This course is designed to provide a broad-based analysis of the legal issues relevant to technology-related fields. It provides a foundation for intellectual property topics associated with domestic and international business ventures such as copyright, trademark, and patent issues. Existing and pending contract and human resources laws and regulations will be addressed as well as the legal issues associated with negotiations and entrepreneurship.



## Questions & Answers

### 1. When do my classes meet?

If you choose the on-campus course option, your course will meet in the evening, once a week from 6:30-10 p.m. Classes will usually take place at the main campus in East Greenwich, RI.

At the beginning of each term you will receive a detailed schedule giving the exact time and location of all your classes. The university requires that all students be prepared to take classes and receive services at any of NEIT's locations where the appropriate classes and services are offered.

Classes cancelled by the university for any reason will be rescheduled.

### 2. How large will my classes be?

The average size for a class is about 15 to 20 students; however, larger and smaller classes occur from time to time.

### 3. Where do my classes meet?

On-campus courses meet on the East Greenwich campus. A couple of courses may be offered online.

### 4. Will all or some of my classes be online?

You will have the opportunity to choose courses that are online or on-campus. You can mix them up any way you like to create a schedule that works for you and fits into your personal and professional life. The entire program can be completed completely online, though on-campus options exist for most courses as well.

### 5. How do online courses work?

Online courses at New England Tech are crafted by a faculty-led team of learning and technology design experts to be interesting, relevant and engaging, and to have real impact on students in their lives and on their careers. They are not self-paced courses – you will have coursework to do every week and it is important to keep up.

You can do your coursework at any time of day. At times, there may be synchronous online meetings, but these will not happen often. You will be learning as part of a connected community that provides support, challenges your thinking, and reminds you that you are not alone. Instructors are present in the course and work with students to help them be successful. See Online Learning at NEIT for more information about online courses in the MSIT program.

### 6. I'm not so sure about online courses. What do I need to do to be successful?

No special equipment is required – just a modern Windows or Mac computer, an office suite such as Microsoft Office, and a broadband Internet connection. A webcam and microphone may be required for some activities.

New England Tech Online courses help acclimate you to the technology and build your skills and your confidence as you go. We provide 24x7 support via phone, email or chat to help you with computer or online system issues. Tablet computers can be useful for doing course readings, watching course videos, and catching up on course discussions; but a tablet will not be sufficient for doing all your coursework – be sure you have regular access to a laptop or desktop computer.

Most importantly, you'll need to set aside time to do your coursework. This program is challenging. In an online course, you should expect to spend as much time as you'd spend in the classroom for an on-campus course, plus time for reading, projects, group work and other assignments.



**7. How long is each academic term?**

Courses at New England Tech are 10-weeks long, with four terms offered per year, starting in January, April, July, and October.

**8. How long should it take me to complete my program?**

To complete your degree requirements in the shortest possible time, you should take the courses outlined in the prescribed curriculum. For a typical six-term curriculum a student may complete the requirements in as little as 18 months.

**9. Is NEIT accredited?**

NEIT is accredited by the New England Commission of Higher Education (formerly the Commission on Institutions of Higher Education of the New England Association of Schools and Colleges, Inc.). Accreditation by NECHE is recognized by the federal government and entitles NEIT to participate in federal financial aid programs. Some academic departments have specialized professional accreditations in addition to accreditation by NECHE. For more information on accreditation, see NEIT's catalog.

**10. Can I transfer the credits that I earn at NEIT to another college?**

The transferability of a course is always up to the institution to which the student is transferring. Students interested in the transferability of their credits should contact the Office of Teaching and Learning for further information.

**11. Can I transfer credits earned at another college to NEIT?**

Transfer credit for appropriate courses taken at accredited institutions will be considered for courses in which the student has earned a "B" or above. An official transcript from the other institution must be received before the end of the first week of the term for transfer credit to be granted for courses to be taken during that term. Students will receive a tuition reduction for the approved IT courses based on the program rate and will be applied against the final academic term of the curriculum's tuition amount. No tuition credit is provided for technical courses which are not a part of the curriculum.

Students may transfer no more than 4 credits (one course).

**12. How many credits do I need to acquire my Financial Aid?**

Students entering the MSIT program will be eligible for various forms of financial aid, including loans, if they take at least 4 credits per term. You can find tuition and fee information on the program [Tuition and Financial Aid](#) page.

**13. What does my program cost?**

The cost of your program will be as outlined in your enrollment agreement, along with your cost for books and other course materials. You can find tuition and fee information on the program [Tuition and Financial Aid](#) page.

**14. What kind of employment assistance does NEIT offer?**

The Career Services Office assists NEIT students and graduates in all aspects of the job search, including resume writing, interviewing skills, and developing of a job search strategy. Upon completion of their program, graduates may submit a resume to the Career Services Office to be circulated to employers for employment opportunities in their fields. Employers regularly contact us about our graduates. In addition, our Career Services Office contacts employers to develop job leads. A strong relationship with employers exists as a result of our training students to meet the needs of industry for over fifty years. No school can, and NEIT does not, guarantee to its graduates employment or a specific starting salary.



**15. Where will job opportunities exist?**

Graduates have obtained employment in the local area. However, one of the most exciting aspects of this program is the ability to look nationally for employment opportunities. Graduates will have the depth of confidence and the technical and managerial education to successfully lead in the IT industry, both now and well into the future. Successful graduates may be able to advance their careers by qualifying for positions such as Project Manager, Network Manager, Chief Information Officer (CIO), Chief Technical Officer (CTO), Business Analyst or Systems Integrator.

**16. Do I need a computer science or information technology degree to enter the program?**

Yes. A B.S. degree in computer science, information technology or a related field from an accredited institution is required for before beginning this degree program. You may enroll in this program pending the completion of your current BS degree. Significant professional experience may be considered in lieu of an appropriate degree. A transcript and/or a resume should be supplied to satisfy either of these requirements.

**17. What are the admissions requirements to the Master's program?**

A bachelor's degree from an accredited institution, with a minimum GPA of 2.5, is required for admission to this degree program. You may enroll in this program pending the completion of your current bachelor's degree. Successful applicants will typically have a B.S. degree in computer science, information technology or a related field, or have considerable professional experience in IT. A transcript and/or a resume should be supplied to satisfy either of these requirements.

You'll also provide a Personal Statement as part of your admission process – a brief essay that details your qualifications and interest in the program and how it will enable you to accomplish your professional goals.

**18. Do I need to maintain a certain grade point average?**

Yes. You are required to maintain a cumulative grade point average of at least 3.0 throughout the program. The minimum passing grade for a course in the MSIT program is a C (73%).

**19. What happens if I earn less than a C in a course?**

Students who earn less than a C in any course will be required to re-take the course the next time it is offered. If the student does not earn a C or better in a course after the second attempt, he/she will be dismissed from the MSIT program. Students will only be allowed to re-take two courses.

**20. For whom is this program designed?**

The New England Tech Master of Science in Information Technology is designed to prepare IT professionals for advancement into management and senior management roles. The program builds essential knowledge of technical themes in enterprise IT, while also providing the core business administration, management and leadership skills that IT managers need.

**21. What makes New England Tech's MSIT program different from others?**

- A curriculum that balances crucial enterprise IT knowledge with mastery of business and management skills preparing you to be an IT leader in your organization.
- Our curriculum builds a long-term, adaptable base of leadership skills to fuel your career advancement.
- Our faculty are practitioners from the field: leading experts from top IT employers in the public and the private sectors.
- Ten-week long courses keep you focused and are easier to digest, and enable you to finish your Master's degree in as little as 18 months.
- 24x7 technical support by email, chat or phone helps you work on your schedule.



## **Technical Standards**

These technical standards set forth by the IT department establish the essential qualifications considered necessary for students admitted to the program. The successful student must possess the following skills and abilities or be able to demonstrate they can complete the requirements of the program with or without reasonable accommodation, using some other combination of skills and abilities.

### **Cognitive Ability**

- Good reasoning and critical thinking skills.
- Ability to learn, remember and recall detailed information and to use it for problem solving.
- Ability to deal with materials and problems such as organizing or reorganizing information.
- Ability to use abstractions in specific concrete situations.
- Ability to separate complex information into its component parts.
- Ability to perform tasks by observing demonstrations.
- Ability to perform tasks by following written instructions.
- Ability to perform tasks following verbal instructions.
- Possession of basic keyboarding skills and knowledge of computer programs.

### **Communications Skills**

- Ability to speak in understandable English in a classroom situation on a one-on-one basis as well as before a group.
- Ability to communicate effectively with faculty and other students.
- Ability to demonstrate and use the knowledge acquired during the classroom training process.
- Ability to verbally express technical concepts clearly and distinctly.
- Ability to express thoughts clearly.

### **Adaptive Ability**

- Ability to remain calm in the face of computer lab equipment and/or software failure.
- Ability to maintain emotional stability and the maturity necessary to interact with members of the faculty and students in a responsible manner.
- Ability to tolerate the differences in all students, faculty, and administration.
- Ability to follow instructions and complete tasks under stressful and demanding conditions.
- Ability to adapt in a positive manner to new and changing situations with an open mind and flexibility.
- Ability to think clearly and act quickly and appropriately in stressful situations.

### **Physical Ability**

- Ability to sit continuously at a personal computer for long periods of time in order to learn and become proficient in computer programming and networking.
- Ability to perform learned skills independently, with accuracy and completeness within reasonable time frames in accordance with classroom and business procedures.

### **Manual Ability**

- Sufficient motor function and sensory abilities to participate effectively in the classroom laboratory.
- Sufficient manual dexterity and motor coordination to coordinate hands, eyes and fingers in the operation of computers and business equipment.

### **Sensory Ability**

#### Visual

- Acute enough to see clearly and interpret the contents on the computer screen.