



**2024-2025 Academic Year**

# Computer Science

## Associate in Science Degree in Liberal Arts and Sciences (A.S.) Certificate of Proficiency

**B-STEM Division**  
Business, Science, Technology, Engineering and Math  
[609.570.3482](tel:609.570.3482) [admiss@mccc.edu](mailto:admiss@mccc.edu)

The **Computer Science** programs serve two distinct groups of students. The Associate in Science degree option prepares graduates for transfer as juniors to colleges and universities offering baccalaureate majors in computer science, information systems, and related fields. Mercer has dual admission and articulation agreements with Rutgers University, The College of New Jersey, and New Jersey Institute of Technology (NJIT).

The Certificate of Proficiency program is designed for students who have previously completed degrees in mathematics, science, or engineering. Certificate students gain marketable programming skills which complement their previous academic study. In addition, the Certificate program satisfies many Computer Science master's degree "bridge" requirements.

### PROGRAM OUTCOMES

- Apply the fundamental concepts and techniques of computation, algorithms, and software design to a specific problem in a variety of applied fields;
- Provide detailed specifications, analyze the problem, and design a solution that functions as desired, has satisfactory performance, is reliable and maintainable, and meets desired criteria;
- Apply a firm understanding in areas of mathematics and science;
- Discuss the societal implications of computer software.

Admission to the A.S. option requires a high school diploma or equivalent with four years of college-prep mathematics. One or more years of high school science is recommended. While acceptance may be granted for students not prepared to begin the mathematics sequence of courses at the calculus level, these students should begin the mathematics sequence at the level determined by placement test results.

A student must earn a grade of C or higher in core courses to progress in the program. Computer science, mathematics and lab science courses are considered to be curriculum core courses.

**SEE ALSO:**[Computer Information Systems](#) degree program[Database Administration](#) certificate program[Mobile and Web Computing](#) certificate program

## DEGREE CURRICULUM

**2024-2025 Academic Year****CMPTR.SCI.AS****CIP 240101**

The course sequence below represents a recommended example of how this degree program can be completed in two years, presuming a Fall Term start and satisfaction of all Developmental Studies (foundation courses) requirements and prerequisites. Actual approaches toward completion depend on each student's anticipated transfer institution, career objectives, or other individual circumstances.

Students are encouraged to meet regularly with an academic advisor or Success Coach to consider options, establish plans, and monitor progress.

Code	Course (lecture/lab hours)	Credits	To Do This Semester
<b>FIRST SEMESTER</b>			
<a href="#">COS 101</a>	Introduction to Computer Science (3/2)  <ul style="list-style-type: none"> <li>May be substituted with 4-credit IST course. Consult academic advisor.</li> </ul>	4	✓ Meet with your faculty advisor to complete an academic plan. Make sure you are aware of any course prerequisites you may need to take, and how long it will take to complete your degree.
<a href="#">CSW 100</a>	College Success and Personal Wellness (2/0)  <ul style="list-style-type: none"> <li>Some exemptions apply. Consult academic advisor for details.</li> </ul>	2	✓ Use your online tools: Check your <a href="#">MercerMail</a> daily, utilize features of Office 365, and get to know <a href="#">Student Planning</a> .
<a href="#">ENG 101</a>	English Composition I (3/0)	3	
<a href="#">MAT 151</a>	Calculus I for the Mathematical and Physical Sciences (4/0)	4	✓ Take advantage of <a href="#">Learning Centers</a> or <a href="#">Online Tutoring</a> to support your studies and assignments.

## SECOND SEMESTER

<u>COS 102</u>	Computer Science I – Algorithms and Programming (3/2)	4	<p>✓ Transitioning to college can be challenging. Meet with your <a href="#">Success Coach</a> for guidance and support.</p> <p>✓ Apply for <a href="#">financial aid</a> by May 1.</p> <p>✓ Contact professors with questions and use their office hours to develop a connection.</p> <p>✓ Apply for Continuing Student scholarships at <a href="http://www.mccc.edu/m-scholarships">www.mccc.edu/m-scholarships</a>.</p> <p>✓ Begin attending college transfer events and visit campuses. Be sure to visit the <a href="#">Transfer Services</a> and <a href="#">Career Services</a> offices to get to know how the transfer process works and to explore career options.</p> <p>✓ Plan for how you will complete transfer applications while finishing your classes.</p>
<u>ENG 102</u>	English Composition II (3/0)	3	
<u>MAT 152</u>	Calculus II for the Mathematical and Physical Sciences (4/0)	4	
	<ul style="list-style-type: none"> <li>• May be substituted with 4-credit IST course. Consult academic advisor.</li> </ul>		
— —	<u>Humanities general education elective</u>	3	
— —	<u>Social Science general education elective</u>	3	

## THIRD SEMESTER

<u>COS 231</u>	Fundamentals of Computer Architecture (3/2)	4	<p>✓ Keep in contact with each professor and your faculty advisor. Make sure you are on track to graduate.</p>
— —	Lab Science elective	4	
	<ul style="list-style-type: none"> <li>• Choose from PHY 101 and 102; PHY 115 and 215; BIO 101 and 102; CHE 101 and 102.</li> </ul>		

— —	Program elective	4	<ul style="list-style-type: none"> <li>In consultation with academic advisor, select from MAT 201, 208, or 4-credit IST course.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Complete your applications to desired transfer institutions.</li> <li>✓ Develop team and leadership skills by getting involved in <a href="#">activities and clubs</a>.</li> <li>✓ Manage your stress! Take advantage of the MCCC pool, <a href="#">Fitness Center</a>, free yoga and Zumba. Reach out for <a href="#">counseling</a> or other support if you need it. Your <a href="#">Success Coach</a> can connect you with resources.</li> </ul>
— —	<a href="#">Social Science or Humanities general education elective</a>	3		

## FOURTH SEMESTER

<a href="#">COS 204</a>	Discrete Mathematical Structures (4/0)	4		✓ Apply for <a href="#">financial aid</a> by May 1.
<a href="#">COS 210</a>	Computer Science II – Data Structures (3/2)	4		✓ Talk to your faculty advisor and the <a href="#">Transfer office</a> for advice on how to successfully transition to a new school.
— —	Lab Science elective	4	<ul style="list-style-type: none"> <li>Choose from PHY 101 and 102; PHY 115 and 215; BIO 101 and 102; CHE 101 and 102.</li> </ul>	✓ Apply for Graduating Student scholarships at <a href="http://www.mccc.edu/m-scholarships">www.mccc.edu/m-scholarships</a> .
— —	<a href="#">General Education elective</a>	3	<ul style="list-style-type: none"> <li>Select course from the following <a href="#">general education</a> categories: Social Science, Humanities, Historical Perspective, Diversity and Global Perspective, Written and Oral Communication.</li> </ul>	

# CERTIFICATE CURRICULUM

2024-2025 Academic Year

CMPTR.SCI.CERT

CIP 110101

Credit-bearing certificate programs can serve as gateways to earning an associate degree. Students are encouraged to consult the program coordinator, an academic advisor or Success Coach to explore such opportunities.

Code	Course (lecture/lab hours)	Credits
<a href="#">ENG 101</a>	English Composition I (3/0)	3
<a href="#">MAT 151</a>	Calculus I (4/0)	4
<a href="#">MAT 152</a>	Calculus II (4/0)	4
<a href="#">COS 101</a>	Introduction to Computer Science (3/2)	4
<a href="#">COS 102</a>	Computer Science I – Algorithms and Programming (3/2)	4
<a href="#">COS 210</a>	Computer Science II – Data Structures (3/2)	4
<a href="#">COS 231</a>	Fundamentals of Computer Architecture (3/2)	4
— —	Program elective	3-4

- In consultation with an academic advisor, select from the course categories of COS, DMA, IST, or MAT.

30-31