INFORMATION TECHNOLOGY (MS)

The Master of Science in Information Technology is designed for current and aspiring professionals in charge of developing, implementing, operating, and managing information systems in a variety of organizations.

Students in this program will gain a broad technical understanding of current and emerging technologies in the industry, familiarity with systems engineering concepts, and a solid foundation in net-centric computing. They will also have a firm grasp of current and future effects of the convergence of the telecommunications, media, and information technology sectors.

Courses may be taken in person or online.

Related Programs

Master's

- Computer Science (MS) (https://catalog.luc.edu/graduate-professional/graduate-school/arts-sciences/computer-science/computer-science-ms/)
- Software Engineering (MS) (https://catalog.luc.edu/graduate-professional/graduate-school/arts-sciences/computer-science/software-engineering-ms/)

Curriculum

The Master of Science in Information Technology requires a total of 30 credit hours (generally ten 3 credit courses). The M.S. in Information Systems offers the following tracks of specialization: Data Management; Technology Management; IT Security; or Enterprise Networking.

To achieve depth and breadth, Information Technology students must be complete the following:

Code	Title	Hours
COMP 417	Social and Ethical Issues in Computing [1]	3
Select Three Courses in a Track [2]		**9**
Data Management (DM) Track		
COMP 405	Database Administration	
COMP 406	Data Mining	
COMP 425	Rapid Applications Development	
COMP 453	Database Programming	
COMP 488	Computer Science Topics	
Technology Management (TM) Track		
COMP 403	Operations Management	
COMP 404	Organizational Development	
COMP 420	Software Systems Analysis	
COMP 477	IT Project Management	
IT Security (IS) Track		
COMP 401	Computer Security	
COMP 440	Computer Forensics Investigations	
COMP 447	Intrusion Detection and Computer Forensics	
COMP 448	Network Security	
COMP 449	Wireless Networking and Security	
COMP 452	Introduction to Computer Vulnerabilities	
Enterprise Networking (EN) Track		
COMP 443	Computer Networks	
COMP 448	Network Security	
COMP 449	Wireless Networking and Security	
COMP 451	Enterprise Networking	
Select six graduate level COMP Electives [3]		*18*
Total Hours		**30**

[1] This course can be substituted with another graduate course at the discretion of Graduate Program Director if students had the equivalent in their undergraduate program.

[2] Courses can be substituted at the discretion of the Graduate Program Director. Substitutions will usually be limited to special-topics courses (COMP 488 Computer Science Topics) which have learning outcomes closely related to other courses in the track in question.

[3] Electives can be any COMP 400 level class (https://catalog.luc.edu/graduate-professional/graduate-school/arts-sciences/computer-science/#coursestext), except the preparation courses (COMP 400A, COMP 400B, COMP 400C, COMP 400D, COMP 400E). Students may take up to a maximum of 6 credit hours of COMP 490 Independent Project and/or COMP 499 Internship. You can go here (https://catalog.luc.edu/graduate-professional/graduate-school/arts-sciences/computer-science/#coursestext) for a list of COMP 400-level course descriptions.

Preparation Courses

The following courses are required if you do not have a four-year undergraduate degree in a related field.

- COMP 400A Object-Oriented Programming
- COMP 400B Data Structures I

Students may not use an introductory course to satisfy a foundation or elective requirement. Preparatory courses do not count towards the 30 required credit hours of non-preparatory courses.

A student taking any necessary preparation course is considered to be a full-fledged student of the Graduate School. Preparation courses may be taken in the same semester as other graduate courses, provided the prerequisites for the other graduate courses are met. Students are expected, however, to take all necessary preparation courses early in their career.

A student may place out of an introductory course under any of the following conditions:

- The student has appropriate coursework equivalent to the introductory course.
- The student has appropriate and verified professional experience equivalent to the introductory course.
- The student passes a Graduate Competency Assessment (GCA) in the introductory course area.
- This can be waived under the discretion of the GPD.

If a student has had a preparatory course waived, departmental assistance will usually be necessary to allow the student to register for any other course having that preparatory course as a prerequisite.

For students who have taken Computer Science coursework at Loyola: many 400-level courses in the department are cross-listed with 300-

level analogues (e.g. COMP 443 Computer Networks and COMP 343 Computer Networks). Students who enter the MS program after taking a Loyola course in this category must choose to take 400-level courses that are not cross-listed with any 300-level courses taken earlier, unless granted specific permission by the Graduate Program Director. Students may not use an introductory course to satisfy a foundation or elective requirement.

Suggested Sequence of Courses

This sequence supposes that the student starts in Fall and takes one Internship course over the following summer.

Course	Title	Hours
Year 1		
Fall		
COMP 417	Social and Ethical Issues in Computing	3
Track Course 1		3
Elective 1		3
	Hours	**9**
Spring		
Track Course 2		3
Elective 2		3
Elective 3		3
	Hours	**9**
Summer		
COMP 499	Internship	3
	Hours	**3**
Year 2		
Fall		
Track Course 3		3
Elective 4		3
Elective 5		3
	Hours	**9**
	Total Hours	**30**

STEM Designation

With a national shortage of professionals trained in STEM-related fields, employers are actively pursuing STEM degree holders. Distinguish yourself in technology with a STEM-designated degree.

Loyola's master's degree programs in Computer Science have been granted a STEM designation from the U.S. Department of Homeland Security. The program achieved STEM designation because of its emphasis on teaching students how to solve computer science problems with a suite of quantitative and technological tools.

Under this STEM classification, international students can extend their training in the U.S. by working in their field of study. Students can qualify for a 24-month OPT (Optional Practical Training) Extension, bringing the total OPT time granted to 36 months.

Graduate & Professional Standards and Regulations

Students in graduate and professional programs can find their Academic Policies in Graduate and Professional Academic Standards and Regulations (https://catalog.luc.edu/academic-standards-regulations/

graduate-professional/) under their school. Any additional University Policies supersede school policies.

Learning Outcomes

- Students will gain familiarity with the broad outlines of computer technology, and will gain specialization in one of the track areas (Data Management, Technology Management, IT Security and Enterprise Networking).