

PHYSICS (PHYS)

PHYS 2A • GENERAL PHYSICS

Units:	5
Hours:	4 lecture, 3 laboratory per week (84 total per quarter)
Prerequisite:	MATH 48C or equivalent.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Area III: Natural Sciences
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Lectures, demonstrations, and problems in mechanics; properties of matter.

PHYS 2AM • GENERAL PHYSICS: CALCULUS SUPPLEMENT

Units:	1
Hours:	1 lecture per week (12 total per quarter)
Prerequisite:	MATH 1A or 1AH.
Corequisite:	Completion of or concurrent enrollment in MATH 1B or 1BH, and PHYS 2A.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Application of calculus to physics topics and problems in mechanics.

PHYS 2B • GENERAL PHYSICS

Units:	5
Hours:	4 lecture, 3 laboratory per week (84 total per quarter)
Prerequisite:	PHYS 2A.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Lectures, demonstrations, and problems in thermal physics; electricity and magnetism and fluids.

PHYS 2BM • GENERAL PHYSICS: CALCULUS SUPPLEMENT

Units:	1
Hours:	1 lecture per week (12 total per quarter)
Prerequisite:	MATH 1B or 1BH.
Corequisite:	Completion of or concurrent enrollment in PHYS 2B.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Application of calculus to physics topics and problems in electricity and magnetism.

PHYS 2C • GENERAL PHYSICS

Units:	5
Hours:	4 lecture, 3 laboratory per week (84 total per quarter)
Prerequisite:	PHYS 2B.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Lectures, demonstrations, and problems in waves; optics; introductory quantum mechanics; atomic physics; and nuclear physics.

PHYS 2CM • GENERAL PHYSICS: CALCULUS SUPPLEMENT

Units:	1
Hours:	1 lecture per week (12 total per quarter)
Prerequisite:	MATH 1B or 1BH.
Corequisite:	Completion of or concurrent enrollment in PHYS 2C.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Application of calculus to physics topics and problems in thermodynamics, waves, optics and modern physics.

PHYS 4A • GENERAL PHYSICS (CALCULUS)

Units:	6
Hours:	5 lecture, 3 laboratory per week (96 total per quarter)
Corequisite:	Completion of or concurrent enrollment in MATH 1B or 1BH.
Advisory:	Students who have not taken physics in high school are strongly encouraged to take either PHYS 2A or 6 prior.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Area III: Natural Sciences
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Mathematics-physics interrelationships, classical Newtonian mechanics.

PHYS 4B • GENERAL PHYSICS (CALCULUS)

Units:	6
Hours:	5 lecture, 3 laboratory per week (96 total per quarter)
Prerequisite:	PHYS 4A.
Corequisite:	Completion of or concurrent enrollment in MATH 1C.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Classical electricity and magnetism.

PHYS 4C • GENERAL PHYSICS (CALCULUS)

Units:	6
Hours:	5 lecture, 3 laboratory per week (96 total per quarter)
Prerequisite:	MATH 1C and PHYS 4B.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Thermodynamics; mechanical, acoustical, and electromagnetic waves; optics.

PHYS 4D • GENERAL PHYSICS (CALCULUS)

Units:	6
Hours:	5 lecture, 3 laboratory per week (96 total per quarter)
Prerequisite:	PHYS 4C.
Corequisite:	Completion of or concurrent enrollment in MATH 2A.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Special relativity, statistical mechanics, quantum mechanics, atomic physics, nuclear physics, particle physics.

PHYS 6 • INTRODUCTORY PHYSICS

Units:	5
Hours:	5 lecture per week (60 total per quarter)
Prerequisite:	MATH 48C or equivalent.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Lectures, demonstrations, and problems in mechanics, electricity and magnetism.

PHYS 12 • INTRODUCTION TO MODERN PHYSICS

Units:	5
Hours:	5 lecture per week (60 total per quarter)
Prerequisite:	Intermediate Algebra or equivalent.
Advisory:	Not open to students with credit in PHYS 12H.
Degree and Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Non-mathematical introduction to the ideas of modern physics, intended for majors in the physical sciences. Introduction to the history and ideas of physics, focusing on three areas of modern physics: thermodynamics and the concept of entropy, Einstein's special and general theories of relativity, and quantum mechanics. The key ideas in these areas are explained using demonstrations, analogies, and examples drawn, whenever possible, from the student's own experience. Examine the impact these physics ideas have had on other fields, such as poetry, literature, and music. No background in science or math is assumed.

PHYS 12H • HONORS INTRODUCTION TO MODERN PHYSICS

Units:	5
Hours:	5 lecture per week (60 total per quarter)
Prerequisite:	Intermediate Algebra or equivalent.
Advisory:	Not open to students with credit in PHYS 12.
Degree and Credit	Degree-Applicable Credit Course
Status:	
Foothill GE:	Non-GE
Transferable:	CSU/UC
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Non-mathematical introduction to the ideas of modern physics, intended for majors in the physical sciences. Introduction to the history and ideas of physics, focusing on three areas of modern physics: thermodynamics and the concept of entropy, Einstein's special and general theories of relativity, and quantum mechanics. The key ideas in these areas are explained using demonstrations, analogies, and examples drawn, whenever possible, from the student's own experience. Examine the impact these physics ideas have had on other fields, such as poetry, literature, and music. No background in science or math is assumed. Honors students will engage in additional readings and discussions.

PHYS 70R • INDEPENDENT STUDY IN PHYSICS

Units:	1
Hours:	3 laboratory per week (36 total per quarter)
Degree and Credit	Degree-Applicable Credit Course
Status:	
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Provides an opportunity for the student to expand their studies in Physics beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department.

PHYS 71R • INDEPENDENT STUDY IN PHYSICS

Units:	2
Hours:	6 laboratory per week (72 total per quarter)
Degree and Credit	Degree-Applicable Credit Course
Status:	
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Provides an opportunity for the student to expand their studies in Physics beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department.

PHYS 72R • INDEPENDENT STUDY IN PHYSICS

Units:	3
Hours:	9 laboratory per week (108 total per quarter)
Degree and Credit	Degree-Applicable Credit Course
Status:	
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Provides an opportunity for the student to expand their studies in Physics beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department.

PHYS 73R • INDEPENDENT STUDY IN PHYSICS

Units:	4
Hours:	12 laboratory per week (144 total per quarter)
Degree and Credit	Degree-Applicable Credit Course
Status:	
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Provides an opportunity for the student to expand their studies in Physics beyond the classroom by completing a project or an assignment arranged by agreement between the student and instructor. The student is required to contract with the instructor to determine the scope of assignment and the unit value assigned for successful completion. Students may take a maximum of 6 units of Independent Study per department.