



Graduate Program Handbook (MS.CSC) 2026

Computer Science Department

Graduate Program Coordinator: Dr. Rasha Morsi; Email: rmorsi@nsu.edu

Department Chair: Dr. Samuel Olatunbosun; Email: sbolatunbosun@nsu.edu

Office Manager: Ms. Brenda Anyanwu, Email: banyanwu@nsu.edu

Table of Contents

Disclaimer _____	3
List of Acronyms _____	4
Master of Science in Computer Science _____	5
Overview _____	5
Degree Programs Offered _____	6
Program Mission _____	6
Program Objective _____	6
Program Learning Outcomes _____	7
Financial Assistance _____	7
Grants and Assistantships _____	7
Ms Program CURRICULUM REQUIREMENTS _____	8
The Core Curriculum _____	8
Program Electives _____	8
M.S Standard Program Plan of Study Options _____	9
Graduate Certificates _____	10
Graduate Certificate in Game Design and Development _____	10
Graduate Certificate in Cybersecurity _____	10
Program Policies _____	12
Limit on 500-Level Courses _____	12
Limit on Transfer Credits _____	12
Minimum Passing Grade _____	12
Incomplete Grade _____	12
Academic Probation _____	12
Honor Code and Standards of Conduct _____	12
Academic Integrity _____	12
Thesis and Project Advisor and Committee _____	14
Research Expectations _____	15
Masters Thesis Expectations _____	16
Masters Project Expectations _____	18
Thesis and Project Graduation Requirements _____	20

Disclaimer

This document is subject to review and change. Incorrect or inconsistent statements shall revert to University, School of Graduate Studies, College of Science, Engineering, and Technology, and/or Computer Science Department guidelines as applicable. Every effort will be made to notify MS.CSC students of corrections and revisions to this Handbook. Errata and content suggestions can be emailed to cscgrad@nsu.edu, with “Handbook” included in the Subject line.

List of Acronyms

Acronym	Description
<i>ACM</i>	Association for Computing Machinery
<i>CS</i>	Computer Science
<i>CSET</i>	College of Science, Engineering, and Technology
<i>EVAL</i>	Evaluation
<i>GPA</i>	Grade Point Average
<i>GPC</i>	Graduate Program Coordinator
<i>GRE</i>	Graduate Register Exam
<i>I</i>	Incomplete
<i>IEEE</i>	Institute of Electrical and Electronics Engineering
<i>IP</i>	In Progress
<i>IT</i>	Information Technology
<i>MS.CSC</i>	Master of Science in Computer Science
<i>AEO</i>	Accessibility and Equal Opportunity
<i>U.S.</i>	United States

Master of Science in Computer Science



Overview

The Master of Science (M.S.) in Computer Science program at Norfolk State University provides a quality graduate education to students, especially those from underrepresented sectors of the population, by strengthening analytic skills, offering valuable research experiences, and promoting professional development in computer science.

There are four choices of study:

- Computer Science
- Information Assurance Track
- Data Science and Machine Learning Track
- Communication Networks Track

The Master of Science (M.S.) degree requires 30 graduate credit hours of course work including a thesis (6 credits), or 33 graduate credit hours of course work including a project (3 credits). All degree requirements must be completed within four calendar years. No more than 12 graduate credits may be transferred from other graduate schools. Full-time students starting with a B.S. degree in Computer Science should expect to take 1-1/2 to 2 years to complete the Master of Science degree.

Degree Programs Offered

The Computer Science Department offers multiple modes of delivery for the MS in Computer Science Degree:

1. Standard
 - a. Courses delivered in-person with some online offerings
 - b. Program length 1.5 – 2 years
 - c. Thesis or Project
2. Accelerated Online
 - a. Courses delivered asynchronously online
 - b. Program length is 12 months
 - c. Used 7-week mini terms (6 mini terms per year)
 - d. Project only
3. BS/MS Accelerated
 - a. 4+1 program
 - b. Students can receive dual credit for up to 4 courses in their BS degree
 - c. Complete the master's degree in 2 semesters
 - d. Courses delivered in-person with some online offerings

Program Mission

The computer science (CS) graduate program provides a quality CS education to students, especially those from underrepresented populations, by strengthening their leadership, analytical, and research skills to empower them to fulfill their career aspirations and to become productive computer science professionals.

Program Objective

The MS in Computer Science Program aims to:

1. Provide students with an in-depth understanding of advanced concepts and theories in computer science, ensuring a foundation in core areas such as computer algorithms, systems, networks, and architecture.
2. Enable students to specialize in specific areas of computer science, such as artificial intelligence, cybersecurity, data science, or software engineering by offering relevant coursework and hands-on projects.
3. Foster a culture of research excellence by encouraging students to engage in meaningful research projects, publishing research, and contributing to the advancement of knowledge in the field.
4. Develop effective communication skills, both written and verbal, to enable students to articulate complex technical concepts clearly to various audiences, including technical and non-technical stakeholders

Program Learning Outcomes

Students who graduate from the MS.CSC program will be able to:

1. Demonstrate in-depth knowledge of core required concepts and advanced topics in computer science. (Addresses Goal 1)
2. Demonstrate in-depth knowledge of advanced topics in computer science. (Addresses Goal 2)
3. Demonstrate an ability to effectively communicate technical concepts in written and oral form. (Addresses Goal 4)
4. Demonstrate research skills by engaging students in independent and collaborative research projects, contributing to the advancement of the field. (Addresses Goal 2, 3, and 4)

Financial Assistance

Financial assistance for graduate work can include standard federal and state financial aid. There will be a limited number of teaching, research, and laboratory assistantships awarded each year.

Renewals of TA, RA, and LA awards are not automatic, and are subject to annual review and available funding. Normally the length of support is no longer than two academic years.

Tuition assistance awards do not renew automatically and are subject to annual review and available funding. Normally the length of support does not exceed two academic years.

Grants and Assistantships

Grants and assistantship awards occasionally become available, including department personnel budget (e.g., teaching/research/lab assistant) and research grants. In general, grants are financial “gifts” designated to cover tuition or living expenses; whereas assistantships usually involve service or work that is compensated via payment of wages or “in-kind” tuition waivers. Additional opportunities may be offered by the Graduate School, CSET, the University, and/or external sources such as corporations and government agencies.

Most awards in these categories represent a legal contract between the student and the funder. Therefore, before accepting them, students should fully understand, be committed to, and be prepared to meet all terms of such agreements and to provide all required evidence of having fulfilled the contract.

For example, some types of funding require students to contribute a minimum number of work hours to ongoing projects or research that benefits the granting organization, and to produce measurable evidence such as software or reports. Students who are unable or unwilling to enter into such agreements or to fulfill any relevant contingencies should not ask to be considered for such funding. Similarly, students who accept such funding, then fail to meet agreed commitments, must realize such behavior will detrimentally affect their consideration for future funding opportunities.

Ms Program CURRICULUM REQUIREMENTS

The Core Curriculum

All students must take the following four courses except for a waiver (see below):

- CSC 530 Data Communications¹
- CSC 564 Operating Systems¹
- CSC 625 Analysis of Algorithms
- CSC 668 Advanced Computer Architecture

Program Electives

An updated list of program electives can be found in the [Graduate Catalog](#) upon opening the “CURRICULUM” dropdown menu.

Course Electives	
CSC 571 - Game Design and Development	CSC 691 - Graduate Independent Study I
CSC 572 - 3D Game Programming	CSC 650 - Cryptography
CSC 573 - Principals of Modeling and Simulation	CSC 660 - Parallel Computing
CSC 576 - Advanced Computer Topics III	CSC 720 - Wireless Sensor Networks
CSC 577 - Advanced Computer Topics IV	CSC 730 - Advanced Topics in Networking
CSC 580 - Computer Graphics	CSC 745 - Network Defense
CSC 593 - Systems Programming	CSC 750 - Evolutionary Computing
CSC 596 - Compiler Construction	CSC 755 - Cloud Computing
CSC 611 - Machine Learning	CSC 760 - Secure Software Development
CSC 612 - Computational Science	CSC 765 - Advanced Topics in Information Assurance
CSC 620 - Game AI	CSC 781 - Advanced Graduate Topics I
CSC 630 - Computer Networks	CSC 782 - Advanced Graduate Computer Topics II
CSC 635 - Computer Security II	CSC 791 - Graduate Independent Study II
CSC 678 – Scientific Visualization	CSC 794 - Software Project Leadership & Management

¹ If a student has already taken one of the above courses at the undergraduate level and earned a B+ or above, he or she may ask the Graduate Program Coordinator (GPC) for a *waiver* of that core course requirement. Credit will not be awarded for any course waived. The student will be required to take the requisite number of credits for the degree.

M.S Standard Program Plan of Study Options

The Standard Program offers two plans of study options:

- Option 1, Thesis
 - Must take four required courses above (12 credits)
 - Must take CSC 798 and CSC 799, master's Thesis I and II (6 credits)
 - Must take 4 Graduate Elective or Emphasis Courses (12 credits)
 - Total of 30 credits across the two-year program
- Option 2, Project
 - Must take four required courses above (12 credits)
 - Must take CSC 795, Masters Project (3 credits)
 - Must take 6 Graduate Elective or Emphasis Courses (18 credits)
 - Total of 33 credits across the two-year program

Graduate Certificates

Two Graduate Certificates are available to current graduate students as part of their matriculation in the master's in computer science program.

Graduate Certificate in Game Design and Development

Program Code: CERT.GAMEDESIGN.26

Degree Designation: Certificate

The Graduate Certificate in Game Design and Development program is a specialized program designed for professionals, educators, and aspiring game creators who want to gain advanced skills in designing, developing, and analyzing games. Students will learn the technical, creative, and theoretical knowledge required to create games that meet the needs of these rapidly evolving fields. Whether designing games for entertainment, education, or problem-solving, this program prepares graduates to be leaders in the exciting and expanding world of game design and development. It offers a broad understanding of the creative, technical, and theoretical aspects of game design, empowering students to create innovative and engaging experiences across various platforms. In this certificate, students will learn the principles of game design and development as well as game project management. Students will also gain hands-on development experience through a team-based development experience. Students completing this certificate should be able to design and develop games using off-the-shelf tools and be prepared to manage the production of games. Twelve credit hours are required for the certificate

REQUIRED COURSES	CREDITS
CSC 571 - Game Design and Development	3
CSC 572 - 3D Game Programming	3
CSC 620 - Game AI	3
CSC 794 - Software Project Leadership & Management	3

Graduate Certificate in Cybersecurity

Program Code: CERT.CYBERSEC.26

Degree Designation: Certificate

The Certificate in Cybersecurity is designed to prepare students to assess the security needs of computer and network systems in order to recommend safeguard solutions and manage the implementation and maintenance of digital security devices, systems, and procedures. Students will gain insight on the challenges involved in managing the security of enterprise information systems. The program will educate students to use theories and principles of information security to reduce security vulnerability of computer systems in public and private

organizations. Graduates will be able to analyze the challenges of securing data, risk management planning, and operation security to recommend security protection solutions.

CORE COURSES	CREDITS
CYS 535 - Computer Security I or CSC 535 - Computer Security I	3
CYS 555 - Management of Information Security or CSC 555 - Management of Information Security	3
ELECTIVE COURSES (6 CREDITS REQUIRED)	CREDITS
CYS 564 - Secure Operating Systems	3
CYS 573 - Network Fundamentals	3
CYS 598 - Certification Preparation	3
CYS 655 - Ethics for Cybersecurity Professionals	3
CYS 688 - Human Aspects of Cybersecurity	3
CYS 710 - Cybersecurity Policies and Programs	3

Program Policies

Limit on 500-Level Courses

Up to *five* 500-level courses will be credited for the MS degree in computer science including the two core courses.

Limit on Transfer Credits

A maximum of *six credits* may be transferred into the graduate program from another accredited institution if they have not been previously applied to a degree at another institution. Those grades must be B or above. The courses must be comparable to those offered in the Computer Science MS Program. The credits must be earned within five years prior to registration.

For More information see the [Graduate Program Website](#)

Minimum Passing Grade

The minimum passing grade for all courses applied to MS in Computer Science is "B." A grade of "B-" or lower is a failing grade.

Incomplete Grade

The incomplete grade removal policy can be found in the [NSU Policy Library](#).

Academic Probation

The Graduate Student Policy on Academic Probation can be found in the [NSU Policy Library](#).

Honor Code and Standards of Conduct

All graduate students are expected to agree to and practice the ACM [Code of Ethics and Professional Conduct](#) and the University's and Department's standards of conduct.

Academic Integrity

Academic integrity is a serious matter. The School of Graduate Studies and Research enforces NSU's overall academic integrity policies. University policies can be found in the [online policy library](#). Students in this program are expected to conduct their research, teaching, scholarship and academic work (e.g., completion of degree milestones) and any other related activities with the highest standards of academic integrity.

In particular, all coursework and academic milestones submitted by students in the MS.CS program must be their own original work. Material must never have been submitted in whole or in part to satisfy the requirements of prior courses or degrees taken by them or another individual at NSU or elsewhere, except by prior approval of the instructor and/or the MS.CS Program Committee as applicable.

All text, figures or graphics copied or paraphrased from another author or source must be appropriately identified, acknowledged, and attributed; otherwise it shall be deemed plagiarism. Any student who commits plagiarism in

the preparation of degree milestones (e.g., proposals, drafts, final documents) shall be terminated from the program.

In addition to these basic standards, students in this program shall be aware of and comply with the University's policies and procedures regarding the responsible conduct of research.

Thesis and Project Advisor and Committee

Prior to enrolling in the CSC 795 Masters Project course or the CSC 798 Thesis I course, the student is responsible for finding a Faculty Research Advisor (FRA) to work with and confirming that the advisor is willing and available to advise the student during the project semester. The FRA must:

- be a member of the NSU CS graduate faculty,
- have appropriate expertise to guide and evaluate the proposed research, and
- be approved by the CSC Graduate Program Coordinator

Research Expectations

All written work, whether in preliminary or final form, submitted by a student in the course of study toward the master's degree in computer science is assumed to be the student's own work. Anything copied or paraphrased from another author or source must be appropriately identified, acknowledged, and attributed. The use of the exact language of another without identification as a direct quotation by quotation marks or otherwise is plagiarism even though the source is cited in the student's work. Violation of the rules stated in this paragraph may be subject to disciplinary action.² If plagiarism occurs in thesis or project drafts, proposals, or final documents, the student will receive an "F" grade for the course and be terminated from the program.

When used appropriately, generative AI can be an effective training tool to enhance learning. Generative AI produces new content from patterns learned from training data; it does not check for the veracity or accuracy of the input or output data. Although generative AI can be used as an effective learning tool, it should not replace students' original work, critical thinking, or creativity. Generative AI platforms may be used as learning tools within defined contexts, but they cannot replace students' individual contributions. If you use generative AI tools, you must inform your instructor of this use and cite the contribution properly; otherwise, your actions will be considered academically dishonest and in violation of the NSU Code of Student Conduct.

² Derived from **Boston University School of Law Disciplinary Regulations Regarding Plagiarism**

Masters Thesis Expectations

The **Master's Thesis** will be an expository writing giving evidence of the student's ability to understand and present a solution to one or more problems in computer science. Every thesis must include the following:

- a background and rationale of the research; the problem statement,
- a complete, contemporary review of the state of the problem,
- a systematic analysis of the problem,
- an evaluation of new solutions or attempts at solutions,
- a conclusion,
- and a complete bibliography and set of references.

The Thesis I course should be taken in the second semester before expected graduation however, research on the thesis can start earlier than that. The student must choose a Thesis Research Advisor, who is a CS Graduate Faculty, **before** starting the CSC 798 Thesis I course. The student should choose a Faculty Research Advisor (FRA) based on the faculty member's availability to take thesis students and his/her research interests.

During the progress of the Thesis I course, the TRA and student will form a thesis committee comprised of the FRA as chair of the committee and two graduate faculty members, one normally chosen by the FRA and one by the student. In some circumstances, one of the members of the team may be outside the list of computer science graduate faculty members. This must be approved by the Graduate Program Coordinator. If no FRA's are available to advise the student and/or if a funding opportunity becomes available for the student by a faculty member outside the CS department, then the FRA can be a member of the graduate faculty of another graduate program. In this case, the Graduate Program Coordinator must approve and appoint one of Graduate Program Committee Members to chair the student's Thesis Committee.

Before the end of the CSC 798 Thesis I course, the student must have a thesis proposal approved by his or her Thesis Committee. Otherwise, the student cannot register for the CSC 799 Thesis II course. Any exception must be approved by the Graduate Program Committee. The student must give a proposal presentation to his/her committee. After the defense, the Thesis Proposal Defense Form must be completed and submitted by the committee chair to the GPC for approval. Copies of this form will be sent to the Department Chair and the School of Graduate Studies.

At the end of the thesis process the student must present in a public colloquium followed by a private defense of the thesis with the Thesis Committee.

The student is also required to submit the final approved thesis document in pdf format along with their authenticity check document to the TRA and the Graduate Program Coordinator for archiving.

Thesis Deadlines can be found on the Graduate School's page. The student must consider those deadlines as s/he plans their thesis timeline with their Research Thesis Advisor.

For thesis guidelines and timelines, see Student Reference Manual

For thesis formatting requirements see the [Thesis and Dissertation Guide](#)

Masters Project Expectations

The **Master's Project** will be expository writing giving a complete state-of-the-art status of a computer science problem including a thorough annotated understanding of the literature addressing the problem. Although the objectives of a project are like a thesis, it will be the intent of the project to replicate known solutions, understand and propose additional possible solutions, and to demonstrate these solutions in some form. It is expected that the student will demonstrate good computer science research methodology and with projects involving the building of software products, the student will practice good software engineering methodologies. The Masters Project course (CSC 795) should be taken the second semester before expected graduation.

The student along with the FRA will select another member of the NSU CS Graduate faculty to be a reviewer for the project. The FRA and the project reviewer will jointly approve the project topic and review the progress of the student.

After the student completes the project research and the final report, the FRA and project reviewer must jointly approve the research results and final report. At the end of the project, the student must present in a public colloquium followed by a private defense with the FRA and project reviewer. The FRA must submit the following to the GPC for archiving:

- a completed Proposal Defense Form at the conclusion of the project defense
- a copy of the proposal document in pdf format,
- a copy of the proposal presentation in pdf format, and
- a copy of the authenticity-checked proposal document.

Projects must be completed and defended 10 days before the final grades' submission due date in the semester of graduation.

The responsibilities of the faculty supervisor include:

- Before the project semester: advising the student in developing a workable concept and proposal,
- During the project semester:
 - setting a schedule of goals and deadlines,
 - meeting with the student regularly (ideally every week), and
 - guiding the student through the work required to complete the proposed project.
 - student should present their progress to the FRA and project reviewer at least twice during the semester (before their final presentation). These meetings are initiated and scheduled by the FRA.
- At the end of the project semester:
 - in conjunction with the project reviewer, determine when the student has successfully completed the project,

- sending out a proposal defense announcement to the graduate students, department faculty and any other interested party.
- ensuring all documentation is submitted on time to the GPC for a final check and archiving.

For thesis guidelines and timelines, see Student Reference Manual

For project formatting requirements see the [Thesis and Dissertation Guide](#)

Thesis and Project Graduation Requirements

Each student is required to submit a research document for thesis or project that includes their final committee-approved thesis document, advisor-approved iThenticate report, completed thesis completion form signed by all committee members, and final PowerPoint presentation used during the thesis defense. Students must also defend their research in a public setting.

For details on formatting, graduate school requirements, department requirements, etc, See *Student Reference Manual*.