



# PROGRAMS OF study



## COMPUTER SCIENCE

### ASSOCIATE IN SCIENCE

#### PROGRAM DESCRIPTION

The Computer Science program provides students with a solid grounding in both theoretical and practical topics in computer science, emphasizing the concepts that underlie computer design and development, languages, and systems. The program provides the foundational courses typically encountered in the first two years of study in most baccalaureate programs. Core courses in programming, algorithms and data structures, discrete math, and computer architecture constitute the nucleus of this program. Selected courses in the liberal arts support and enhance this central core. The curriculum is designed to develop problem-solving and critical-thinking skills and to prepare students for rewarding and challenging careers.

#### Program Learning Outcomes

Upon successful completion of this program, graduates will be able to:

- Evaluate technical information and present it clearly, both in writing and orally, to a wide range of audiences.
- Develop programs using both structured programming and object-oriented programming in a team setting.
- Describe the global impact of recent computing advances on individuals, organizations, and society.
- Analyze the temporal and spatial efficiency of algorithms and data structures in a program design.
- Use professional and scholarly sources to apply new ideas in programming languages, algorithms, platforms, and data structures when solving programming problems.
- Demonstrate competency with one programming language, and a familiarity in two other programming languages.
- Demonstrate strong interpersonal skills effectively in a variety of given scenarios and professional contexts.
- Discuss the impact of diversity on the computing profession.



#### CAREER OPPORTUNITIES

Opportunities for computer science graduates occur in a wide variety of settings including large or small software and computer services companies, private industry, government, banking, healthcare and many more. Graduates may also choose to continue their education at a four-year institution in Computer Science or a related field.

# COMPUTER SCIENCE, A.S. ASSOCIATE IN SCIENCE

## Computer Science - *Program Sequencing*

*The sequencing of courses in this program begins in the fall semester.*

*Students entering in the spring or summer will likely take longer than two years to complete the program.*

Curriculum Requirements: 62 credits	Credits	Grade	Semester taken/anticipated
<b>First Year, Fall Semester (14 credits)</b>			
General Education Core IV Lab Science (CHM 106/107 Recommended)	4		
CIS 170 Problem Solving and Programming	4		
ENG 101 College Composition	3		
MAT 127 College Algebra	3		
<b>First Year, Spring Semester (17 credits)</b>			
General Education Core IV Lab Science (CHM 116/117 Recommended)	4		
CIS 131 Visual Programming I	3		
CIS 174 Algorithms in Programming	4		
MAT 222 Discrete Math	3		
PSY 101 Introduction to Psychology	3		
<b>Second Year, Fall Semester (16 credits)</b>			
CIS 256 Artificial Intelligence and Machine Learning	4		
CIS 264 Introduction to Data Analytics	3		
CIS 272 Data Structures	3		
MAT 227 Pre-Calculus	3		
SPE 101 Oral Communications	3		
<b>Second Year, Spring Semester (15 credits)</b>			
CIS 275 Systems Programming	3		
CIS 284 Interoperability for Smart Systems	3		
CIS 298 Computer Science Capstone Project	3		
HUM 101 Arts and Critical Thinking	3		
PHI 102 Ethics and Contemporary Society	3		

*\* Students planning on transferring to a four-year Computer Science program are advised to determine if they will need to complete a two-course sequence in a lab science, for example Chemistry I and Chemistry II.*

*Articulation agreements exist between York County Community College and various colleges and universities.*

*Please, contact Career and Transfer Services for information regarding these agreements.*

### DISCLAIMER

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