Computer Science MS

COLLEGE OF SCIENCE AND TECHNOLOGY

Learn more about the Master of Science in Computer Science.

About the Program

The MS in Computer Science emphasizes a general approach to the study of computing, including courses in artificial intelligence, collaborative systems, computer architecture, database systems, graphics and image processing, networking and communications, operating systems, software engineering and theoretical areas. The curriculum is not oriented toward any specific applications area of computing but emphasizes general graduate-level studies in computing, preparing students for careers in systems analysis, teaching and research.

Time Limit for Degree Completion: 5 years

Campus Location: Main

Full-Time/Part-Time Status: Students complete the degree program through classes offered after 4:30 p.m. The degree program can be completed on a full- or part-time basis.

Areas of Specialization: Research interests of faculty include:

- Analysis of algorithms
- Artificial intelligence
- Communication and networks
- Computer architecture
- Data analytics
- Digital forensics
- Expert systems
- Flexible and intelligent manufacturing systems
- Graphics
- High-performance computing
- Information security and assurance
- Intelligent CAI systems
- Management information and database systems
- Natural language processing
- Network security
- Parallel and distributive processing and operating systems
- Programming languages
- Sensory and image processing
- Software engineering
- Theory of automata and computation
- Wired and wireless networks

Job Prospects: Graduates often find employment as data analysis consultants, product designers, researchers and software developers. Alternatively, many become involved in the design and implementation of new applications software or the planning and evaluation of computer-based systems. Prospective employers include the government or industrial firms that utilize computers for research and/or production purposes.

Non-Matriculated Student Policy: Non-matriculated students are permitted to take a maximum of two graduate-level CIS courses.

Financing Opportunities: Assistantships provide a stipend and full-time tuition to qualified students, but are typically reserved for doctoral students.

Admission Requirements and Deadlines

Application Deadline:

Fall Priority Deadline: March 1
Spring Priority Deadline: October 30; August 1 international

Applications submitted after the priority deadline will be considered for admission on a rolling basis. Applications are reviewed as they are received.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 2

From Whom: Letters of recommendation should be obtained from Computer Science faculty and professionals.

Coursework Required for Admission Consideration: A minimum of one year of programming and data structures using the C++ or Java programming language and one year of theoretical calculus are required. This includes coursework equivalent to CIS 1068 Program Design and Abstraction, CIS 2168 Data Structures, MATH 1041 Calculus I, and MATH 1042 Calculus II.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree in Computer Science is required. Applicants who have insufficient undergraduate coursework in Computer Science will need to take undergraduate courses to address any deficiencies. Students without a Computer Science degree are typically required to take the following courses, which cannot be counted for credit toward the MS degree:

Code	Title	Credit Hours
CIS 2107	Computer Systems and Low-Level Programming	4
CIS 2166	Mathematical Concepts in Computing II	4
CIS 2168	Data Structures	4
CIS 3207	Introduction to Systems Programming and Operating Systems	3-4
or CIS 5012	System Software and Operating Systems	
CIS 3223	Data Structures and Algorithms	3
or CIS 5011	Programming and Data Structure	

Statement of Goals: In up to 500 words, explain your interest in this specific program and what career goals you have. Describe your work and academic experiences with specific mentions of internships, course projects, or research. Share any other relevant information that you feel should be taken into consideration.

Transcripts: Unofficial transcripts are considered at the time of applying. Official transcripts are required when accepting the offer at the time of deposit. Official transcripts can be sent to cst.gi@temple.edu

Standardized Test Scores:
GRE: Not required

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master's degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 85
- IELTS Academic: 6.5
- PTE Academic: 58
- Duolingo: 110

Resume: Current resume required.

Transfer Credit: Graduate-level Computer Science coursework obtained no more than five years prior to the student's matriculation in the graduate program may be transferred into the Computer Science MS program. The student must have earned an "A" in the course, and must submit a rationale for applying the credits to the current graduate program. The maximum number of credits a student may transfer is 6.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

Code	Title	Credit Hours
Core Courses		
CIS 5511	Programming Techniques	3
CIS 5512	Operating Systems	3
CIS 5515	Design and Analysis of Algorithms	3
Electives		**18-15**

Electives are selected from any CIS graduate courses numbered at or above 5500 [1]		
Select at most six credits of Independent Study (CIS 9281/9282) [2]		
Capstone Course		
CIS 9995	Capstone Project	3-6
or CIS 9996	Master's Thesis Research	
Total Credit Hours		**30**

[1]   Selection of other graduate-level CIS courses or relevant courses outside the department requires the approval from CS MS Program Director
[2]   Selection of any of these courses requires approval from the student's advisor.

Culminating Event:
Capstone Project:
Students complete a capstone project as the culminating event. CIS 9995 is taken for only 3 credits under the close supervision of CIS Graduate Faculty. Students who choose to do a master's thesis under a CIS Graduate Faculty need to take 6 credits of CIS 9996 as the capstone.

Accelerated Programs

Undergraduate students may opt to pursue an accelerated +1 program, enabling them to complete both a bachelor's degree and master's degree in less time than the traditional route.

The accelerated pathway for the Computer Science MS is open to students pursuing the Computer Science BS.

Cohort Code: XMSCS

Minimum Cumulative GPA: 3.25

Graduate Courses Approved to Count for Both Undergraduate and Graduate Degrees

Code	Title	Credit Hours
CIS 5511	Programming Techniques	3
Select two or three from the following:		6-9
CIS 5512	Operating Systems	
CIS 5515	Design and Analysis of Algorithms	
CIS 5516	Principles of Data Management	
CIS 5517	Data-Intensive and Cloud Computing	
CIS 5524	Analysis and Modeling of Social and Information Networks	
CIS 5526	Machine Learning	

Suggested Academic Plan

Course	Title	Credit Hours
Year 3		
Fall		
CIS 5511	Programming Techniques	3
	Credit Hours	**3**
Spring		
Select one of the following:		3
CIS 5512	Operating Systems	
CIS 5515	Design and Analysis of Algorithms	
CIS 5516	Principles of Data Management	
CIS 5517	Data-Intensive and Cloud Computing	
CIS 5524	Analysis and Modeling of Social and Information Networks	
CIS 5526	Machine Learning	
	Credit Hours	**3**
Year 4		
Fall		
Select one of the following:		3

CIS 5512	Operating Systems	
CIS 5515	Design and Analysis of Algorithms	
CIS 5516	Principles of Data Management	
CIS 5517	Data-Intensive and Cloud Computing	
CIS 5524	Analysis and Modeling of Social and Information Networks	
CIS 5526	Machine Learning	
	Credit Hours	**3**
Spring		
Select one of the following:		3
CIS 5512	Operating Systems	
CIS 5515	Design and Analysis of Algorithms	
CIS 5516	Principles of Data Management	
CIS 5517	Data-Intensive and Cloud Computing	
CIS 5524	Analysis and Modeling of Social and Information Networks	
CIS 5526	Machine Learning	
	Credit Hours	**3**
	Total Credit Hours	**12**

Admissions Criteria

Candidates for the +1 program must:

- apply during the spring semester of sophomore year or prior to the start of senior year.
- have a 3.25 undergraduate GPA before approval.
- have two faculty members submit a letter of recommendation to cst.gi@temple.edu.
- complete the remaining credits for the master's in the year following undergraduate graduation.

Application: https://cst.temple.edu/admissions/graduate-admissions

Contact Information

Andrew Rosen
andrew.rosen@temple.edu

Learn more about the accelerated program in Computer Science and other College of Science and Technology +1 programs.

Contacts

Program Web Address:

https://www.temple.edu/academics/degree-programs/computer-science-ms-st-csci-ms

Department Information:

Dept. of Computer and Information Sciences
313 Science and Education Research Center
1925 N. 12th Street
Philadelphia, PA 19122-1801
cisadmit@temple.edu
215-204-8450

Submission Address for Application Materials:

https://cst.temple.edu/academics/graduate-programs/apply-now

Department Contacts:

Admissions:
Graduate Administrative Coordinator
cisadmit@temple.edu
215-204-8450

Graduate Advisor:

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Graduate Chairperson:
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Department Chairperson:
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