

COMPUTER SCIENCE - MASTER OF SCIENCE

The Master of Computer Science degree has two tracks, one with thesis or project track and a course-work only track. For all master's students, the following apply:

- Each master's student must complete 12 credits of **the basic requirements (p. 1)**(see table below).
- Each master's student is expected to register for CSCI classes numbered 5000 or above, except for CSCI 5110 Data Structure and Algorithms Transition or deficiencies which are 46x courses (Transition Courses) or CSCI 4105 Programming Language Structure I or CSCI 4120 Operating Systems I.
- Courses not in Computer Science can be included in the student's program of study only if prior written approval has been obtained from the student's advisor and the departmental Graduate Committee. Further details can be found in the on-line Graduate Handbook (<https://computerscience.nmsu.edu/>).
- **For Thesis/Project track's students:** each student following this track needs to complete the following three requirements:
 - **Courses:** each student *needs to take*, in addition to the basic requirement, **15 credits** of Computer Science graduate courses (courses numbered > 5000) with the following restrictions:
 - One course can only be used to satisfy one requirement (e.g., if CSCI 5510 Automata, Languages, Computability is used to satisfy the requirement for the **Theories** category, it cannot be counted towards satisfying the requirements on **Courses**).
 - At most 6 credits of CSCI 5996 Special Topics with different topics (i.e., with different subtitles) can be counted towards the degree program of the student.
 - At most 6 credits of CSCI 5991 Special Research Problems can be counted towards the degree program of the student.
 - No credit of course numbered > 5999 can be counted towards the degree program.
 - **Thesis/Project:** each student *must write a thesis* (CSCI 5999 Master's Thesis) or *undertake a research project* (CSCI 5994 Master's Project) for **6 credits**.
 - **Master Final Exam:** each student *is required to sustain a final exam*, covering the thesis/research project and the graduate course-work. The two parts of the exam bring equal weight.
- **For Course-Work Only track's students:** Each student following this track needs to take, in addition to the basic requirement, **24 credits** of Computer Science graduate courses (courses numbered > 5000) with the following restrictions:
 - One course can only be used to satisfy one requirement (e.g., if CSCI 5510 Automata, Languages, Computability is used to satisfy the requirement for the **Theories** category, it cannot be counted towards satisfying the requirements on **Courses**).
 - At most 6 credits of CSCI 5996 Special Topics with different topics (i.e., with different subtitles) can be counted towards the degree program of the student.
 - No credit of course numbered > 5888 can be counted towards the degree program.

Basic Requirements

Prefix	Title	Credits
Basic		3
CSCI 5110 or CSCI 5505	Data Structure and Algorithms Transition ¹ Analysis of Algorithms	
Theories		3
CSCI 5510	Automata, Languages, Computability	
CSCI 5505	Analysis of Algorithms	
CSCI 5860	Algorithms in Systems Biology	
Systems		3
CSCI 5605	Operating Systems II	
CSCI 5820	Database Management Systems II	
CSCI 5840	Computer Networks II	
Applications		3
CSCI 5410	Computer Graphics I	
CSCI 5415	Introduction to Data Mining	
CSCI 5310	Bioinformatics Programming	
CSCI 5205	Computer Security	
CSCI 5210	Introduction to Smart Grids	
CSCI 5250	Human-Centered Computing	
CSCI 5305	Bioinformatics	
CSCI 5255	Digital Game Design	
CSCI 5260	Visual Programming	
CSCI 5420	Applied Machine Learning I	
CSCI 5215	Parallel Programming	
CSCI 5220	Cloud and Edge Computing	
CSCI 5225	Introduction to Cryptography	
CSCI 5265	Modern Web Technologies	
CSCI 5425	Introduction to Deep Learning	
CSCI 5430	Graph Data Mining	
CSCI 5240	Software Reverse Engineering	
CSCI 5435	Text Mining and Natural Language Processing	
CSCI 5235	Cellular Networks and Mobile Computing	
CSCI 5440	Generative Artificial Intelligence	
CSCI 5750	Artificial Intelligence II	
CSCI 5810	Advanced Software Engineering	
Total Credits		12

¹ Students who earned a B (or better) in CSCI 3720 Data Structures and Algorithms are not required to take this course.