

# MATHEMATICS 2.0 – ASSOCIATE IN SCIENCE DEGREE FOR TRANSFER

Top Code:

1701.00

The Associate in Science in Mathematics 2.0 for Transfer Degree (AS-T) prepares a student for transfer into the CSU and UC systems for further study in pure or applied mathematics. Earning a 4-year degree in mathematics prepares students for careers in which mathematical skills are in great demand, such as science, technology, engineering, computer science, business, industry, medicine, education or government.

## Associate Degree for Transfer Requirements

- 60 semester or 90 quarter CSU-transferable units.
- Completion of the California General Education Transfer Curriculum (Cal-GETC); OR California State University-General Education-Breadth pattern (CSU GE-Breadth), if eligible catalog rights; OR the Intersegmental General Education Transfer Curriculum (IGETC-CSU) pattern, if eligible catalog rights.
- A minimum of 18 semester or 27 quarter units in the major or area of emphasis as determined by the community college district.
- Obtainment of a minimum grade point average (GPA) of 2.0.
- All courses in the major must be completed with a grade of "C" or better, or P if the course is graded on a P/NP basis.

PLEASE NOTE: The courses that universities and colleges require for transfer vary. *When selecting courses for transfer purposes, students should consult with an Academic Counselor to determine the particular transfer requirements of specific institutions.*

## Program Outcomes

- Develop critical thinking and problem solving skills.
- Increase the ability to read, write and discuss mathematics.
- Develop an understanding of the usefulness of mathematics to other disciplines and life.

## Associate in Science in Mathematics 2.0 for Transfer Degree

| Code                 | Title                                            | Units |
|----------------------|--------------------------------------------------|-------|
| <b>REQUIRED CORE</b> |                                                  |       |
| MATH 005A            | CALCULUS I: LATE TRANSCENDENTALS                 | 5     |
| or MATH 005A         | CALCULUS I: LATE TRANSCENDENTALS - HONORS        |       |
| or MATH 005A         | SINGLE VARIABLE CALCULUS I WITH EMBEDDED SUPPORT |       |
| MATH 005B            | CALCULUS II: LATE TRANSCENDENTALS                | 5     |

or MATH 005B  
CALCULUS II: LATE TRANSCENDENTALS - HONORS  
or MATH 005B  
SINGLE VARIABLE CALCULUS II WITH EMBEDDED SUPPORT

|                                                                   |                                                   |              |
|-------------------------------------------------------------------|---------------------------------------------------|--------------|
| MATH 005C                                                         | MULTIVARIABLE CALCULUS                            | 5            |
| or MATH 005C                                                      | HONORS MULTIVARIABLE CALCULUS                     |              |
| MATH 010                                                          | LINEAR ALGEBRA AND APPLICATIONS                   | 4            |
| or MATH 010                                                       | HONORS LINEAR ALGEBRA AND APPLICATIONS            |              |
| MATH 055                                                          | DIFFERENTIAL EQUATIONS                            | 4            |
| or MATH 055                                                       | HONORS DIFFERENTIAL EQUATIONS                     |              |
| <b>LIST A - SELECT ONE COURSE</b>                                 |                                                   | <b>3-5</b>   |
| CS 002                                                            | FUNDAMENTALS OF COMPUTER SCIENCE I                | 4            |
| CS 003A                                                           | FUNDAMENTALS OF COMPUTER SCIENCE II (C++)         | 3            |
| CS 003B                                                           | FUNDAMENTALS OF COMPUTER SCIENCE (JAVA)           | 3            |
| CS 003C                                                           | FUNDAMENTALS OF COMPUTER SCIENCE (PYTHON)         | 3            |
| PHYS 008A                                                         | PHYSICS FOR SCIENTISTS AND ENGINEERS I: MECHANICS | 5            |
| <b>Required Subtotal</b>                                          |                                                   | <b>26-29</b> |
| Cal-GETC <sup>1</sup>                                             |                                                   | 34           |
| Transferable Electives (as needed to reach 60 transferable units) |                                                   |              |
| <b>Degree Total</b>                                               |                                                   | <b>60</b>    |

<sup>1</sup> Students with rights to former general education patterns are able to use the CSU GE or IGETC-CSU in lieu of Cal-GETC to complete the general education requirement of this degree. Students should consult with an Academic Counselor to help determine which general education pattern to complete.

## General Education Requirements for the Associate in Science Degree for Transfer

- General Information (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/>)
- Cal-GETC (<https://curriculum.pasadena.edu/degree-certificate-requirements/#calgetctext>)
- Students with rights to the former general education patterns can complete IGETC-CSU or CSU GE in lieu of Cal-GETC. Students should consult with an Academic Counselor to determine which general education pattern to complete and may refer to an appropriate archived College Catalog (<https://curriculum.pasadena.edu/previous-catalogs/>) or [www.assist.org](http://www.assist.org) (<https://www.assist.org/>) for more information.