

# COMPUTER SCIENCE STUDIES CERTIFICATE (TRANSFER)

Program website ([https://www.frederick.edu/programs/information-technology/computer-science-\(1\).aspx](https://www.frederick.edu/programs/information-technology/computer-science-(1).aspx))

**Program Manager:** Jonathan Southard  
**Email:** jsouthard@frederick.edu  
**Phone:** 301.624.2753

## Program Description

Transfer certificate option designed for students seeking early entry to a computer science bachelor's program or for students with an undergraduate degree seeking to enter a graduate program that requires preparation in computer science and mathematics.

## Program Learning Outcomes

- Create an object-oriented program that implements data structures.
- Explain solutions that satisfy problem requirements.
- Analyze complexity of problem solutions.
- Design problem solutions that demonstrate efficiency.
- Construct software applications that implement a Graphical User Interface (i.e., GUI) Front-End.
- Produce documentation that describes implementation.

## Program Requirements

Code	Title	Credits
<b>Departmental Requirements</b>		
MATH 185	Calculus I	4
CMIS 106	Object Design and Programming	3
CMIS 201	Computer Science I	4
CMIS 202	Computer Science II	4
Total Credits		15

## Transfer Note

For more information on careers and transfer, contact the Career and Academic Planning Services office at 301.846.2471 or visit Transfer Services (<https://www.frederick.edu/student-resources/counseling-advising/transfer-services.aspx>).

## Guided Pathway to Success (GPS)

Suggested schedules map your path to degree completion.

Students should meet with an advisor each semester to carefully select and sequence courses based on their specific academic goals and interests. Visit Jefferson Hall or call 301.846.2471 for advising.

Recommended First Semester		Credits
CMIS 106	Object Design and Programming	3
MATH 185	Calculus I <sup>1</sup>	4
Credits		7
Recommended Second Semester		Credits
CMIS 201	Computer Science I	4
Credits		4

### Recommended Third Semester

CMIS 202	Computer Science II	4
Credits		4
Total Credits		15

1

Prerequisite: MATH 165 Precalculus (formerly MA 111)

## Part-time Students

Part-time students should complete courses in the order listed on the pathway. Please contact program manager for questions about part-time status.

Students who take fewer than 15 credits each semester or who require developmental English or Math coursework will need additional semesters to complete their degrees. Summer term and January session classes may help students to make faster progress.

## Pathway Legend

Milestone - courses with the Milestone notation should be taken within the recommend credit range to stay on track for program completion.

Fall, Spring, Summer - courses with a Fall, Spring, or Summer notation indicate the course is offered in the specified semester only.