

# COMPUTER SCIENCE ASSOCIATE IN SCIENCE FOR TRANSFER DEGREE

The field of Computer Science is the study of technology and computation which include methods by which data is accessed and manipulated. This includes representational computation, computer learning paradigms, code constructs, algorithmic modeling, and software development and testing. The SBVC Associate in Science for Transfer (AS-T) degree in Computer Science prepares students for transfer to four-year colleges and universities. Students opting for a degree in computer Science will be prepared to take classes in systems analysis, mathematics, data structures, C++, C#, Python, along with a variety of developing code structures in the cloud or local technologies. After acquiring the skills in this field, students will be prepared to manage and adjust to new and emerging technologies worldwide.

The Associate in Arts for Transfer (AA-T) or the Associate in Science for Transfer (AS-T) is intended for students who plan to complete a bachelor's degree in a similar major at a CSU campus. Students completing these degrees (AA-T or AS-T) are guaranteed admission to the CSU system, but not to a particular campus or major. To earn this Computer Science AS-T degree, students must meet the following requirements:

- completion of the following major requirements with grades of C or better;
- completion of a minimum of 60 CSU transferable semester units with a grade point average of a least 2.0; and
- certified completion of the Intersegmental General Education Transfer Curriculum (IGETC) for CSU only, which requires a minimum of 37 units.

It is highly recommended that students complete courses that satisfy the U.S. History, Constitution, and American Ideals requirement as part of IGETC before transferring to a CSU.

Students planning to transfer to a four-year institution and major in Computer Science should consult with a counselor regarding the transfer process and lower division requirements.

Code	Title	Units
<b>Required Courses:</b>		
CS 110	Fundamentals of Computer Science	3
CS 130	Discrete Structures	3
CS 170	Assembly Language	4
CS 265	Data Structures and Algorithms with C++	3
MATH 250	Single Variable Calculus I	4
MATH 251	Single Variable Calculus II	4
PHYSIC 202	Physics I	4
PHYSIC 203	Physics II	4-5
or BIOL 205	Cell and Molecular Biology	
or BIOL 206	Organismal Biology	
or CHEM 150	General Chemistry I	

Code	Title	Units
<b>Major Total</b>		<b>29-30</b>
<b>Total Units That May Be Double Counted</b>		<b>7-10</b>
<b>General Education (IGETC for CSU) Units <sup>1</sup></b>		<b>37</b>

<b>Elective (CSU Transferable) Units</b>	<b>0-1</b>
<b>Total Units</b>	<b>60</b>

<sup>1</sup> IGETC-CSU is the only approved General Education pattern for this degree.

See *Section on Degree, Certificate, and Transfer Information for additional information on the Associate Degrees for Transfer.*

To earn an SBVC Associate Degree for Transfer (AA-T or AS-T) students must complete one of the following general education patterns:

CSU GE requirements (<https://www.valleycollege.edu/student-services/counseling/csuge/>)

IGETC requirements (<https://www.valleycollege.edu/student-services/counseling/igetc/>)

## Program Learning Outcomes

**At the completion of this program, students will be able to:**

- Function effectively as a member of a team to accomplish common goals.
- Read, write, and interpret Microsoft technical information.
- Analyze a problem and create an algorithmic solution.
- Apply knowledge of Windows development.
- Design, implement, and evaluate secure computer-based system based on specifications.
- Think critically and apply the scientific method.
- Analyze the impact of computing on individuals, organizations, and society.
- Respect privacy and identify responsible conduct.
  - Engage in research, assess new ideas and information and be prepared for lifelong learning.
  - Exhibit professional, legal, and ethical behavior.