Moorpark College
Associate in Science in Physics 2.0 (AS-T)

Program Goals and Objectives

The Associate in Science in Physics 2.0 for Transfer Degree (AS-T in Physics 2.0) will provide a clear pathway and assist students in effortlessly transferring to a California State University (CSU). Completion of the AS-T in Physics degree ensures transfer students will complete the lower division general education requirements as well as the lower division major requirements for a bachelor's degree in Physics before transferring. The AS-T in Physics 2.0 degree will replace the current AS-T in Physics.

Program Student Learning Outcomes

Upon completion of this program, a student will be able to:

- discern between relevant and irrelevant evidence, formulate appropriate hypotheses, and distinguish between experiments to determine which one(s) leads to an appropriate conclusion.
- analyze mechanical systems.
- analyze systems involving thermodynamics and electricity and magnetism.
- analyze problems from mechanics, electricity & magnetism, modern physics, optics, and thermodynamics and will be able to recognize and apply equations to solve the problems.

Catalog Description

Students who complete Physics courses will apply fundamental physical laws and equations describing physical phenomena to analyze both quantitatively and qualitatively specific problems in the physical universe; recognize, comprehend, and apply the similar principles in the various disciplines of physics, and critically evaluate and analyze observations and measurements through the use of accepted scientific methods and report the results in formal papers that conform to the style of modern scientific writing.

The Associate in Science in Physics 2.0 for Transfer Degree (AS-T in Physics 2.0) is intended for students who plan to transfer and complete a bachelor's degree in Physics, or a "similar" major at a CSU campus. Each CSU campus determines which of the degrees it offers are "similar" and can be completed with the preparation included in the AS-T in Physics 2.0. For a current list of what majors (and what options or areas of emphasis within that major) have been designated as "similar" to this degree at each CSU campus, please refer to the CSU's Associate Degree for Transfer Major and Campus Search webpage and seek guidance from a Moorpark College counselor. Students completing the AS-T in Physics 2.0 degree are guaranteed admission to the CSU system, but not necessarily to a particular CSU campus or major.

The degree satisfies the transfer requirements for most University of California (UC) campuses though does not guarantee admission into the UC system.

To earn an AS-T in Physics 2.0 degree, students must:
1) Complete a minimum of 66 semester units that are eligible for transfer to the California State University (CSU), including both of the following:
a. The California General Education Transfer Curriculum (Cal-GETC) requirements.
b. The required coursework for the AS-T in Physics 2.0 degree as listed in the Moorpark College catalog.

2) Complete all courses in the major and Cal-GETC with a grade of “C” or better or “P” if the course is taken on a "pass-no-pass" basis. Even though a “Pass/Credit" grade is allowed, it is highly recommended that students complete their major courses with a letter grade (A, B, or C). **Note:** the UC system allows a maximum of 14 semester (21 quarter) units of courses graded "Pass/No Pass" (Credit/No Credit) toward the 60 transferable semester units required for transfer admission.

3) Obtain a minimum grade point average (GPA) of at least 2.0 in all CSU-transferable coursework. While a minimum of 2.0 is required for admission, some transfer institutions and majors may require a higher GPA. Please consult with a counselor for more information.

4) Complete 12 semester units within the district.

Students transferring to a CSU campus that accepts the AS-T in Physics 2.0 degree will be required to complete no more than 60 units after transfer to earn a bachelor’s degree (unless the major is a designated “high-unit” major at a particular campus). This degree may not be the best option for students intending to transfer to a particular CSU campus or to a university or college that is not part of the CSU system. Students should consult with a counselor to obtain more information on university admission and transfer requirements.

Course ID	Title	Units/Hours
REQUIRED CORE COURSES: Complete the following courses		
PHYS M20A	Mechanics of Solids and Fluids	4
PHYS M20AL	Mechanics of Solids and Fluids Laboratory	1
PHYS M20B	Thermodynamics, Electricity, and Magnetism	4
PHYS M20BL	Thermodynamics, Electricity, and Magnetism Laboratory	1
PHYS M20C	Wave Motion, Optics, and Modern Physics	4
PHYS M20CL	Wave Motion, Optics, and Modern Physics Laboratory	1
MATH M25A	Calculus with Analytic Geometry I	5

Course ID	Title	Units/Hours
or MATH M25AH	Honors: Calculus with Analytic Geometry I	
MATH M25B	Calculus with Analytic Geometry II	5
or MATH M25BH	Honors: Calculus with Analytic Geometry II	
MATH M25C	Calculus with Analytic Geometry III	5
MATH M31	Introduction to Linear Algebra	3
MATH M35	Applied Differential Equations	3
CS M125	Programming Concepts and Methodology I	3
Total Units for the Major		**39**

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Cal-GETC Pattern	34
Double-Counted Units	7
Elective Units	0
Total Units for the AS-T Degree	**66**