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 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.

DEGREE CURRICULUM

2023-2024 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
FIRST SEMESTER			
COS 101	Introduction to Computer Science (3/2)	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.
	• May be substituted with 4-credit IST course. Consult academic advisor.		
CSW 100	College Success and Personal Wellness (2/0)	2	✓ Use your online tools: Check your MercerMail daily, utilize features of Office 365, and get to know Student Planning.
	• Some exemptions apply. Consult academic advisor for details.		
ENG 101	English Composition I (3/0)	3	
MAT 151	Calculus I for the Mathematical and Physical Sciences (4/0)	4	✓ Take advantage of Learning Centers or Online Tutoring to support your studies and assignments.

SECOND SEMESTER

COS 102	Computer Science I – Algorithms and Programming (3/2)	4	
ENG 102	English Composition II (3/0)	3	
MAT 152	Calculus II for the Mathematical and Physical Sciences (4/0)	4	

- May be substituted with 4-credit IST course. Consult academic advisor.

— —	Humanities general education elective	3	
— —	Social Science general education elective	3	

✓ Transitioning to college can be challenging. Meet with your Success Coach for guidance and support.

✓ Apply for financial aid by May 1.

✓ Contact professors with questions and use their office hours to develop a connection.

✓ Apply for Continuing Student scholarships at www.mccc.edu/m-scholarships.

✓ Begin attending college transfer events and visit campuses. Be sure to visit the Transfer Services and Career Services offices to get to know how the transfer process works and to explore career options.

✓ Plan for how you will complete transfer applications while finishing your classes.

THIRD SEMESTER

COS 231	Fundamentals of Computer Architecture (3/2)	4	
— —	Lab Science elective	4	

- Choose from PHY 101 and 102; PHY 115 and 215; BIO 101 and 102; CHE 101 and 102.

✓ Keep in contact with each professor and your faculty advisor. Make sure you are on track to graduate.

— —	Program elective	4	✓ Complete your applications to desired transfer institutions.

- In consultation with academic advisor, select from MAT 201, 208, or 4-credit IST course.

— —	Social Science or Humanities general education elective	3	✓ Develop team and leadership skills by getting involved in activities and clubs.

✓ Manage your stress! Take advantage of the MCCC pool, Fitness Center, free yoga and Zumba. Reach out for counseling or other support if you need it. Your Success Coach can connect you with resources. |

FOURTH SEMESTER

COS 204	Discrete Mathematical Structures (4/0)	4	✓ Apply for financial aid by May 1.
COS 210	Computer Science II – Data Structures (3/2)	4	✓ Talk to your faculty advisor and the Transfer office for advice on how to successfully transition to a new school.
— —	Lab Science elective	4	

- Choose from PHY 101 and 102; PHY 115 and 215; BIO 101 and 102; CHE 101 and 102.

— —	General Education elective	3	✓ Apply for Graduating Student scholarships at www.mccc.edu/m-scholarships.

- Select course from the following general education categories: Social Science, Humanities, Historical Perspective, Diversity and Global Perspective, Written and Oral Communication.

CERTIFICATE CURRICULUM

2023-2024 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
ENG 101	English Composition I (3/0)	3
MAT 151	Calculus I (4/0)	4
MAT 152	Calculus II (4/0)	4
COS 101	Introduction to Computer Science (3/2)	4
COS 102	Computer Science I – Algorithms and Programming (3/2)	4
COS 210	Computer Science II – Data Structures (3/2)	4
COS 231	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.

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