

A.S. in COMPUTER SCIENCE

Department: Mathematics and Computer Sciences

Total credits: 60**COLLEGE REQUIREMENTS****CREDITS**

- Successful completion of CUNY Tests in Reading and Writing and the COMPASS Math Skills Test with passing examination scores or developmental courses may be required.
- One (1) Writing Intensive course in any discipline from any category below is required. Participation in a Learning Community that includes ENG 1200 or 2400 also satisfies this requirement.
- Two (2) Civic Engagement experiences—satisfied by CE-Certified or CE-Component courses or approved outside activity. Refer to the *Degree Requirements* section of this catalog.

CUNY CORE

Approved Required and Flexible Core courses are listed in the General Education: CUNY Pathways section of this catalog. **When Required or Flexible Core courses are specified for a category, they are required for the major.**

REQUIRED CORE:

ENG 1200	3
ENG 2400	3
Mathematical & Quantitative Reasoning: MAT 1500√ or MAT 1600√ or MAT/BIO 9100√ or BA/MAT 2200√	4
Life and Physical Sciences	3

FLEXIBLE CORE: ◇

One course from each Group A – E plus an additional course from any Group. **No more than two courses in the same discipline.** 20

A. World Cultures and Global Issues

B. U.S. Experience In Its Diversity

C. Creative Expression

D. Individual & Society

E. Scientific World: MAT 1500 √ or MAT 1600√ or MAT/BIO 9100√ or BA/MAT 2200√ or CS 1200√ or CS 13A0√ (if not taken for Required Core)

Plus another course selected from any Group E list above (if not taken for Required or Flexible Core)

DEGREE REQUIREMENTS §

If not taken for the CUNY Required Core or Flexible Core, the following are required:

Introduction to Computing (CS 1200)√	4
Advanced Programming Techniques (CS 13A0)√	4
Computer and Assembly Language Programming (CS 1400)√	4
Discreet Structures (CS 3500)√	4
Calculus I and II and III (Math 1500√ and MAT 1600√ and MAT 2100√)	12
Linear Algebra (MAT 5600V)	3
Biostatistics (MAT/BIO 9100√) or Business Statistics (BA/MAT 2200√)	4
Differential Equations (MAT 5500√)	3
Critical Issues in Personal Health (HE 1400)	1

ELECTIVES: 0 credits sufficient to total 60 credits for the degree.

√ Refer to course descriptions for pre-requisites, co-requisites and/or pre/co-requisites

◇ This program has a waiver to require particular courses in the Common Core, otherwise more than the minimum credits for the degree may be necessary.

§ Consultation with the Department Advisor is required.

STUDENT LEARNING OUTCOMES

Analyze, design, implement, and understand computer based solutions and apply them to real world applications

CS 1200 CS 13A0 CS 1400 CS 3500

Demonstrate proficiency in programming concepts and techniques by creating logically sound and efficient algorithms

CS 1200 CS 13A0 CS 1400 CS 3500

Demonstrate ability to analyze and troubleshoot computer problems and identify appropriate solutions

CS 1200 CS 13A0 CS 1400 CS 3500

Comprehend the structure of a computing system, design of its basic components, and interaction of hardware and software

CS 1200 CS 13A0 CS 1400 CS 3500

Demonstrate the ability to transfer a graphical representation of a logical process to a written representation

CS 1200 CS 13A0 CS 1400 CS 3500

Ability to apply mathematical knowledge in the areas of calculus and discrete mathematics to problems in computer science

MAT 1500 MAT 1600 MAT 2100 BA 2200 MAT 2200 CS 3500 MAT 5500 MAT 5600 BIO
9100 MAT 9100