

Physics AB 130 Mix and Match

Domain	CPP courses needed to fulfill
215 Subtest 1 Foundational-Level General Science	
General Science Domain 1: Scientific Practices, Engineering Design and Applications, and Crosscutting Concepts (Subtest I)	Choose one of the following: _____ SCI 2000, 2990, 4000, or 4990 (student research, or department equivalent) _____ SCI 4610 or department equivalent Senior Research _____ PHY 4630 Senior Seminar
General Science Domain 2: Physical Sciences (Subtest I)	Complete all _____ CHM 1210/L General Chemistry I & Lab _____ CHM 1220/L General Chemistry II & Lab _____ PHY 1210/L (or 1510/L) Physics of Motion, Fluids, and Heat & Lab _____ PHY 1220L (or 1520/L) Physics of Electromagnetism, Circuits, and Light & Lab
General Science Domain 3: Life Sciences (Subtest I)	Complete all _____ BIO 1210/L Foundations of Biology: Energy and Matter and Information & Lab _____ BIO 1220/L Foundations of Biology: Evolution, Ecology, and Biodiversity & Lab
General Science Domain 4: Earth and Space Sciences (Subtest I)	Complete all _____ GSC 1110/1410L Principles of Geology & Lab _____ GSC 1160 Introduction to Astronomy _____ GSC 3500 Natural Disasters
220 Physics specific domains (Subtest 2)	
Physics Domain 1: Motion and Stability: Forces and Interactions (Subtest II)	Complete all _____ PHY 1210/L (or 1510/L) Physics of Motion, Fluids, and Heat & Lab _____ PHY 3210 Advanced Classical Mechanics
Physics Domain 2: Energy (Subtest II)	Complete all _____ PHY 1220L (or 1520/L) Physics of Electromagnetism, Circuits, and Light & Lab _____ PHY 3040/L Electronics for Scientists & Lab

	<input type="checkbox"/> PHY 4140 Electricity and Magnetism I <input type="checkbox"/> PHY 4330/4330A Thermal and Statistical Physics & Activity
Physics Domain 3: Waves and their Application (Subtest II)	Complete the following course <input type="checkbox"/> PHY 2530/L Introduction to Electromagnetic Radiation and Special Relativity & Lab Select one of the following courses <input type="checkbox"/> PHY 3440/3440A Applied Optics & Computational Activities in Applied Optics Activity <input type="checkbox"/> PHY 4090/4090A Computational Physics & Activity <input type="checkbox"/> PHY 4100 Biophysics <input type="checkbox"/> PHY 4170/L Wave Optics & Lab
Physics Domain 4: Modern Physics (Subtest II)	Complete the following courses <input type="checkbox"/> PHY 2540/L Introduction to Thermal and Quantum Physics & Lab <input type="checkbox"/> PHY 3600/3600A Mathematical Methods of Physics I & Recitation Activity Select one of the following laboratory courses <input type="checkbox"/> PHY 4510A/ 4510L Advanced Laboratory Physics – Advanced Instrumentation Activity & Lab <input type="checkbox"/> PHY 4520A/ 4520L Advanced Laboratory Physics – Contemporary Experiments Activity & Lab

More detail about the Domains

Science: Foundational Level Science

- **General Science Domain 1: Scientific Practices, Engineering Design and Applications, and Crosscutting Concepts (Subtest I)**
 - Understand scientific practices
 - Understand engineering practices, design, and applications
 - Understand crosscutting concepts among the sciences and engineering
- **General Science Domain 2: Physical Sciences (Subtest I)**
 - Understand structure and properties of matter
 - Understand chemical reactions and biochemistry
 - Understand motion and stability: forces and interactions
 - Understand waves and their applications in technologies for information transfer
 - Understand energy

- Understand electricity and magnetism
- **General Science Domain 3: Life Sciences (Subtest I)**
 - Understand the structure and function of cells
 - Understand growth, development, and energy flow in organisms
 - Understand ecosystems: interactions, energy, and dynamics
 - Understand heredity: inheritance and variation of traits
 - Understand biological evolution: unity and diversity
- **General Science Domain 4: Earth and Space Sciences (Subtest I)**
 - Understand Earth's place in the universe
 - Understand Earth's materials and systems and surface processes
 - Understand plate tectonics and large scale system interactions
 - Understand weather and climate
 - Understand natural resources and natural hazards

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- **Physics Domain 1: Motion and Stability: Forces and Interactions (Subtest II)**
 - Understand forces and motion
 - Understand conservation of energy and momentum
- **Physics Domain 2: Energy (Subtest II)**
 - Understand definitions of energy and energy in everyday life
 - Understand thermal energy and kinetic molecular theory
 - Understand electricity and magnetism
- **Physics Domain 3: Waves and their Application (Subtest II)**
 - Understand wave properties
 - Understand electromagnetic radiation and applications of waves in information technologies and instrumentation
- **Physics Domain 4: Modern Physics (Subtest II)**
 - Understand quantum mechanics, the standard model of particles, and special relativity
 - Understand nuclear processes