

PHYSICS (PHY)

PHY 211 Engineering Physics I fulfills the physical sciences requirement and the lab science requirement for the Associate in Arts, Associate in Science, Associate in Fine Arts, and Associate in Engineering Science degrees.

PHY 101 General Physics I fulfills the physical science requirement and the lab science requirement for the AA, AS, and AFA degrees.

All PHY courses numbered 100 and above, may be used to fulfill the lab science requirement in the Associate in Liberal Studies degree.

All PHY courses numbered 100 and above may be used to fulfill the math/science requirement for the Associate of Applied Science degree.

All PHY courses numbered 100 and above may also be applied to the major field and elective requirement for the AA and AS degrees.

PHY 101 General Physics I (5) 3,4

The first half of a one-year, algebra and trigonometry based introductory physics course taken by pre-medical, pharmacy, biology, and architectural majors and others. The study of mechanics, elasticity, fluids, heat, and thermodynamics is supplemented by laboratory experiments. (1.1) Fulfills the ECC/IAI General Education/Physical Sciences requirement. IAI Course Number: P1 900L Proficiency Credit Available (2 LTC) Pass/No Credit Not Available.

In-District Tuition/Fees: \$760 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Reading: Grade of C or better in RDG 091 or LTC 099, or satisfaction of other placement criteria. Math: MTH-114 Recommended: For students in liberal arts and pre-professional programs.

Semester(s) Offered: Fall, Spring and Summer

PHY 102 General Physics II (5) 3,4

The second half of a one-year algebra and trigonometry based introductory physics course including lectures, demonstrations, and laboratory. Subject matter includes electricity and magnetism, circuits, light and optics, and modern physics. (1.1) Proficiency Credit Available (2 LTC) Pass/No Credit Available.

In-District Tuition/Fees: \$760 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: PHY 101 Recommended: For students in liberal arts and pre-professional programs

Semester(s) Offered: Spring

PHY 211 Engineering Physics I (5) 3,4

Calculus-based study of classical linear and rotational kinematics and dynamics, including Newton's Laws, statics, work, energy, impulse, momentum, collisions, gravitation, periodic motion, fluids and wave phenomena. (1.1) IAI General Education: P2 900L IAI Major: PHY 911 Proficiency Credit Available (2 LIT) Pass/No Credit Not Available.

In-District Tuition/Fees: \$760 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Reading: Grade of C or better in RDG 091 or LTC 099, or satisfaction of other placement criteria. Math: Grade of C or better in MTH 190 or concurrent enrollment in MTH 190 or consent of instructor.

Semester(s) Offered: Fall and Spring

PHY 212 Engineering Physics II (5) 3,4

Calculus-based study of electrostatics, Coulomb's Law, electric fields, Gauss' Law, , electric potential, capacitance, current, resistance, DC circuits, magnetic fields, electromagnetic induction, AC circuits, Maxwell's equations, electromagnetic waves, geometric optics and physical optics. (1.1) IAI Major: PHY 912 Proficiency Credit Available (2 LIT) Pass/No Credit Not Available.

In-District Tuition/Fees: \$760 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in PHY 211.

Semester(s) Offered: Fall and Spring

PHY 213 Engineering Physics III (5) 3,4

Calculus-based study of temperature and heat, thermal properties of matter, thermodynamics, relativity, quantum mechanics, condensed matter, nuclear physics, particle physics and cosmology. (1.1) IAI Major: PHY 913 Proficiency Credit Available (2 LIT) Pass/No Credit Not Available.

In-District Tuition/Fees: \$760 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in PHY 212

Semester(s) Offered: Fall and Spring

PHY 215 Thermal Physics (3) 3,0

Calculus based study of the First and second laws of thermodynamics including kinetic theory of gases, heat capacity, heat engines, introduction to entropy and statistical mechanics, applications of free energy and the Boltzmann factor, sound and special relativity. (1.1) IAI Major: PHY915B Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$454 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in PHY 212.

Semester(s) Offered: Spring and Summer

PHY 216 Quantum Physics (2) 2,0

Calculus-based study of atomic physics and quantum mechanics. Including waves, interference and diffraction, photons and matter waves, the Bohr atom, the uncertainty principle, and wave mechanics. (1.1) IAI Major: PHY915C Proficiency Credit Not Available Pass/No Credit Not Available.

In-District Tuition/Fees: \$306 (effective 2025/26 academic year)

In-district tuition rates are subject to change based on Board approval.

Prerequisite: Grade of C or better in PHY 212

Semester(s) Offered: Spring and Summer