

# COMPUTER SCIENCE

## Associate of Science

This program is designed for students who plan to continue with a Baccalaureate degree at South Texas College or to transfer to a four-year college or university to pursue a Baccalaureate degree in Computer Software Engineering and/or Computer Science. It is also designed to prepare students for entry-level positions in the field of computer science. The curriculum of the Computer Science degree program focuses on computer programming and general education studies. Students who wish to declare this transfer major should ask for program planning assistance from a Computer Science program advisor. Transfer institutions vary in the lower division (first two years of college) major department requirements. Meeting the South Texas College Associate of Science degree requirements does not automatically guarantee that all four-year colleges will accept every course toward their degree plan.

It is imperative that students work closely with South Texas College departmental faculty and the four-year college faculty in determining transferability of courses.

## Computer Science Career Opportunities

The Bureau of Labor Statistics states that Computer and Information Technology occupations are projected to grow by 15 percent, adding 682,800 new jobs from 2021 to 2031. The demand for workers in these occupations will be driven by companies, government agencies, and other organizations struggling to find competent technical talent to fulfill their needs and to adopt the latest technologies.

## Potential Job Titles

- Computer Programmers
- Programmer Analyst
- Software Engineers
- Systems Developer

## Program Learning Outcomes

1. Students will be able to utilize programming design methodologies to analyze and develop program logic.
2. Students will be able to apply fundamental concepts of programming to develop algorithms.
3. Students will be able to describe and implement a well-defined algorithm.
4. Students will be able to apply the Object-Oriented programming paradigm to develop applications.
5. Students will be able to develop applications using an assembly programming language.

## TSI Liable

### Field of Study - 18 credit hours

COSC 1436	Programming Fundamentals I	4
COSC 1337	Programming Fundamentals II	3
COSC 2436	Programming Fundamentals III	4
COSC 2425	Computer Organization	4
COSC 1320 or MATH 2305	C Programming Discrete Mathematics	3

### STC Core Curriculum - 42 credit hours

Complete 42 credit hours of required Core Curriculum including the following:<sup>1</sup>

<b>Mathematics</b>	
MATH 2412 or MATH 2413	Pre-Calculus Math or Calculus I
<b>Language, Philosophy &amp; Culture Elective</b>	
PHIL 2303	Introduction to Logic
<b>Total Credit Hours</b>	<b>60</b>

<sup>1</sup> In addition to the courses in the Field of Study, the student is required to take 42 credit hours from the STC Core Curriculum.

## TSI Liable

## 100% Online

## Recommended Course Sequence

Course	Title	Credit Hours
<b>First Year</b>		
<b>Fall</b>		
Life and Physical Sciences Elective - Core Curriculum		4
HIST 1301 or HIST 2327	United States History I or Mexican-American History I	3
ENGL 1301	Composition I	3
COSC 1436	Programming Fundamentals I	4
<b>Credit Hours</b>		<b>14</b>
<b>Spring</b>		
Life and Physical Sciences Elective - Core Curriculum		4
HIST 1302 or HIST 2328	United States History II or Mexican-American History II	3
ENGL 1302	Composition II - Rhetoric	3
COSC 1337	Programming Fundamentals II	3
<b>Credit Hours</b>		<b>13</b>
<b>Summer</b>		
Creative Arts Elective - Core Curriculum		3
Component Area Option - Core Curriculum		3
<b>Credit Hours</b>		<b>6</b>
<b>Second Year</b>		
<b>Fall</b>		
GOVT 2305	Federal Government	3
Social and Behavioral Sciences Elective - Core Curriculum		3
COSC 2436	Programming Fundamentals III	4
MATH 2412 or MATH 2413	Pre-Calculus Math or Calculus I	4
<b>Credit Hours</b>		<b>14</b>
<b>Spring</b>		
GOVT 2306	Texas Government	3
COSC 1320 or MATH 2305	C Programming or Discrete Mathematics	3
COSC 2425	Computer Organization	4
PHIL 2303	Introduction to Logic	3
<b>Credit Hours</b>		<b>13</b>
<b>Total Credit Hours</b>		<b>60</b>