

PHYSICS, ASSOCIATE IN SCIENCE FOR TRANSFER

The Associate in Science in Physics for Transfer degree (AS-T in Physics) program provides students with sufficient understanding of the physical world with concepts, laws of physics and qualitative and quantitative reasoning skills to think critically and to analyze real-world situations. Successful completion of the transfer degree at Monterey Peninsula College guarantees students acceptance to a California State University (but does not guarantee acceptance to a particular campus or major) to pursue a baccalaureate degree in Physics or related major, in preparation to pursue a career in research, industry, and education. Students must complete the Associate Degree for Transfer requirements to earn the AS-T degree.

Learning Outcomes

Upon successful completion of the program, students will be able to:

- Reason qualitatively and logically about physical phenomena using scientific models.
- Apply Newton's laws, thermodynamics, the laws of electricity and magnetism, quantum theory, and the principles of energy conservation to problems involving motion, heat, light, electro-magnetism, and matter.
- Use appropriate instruments to perform scientific experiments to analyze data to check agreements with theoretical predictions.

Associate in Science for Transfer Degree Major Requirements

Code	Title	Units
Required Core		
MATH 20A	Calculus with Analytic Geometry I	4
MATH 20B	Calculus with Analytic Geometry II	4
MATH 20C	Calculus of Several Variables	4
PHYS 3A	Science and Engineering Physics I	4
PHYS 3B	Science and Engineering Physics II	4
PHYS 3C	Science and Engineering Physics III	4
TOTAL MAJOR UNITS		24
Additional Requirements		
Complete CSU General Education or IGETC pattern and electives, if needed, for a total of 60 transferable units.		36
Total Units		60

Please refer to the graduation requirements section of the Catalog for information about degree and certificate requirements including Reading and Writing, Mathematics, Information Competency, and General Education requirements.

The model sequence of coursework below is one pathway for students to complete the program. The information below is not an official educational plan. An MPC Counselor can assist you with creating a personalized education plan based on your academic, career, and personal goals. Visit MPC's Counseling website for more information about Counseling and up-to-date program requirements.

Suggested 2-Year Course Sequence

Year 1		Units
Fall		
ENGL 1A or ENGL 1AE	College Composition or College Composition: Enhanced	3
MATH 20A	Calculus with Analytic Geometry I	4
IGETC Area 4 (US-1 Course Recommended)		3
IGETC Area 5B		3
Elective (LIBR 50 or COUN 10)		1
Units		14
Spring		
ENGL 2	Argumentative Writing and Critical Thinking	3
MATH 20B	Calculus with Analytic Geometry II	4
PHYS 3A	Science and Engineering Physics I	4
IGETC Area 4 (US-2 & 3 Course Recommended)		3
Units		14
Summer		
SPCH 1 or SPCH 2	Public Speaking (CSU Requirement) or Small Group Communication	3
Units		3
Year 2		
Fall		
MATH 20C	Calculus of Several Variables	4
PHYS 3B	Science and Engineering Physics II	4
IGETC Area 3A		3
IGETC Area 3B		3
Units		14
Spring		
PHYS 3C	Science and Engineering Physics III	4
IGETC Area 3A or 3B		3
IGETC Area 7		3
IGETC Area 6 (UC requirement only) or Electives (CSU/UC Transferable)		5
Units		15
Total Units		60

MPC transfer programs are designed to enable students to complete lower-division requirements in preparation for transfer to a baccalaureate-granting institution.

The Student Transfer Achievement Reform Act (Senate Bill 1440, codified in California Education Code sections 66746-66749) guarantees admission to California State University (CSU) system for any community college student who earns an Associate Degree for Transfer (ADT), although not to a particular campus or major. Upon transferring to a CSU campus that accepts the Associate in Arts for Transfer (AA-T) or Associate in Science for Transfer (AS-T), students will be required to complete no more than 60 upper-division units to earn a bachelor's degree in a same or similar major (unless designated as a "high-unit" major).

The following Associate Degree for Transfer requirements must be completed to earn the AA-T or AS-T degree:

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- a. Minimum of 60 CSU-transferable semester units;
- b. Minimum grade point average (GPA) of 2.0 in all CSU-transferable coursework (while a minimum of 2.0 is required for admission, some majors may require a higher GPA);
- c. Completion of a minimum of 18 semester units as detailed in the Major Requirements;
- d. Completion of all courses in the major with a grade of C or better (or a "P" if the course is taken on a "Pass/No Pass" basis);
- e. Certified completion of the California State University General Education-Breadth pattern (CSU GE-Breadth) pattern; OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.

All students should consult with a Counselor to discuss transfer pathways and specific university admission requirements. Visit MPC's Counseling website for more information about Counseling services provided by MPC and to connect with a Counselor.