

# COMPUTER SCIENCE

DOCTOR OF PHILOSOPHY (PH.D.)

**NSU** Florida

## At a Glance

- With the M.S. pathway, earn a Ph.D. degree with a minimum of 51 credits.  
With the B.S. pathway, earn a Ph.D. degree with a minimum of 66 credits.
- Program offers a flexible and unique format for working professionals.

## Program Formats

- Unique format includes a blend of on-campus and online activities.

## Program Highlights

- The CCE is recognized as a National Center of Academic Excellence in Cybersecurity (NCAE-C), Cyber Defense (CD), and Cyber Research (R) by the National Security Agency (NSA) and its affiliated federal agencies.
- Work on course assignments and research and participate in online activities between on-campus sessions.
- Receive quality instruction from CCE faculty members—all of whom hold Ph.D. degrees and are experts in their respective fields of research/application.

## Future Opportunities

Explore careers, such as

- C-level executive
- college/university faculty member
- computer scientist
- research and development
- senior software engineer

**Learn More**  
[computing.nova.edu](http://computing.nova.edu)

## Expand Your Career in Computer Science

Advance your career further and faster with NSU's Ph.D. in Computer Science, a top-tier program. Develop key skills and knowledge for positions in academia, government, and industry. Enhance your leadership acumen. Master the skills to develop creative solutions to substantive, real-world problems.

NSU's uniquely structured program combines traditional and online instruction to give you the opportunity to pursue graduate studies while continuing to work in your current position. The program is especially well suited for the working professional involved with one of the many disciplines in computer science and information technology, whether it be the industry, education, or government arena.

NSU's Ph.D. in Computer Science is designed for students with a bachelor's or master's degree in computer science or a closely related field. The M.S. to Ph.D. and B.S. to Ph.D. pathways emphasize core computer science knowledge in programming languages, operating systems, database management systems, software engineering, and design and analysis of algorithms.

Get the NSU edge.

## Admissions Requirements

- online application ([apply.nova.edu](http://apply.nova.edu))
- \$50 application fee (nonrefundable)
- an earned bachelor's or master's degree with a GPA of at least 3.2 from a regionally accredited institution and with an appropriate major
- sealed official transcripts from all institutions attended
- a résumé/curriculum vitae (CV)
- essay
- three letters of recommendation



College of Computing and Engineering (CCE)

# COMPUTER SCIENCE

## DOCTOR OF PHILOSOPHY (PH.D.)

### Curriculum | Minimum Credits: 51 Credits (M.S. to Ph.D.) | 66 Credits (B.S. to Ph.D.)

The Ph.D. in Computer Science program has two curriculum pathways.

#### M.S. TO PH.D. CURRICULUM

##### Required Core Courses

Each student must complete 5 core courses (3 credits each, total 15 credits).

CISC	610	Programming Languages
CISC	615	Design and Analysis of Algorithms
CISC	640	Operating Systems
CISC	660	Database Management Systems
CISC	680	Software Engineering

Students may substitute an elective for any of the following core courses listed above for which they have passed an M.S. course equivalent within the past five years.

CISC	650	Computer Networks
CISC	662	Data Mining and Knowledge Discovery in Databases
CISC	664	Information Retrieval and Web Search Engine Technology
CISC	665	Distributed Systems
CISC	668	Mobile Application Development
CISC	670	Artificial Intelligence
CISC	672	Data Visualization
CISC	681	Computer Graphics
CISC	682	Software Requirements Engineering
CISC	683	Object-Oriented Design
CISC	684	Software Testing and Verification
CISC	685	Interaction Design
CISC	690	Special Topics in Computer Science
ISEC	615	Fundamentals of Cybersecurity
ISEC	620	Applied Cryptography
ISEC	640	Database Security
ISEC	650	Computer and Network Forensics
ISEC	660	Advanced Network Security
MMIS	671	Data Analytics

#### B.S. TO PH.D. CURRICULUM

##### Required Core Courses

Each student must complete 5 core courses (3 credits each, total 15 credits).

CISC	610	Programming Languages
CISC	615	Design and Analysis of Algorithms
CISC	640	Operating Systems
CISC	660	Database Management Systems
CISC	680	Software Engineering

Each student must complete 5 electives (3 credits each, total 15 credits).

CISC	650	Computer Networks
CISC	662	Data Mining and Knowledge Discovery in Databases
CISC	664	Information Retrieval and Web Search Engine Technology
CISC	665	Distributed Systems
CISC	668	Mobile Application Development
CISC	670	Artificial Intelligence
CISC	672	Data Visualization
CISC	681	Computer Graphics
CISC	682	Software Requirements Engineering
CISC	683	Object-Oriented Design
CISC	684	Software Testing and Verification
CISC	685	Interaction Design
CISC	690	Special Topics in Computer Science
ISEC	615	Fundamentals of Cybersecurity
ISEC	620	Applied Cryptography
ISEC	640	Database Security
ISEC	650	Computer and Network Forensics
ISEC	660	Advanced Network Security
MMIS	671	Data Analytics

#### RESEARCH REGISTRATIONS

In both pathways, each student will be required to complete at least three doctoral research courses of CISC 885 (4 credits each, total 12 credits).

These courses will be taken at the end of the student's coursework. These directed-study courses will enable the student, with the support of a faculty adviser, to identify a viable research topic and conduct preliminary research that will lead to formal candidacy for the student.

CISC	885	Doctoral Research (4 credits each)
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#### DISSERTATION REGISTRATIONS

Students must complete 24 credits of dissertation registrations (three registrations of CISC 901). Students who do not complete the dissertation within 24 credits will register for CISC 920 Continuing Dissertation until the dissertation is complete.

CISC	901	Doctoral Dissertation (8 credits each)
CISC	920	Continuing Dissertation (4 credits each)

Curriculum is for the 2024–2025 academic year. This publication should not be viewed as a substitution for official program requirements and outcomes. A student is responsible for meeting the curriculum and program requirements in the student catalog that are in effect when the student enters the program.

Nova Southeastern University admits students of any race, color, sexual orientation, gender, gender identity, military service, veteran status, and national or ethnic origin. ■ Nova Southeastern University is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award associate's, baccalaureate, master's, educational specialist, doctoral, and professional degrees. Nova Southeastern University also may offer credentials such as certificates and diplomas at approved degree levels. Questions about the accreditation of Nova Southeastern University may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website ([www.sacscoc.org](http://www.sacscoc.org)). 24-02-004MCP

#### Admissions

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College of Computing  
and Engineering  
NOVA SOUTHEASTERN UNIVERSITY

**NSU**  
Florida