

# INFORMATION TECHNOLOGY (M.S.)

<https://manchester.unh.edu/program/ms/information-technology>

## Description

The MS IT program is a professional graduate program in the applied and fast-changing field of Information Technology. The program prepares students for a professional IT or computing-related career and for advanced studies in a computing discipline. Offered at the University's urban campus in Manchester, a city that embraces cultural diversity, the program welcomes students from all over the world. With classes scheduled during the day and in the evening in fall, spring, and summer terms, the program gives students the flexibility to enroll full- or part-time. For diligent undergraduate students, this program is also available as an Accelerated Master's Program.

Tools, platforms, and programming languages used in IT industry evolve rapidly. Capitalizing on the campus location in New Hampshire's largest city and the state's corporate and financial center, the program requires an internship experience. With support from many business, technology and non-profit organizations who sponsor internships, students integrate authentic professional experiences in their academic coursework early in the program. The internship course may be repeated for a maximum of six credits.

## Requirements

### Degree Requirements

The M.S. IT program has two options for completion:

- **Master's Project Option (33 Credits):** 10 courses (30 credits) and Master's Project course (3 credits)
- **Master's Thesis Option (30 Credits):** 8 courses (24 credits) and Master's Thesis (6 credits)

Both options require completion of 18 core credits.

Code	Title	Credits
<b>Students are required to complete 3 credits in each of the six core areas below.</b>		
<b>Data</b>		<b>3</b>
COMP 820	Database Systems and Technologies	3
or COMP 821	Big Data for Data Engineers	
<b>Operations</b>		
COMP 835	Secure Networking Technologies	3
or COMP 851	System Integration and Architecture	
<b>Intelligent Systems</b>		
COMP 840	Machine Learning Applications and Tools	3
or COMP 841	Practical Artificial Intelligence	
<b>Development</b>		
COMP 805	Full Stack Development	3
or COMP 830	Software Development	
<b>Security</b>		
COMP 815	Information Security	3
or COMP 885	Applied Cryptography	
<b>Professional Experience - Select from the following:</b>		<b>3</b>
COMP 890 & COMP 891	Internship and Career Planning and Internship Practice (1 cr internship and 2 cr COMP 891)	
COMP 890 & COMP 892	Internship and Career Planning and Applied Research Internship (1 cr internship and 2 cr COMP 892)	

COMP 891	Internship Practice (3 cr)	
COMP 892	Applied Research Internship (3 cr)	
<b>Elective Courses</b> <sup>2</sup>		<b>6-12</b>
Elective courses can be in various disciplines, including computer science (CS), computing (COMP), business and administration (ADMN), analytics and data science (DATA), and more. Depending on the culminating experience option (project or thesis), there are two or four elective courses required.		
<b>Culminating Experience</b>		
Select one of the following:		
COMP 898	Master's Project	3
COMP 899	Master's Thesis	6

- <sup>1</sup> Students are required to enroll in at least 1 credit of Professional Experience upon successful completion of nine credits in the program. COMP 891 Internship Practice and COMP 892 Applied Research Internship may be repeated for a maximum of 6 credits.
- <sup>2</sup> Master's Project Option requires 12 credits of elective coursework  
Master's Thesis Option requires 6 credits of elective coursework

## Student Learning Outcomes

- Analyze complex computing problems and identify solutions by applying principles of computing.
- Design, implement, and evaluate computing solutions that meet IT computing requirements.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in IT activities.
- Identify and analyze user needs in the process of developing and operating computing systems.