**COMPUTER SCIENCE FOR TRANSFER (AST.CS)**

**ASSOCIATE IN SCIENCE FOR TRANSFER**

**Program Outcomes:** Upon successful completion of this program a student will be able to:

- demonstrate the ability to communicate effectively with technical and non-technical colleagues through presentations and reports, and work effectively on a team project.
- design and construct significant computer application(s) using current programming languages and operating systems.
- describe the organization and operation of a computer architecture with respect to numerical representations and computations, digital logic, and computer components.
- demonstrate the ability to evaluate algorithms, select from a range of possible options, provide justification for that selection, and implement the algorithm using an appropriate programming language and context.
- demonstrate the ability to solve discrete mathematical problems, describe and apply discrete structures and logic principles, perform run-time analysis on algorithms and prove algorithm correctness.

**Required Major Courses (33 units)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSS-2A</td>
<td>Object Oriented Programming</td>
<td>4.0</td>
</tr>
<tr>
<td>CSS-2B</td>
<td>Data Structures and Algorithms</td>
<td>4.0</td>
</tr>
<tr>
<td>CSS-3</td>
<td>Computer Architecture and Assembly</td>
<td>4.0</td>
</tr>
<tr>
<td>CSS-7</td>
<td>Discrete Structures</td>
<td>4.0</td>
</tr>
<tr>
<td>MAT-3A</td>
<td>Analytic Geometry and Calculus I</td>
<td>4.0</td>
</tr>
<tr>
<td>MAT-3B</td>
<td>Analytic Geometry and Calculus II</td>
<td>4.0</td>
</tr>
<tr>
<td>PHY-4A</td>
<td>General Physics I/Mechanics</td>
<td>4.0</td>
</tr>
<tr>
<td>BIO-1</td>
<td>Fundamental Biological Concepts</td>
<td>5.0</td>
</tr>
</tbody>
</table>

**SUBTOTAL: 33 UNITS**

**General Education – Required Courses**

*Students must complete the following General Education Plans:*

- **IGETC (see page 72)**
  - **37 units**

*Students can double-count required courses and courses for General Education*

- **Electives (Courses Numbered 1-99) required when degree units plus GE units total fewer than 60.**

**TOTAL: 60 UNITS**

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**Associate Degree for Transfer**

In order to earn this degree, students must complete the Associate Degree for Transfer Requirements:

1. Completion of 60 semester units or 90 quarter units that are eligible for transfer to the California State University, including both of the following:
   a. The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University GE – Breadth Requirements (CSU GE-Breadth).
   b. A minimum of 18 semester units or 27 quarter units in a major or area of emphasis, as determined by the community college district.

2. Obtainment of a minimum grade point average of 2.0

ADTs include (AA-T) and (AS-T) degrees. The law authorizing these degrees also requires that students must earn a "C" or better in all courses required for the major or area of emphasis. A “P” (Pass) grade is also an acceptable grade for courses in the major if the course is taken on a Pass/No Pass basis.