

# Computer Science

Degree Awarded: Associate in Science

## Recommended Course Sequence

### First Semester

ENG 101	Freshman English 1	3
_____	SUNY Social Science (GE 3)	3
CSC 101	Computer Science 1	4
MAT 205	Calculus 1	4
COM 101	Foundations of Communication	3
PES 100	Concepts of Physical Wellness	1

### Second Semester

ENG 102	Freshman English 2	3
HIS _____	Restricted History Elective*	3
MAT 206	Calculus 2	4
CSC 102	Computer Science 2	4
EET 104	Digital Electronics 1	4
PES _____	Physical Education	1

### Third Semester

PHY 101	General Physics 1** or	
PHY 105	General Physics 1 w/calculus	4
MAT 211	Linear Algebra	3
CSC 201	Data Structures	3
_____	Restricted SUNY Elective***	3

### Fourth Semester

PHY 102	General Physics 2** or	
PHY 106	General Physics 2 w/calculus	4
MAT 125	Introduction to Statistics	3
MAT 136	Discrete Mathematics	3
CSC 204	Computer Organization &	
_____	Assembly Language Prog.	3
_____	Electives	2/4

Total Credits: 65-67

\*SUNY American History (GE 4) or Western Civilization (GE 5) or Other/World Civilization (GE 6).

\*\*Consult catalog of the college to which you intend to transfer. Some require the General Physics with calculus.

\*\*\*SUNY Arts (GE 8) or Foreign Language (GE 9) lists or any list not selected from in Second Semester SUNY History Elective above.

## Program Description

The Associate in Science degree program in Computer Science is designed for students of mathematics and science who wish to pursue a B.S. degree in Computer Science at senior colleges and universities. Its goal is to prepare the students for a successful transfer into such degree programs.

The curriculum is structured to emphasize scientific applications and the theoretical concepts which underlie computer design and development, languages, and systems. The program provides the core courses that would be encountered in the first two years of study at most four-year institutions.

Associate degree core courses in calculus, linear algebra, discrete math, digital electronics, computer science, data structures and assembly language programming constitute the nucleus of this program. Selected courses in the liberal arts support and enhance this central core.

To initiate this plan of study, students must have tested into college algebra (MAT 121) or higher on the Mathematics placement test. Students who do not meet the math requirement can be successful in reaching their academic goals by taking foundation courses and extending the program to three years.

## Admission Criteria

Admission to this program requires that students be high school graduates or have high school equivalency diplomas (GEDs). If students are not high school graduates, they may be eligible for admission to the College's 24 Credit Hour Program. If students are home schooled, they may be eligible for admission. (See pages 7 through 13 for more details on the admission process for all applicants.)

## Student Learning Outcomes

Students will:

- demonstrate ability in problem solving and communicating algorithms clearly, utilizing structures/top-down algorithm design processes.
- demonstrate familiarity with a wide variety of abstract data structures and data encapsulation concepts.
- demonstrate knowledge of assembler language programming as it applies to computer architecture and operating systems.
- demonstrate ability in computational methods of mathematics and physical science necessary for computer modeling.



## Career Opportunities

- computer engineering
- computer systems analysis
- education
- computer programming
- cryptology
- applied mathematics
- financial analysis

## Transfer Opportunities

SUNY Orange has special relationships with upper-level colleges and universities for transfer.

These transfer institutions include:

- Clarkson University
- Florida Memorial University
- Marist College
- R.P.I.(Rensselaer Polytechnic Institute)
- SUNY Binghamton
- SUNY Buffalo
- SUNY Institute of Technology
- SUNY New Paltz
- SUNY Oneonta
- SUNY Purchase

## Contact Information

Applied Technologies  
Department Chair  
(845) 341-4523  
Admissions Office  
(845) 341-4030