Life Science 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 _____SCI 4620 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
217 Biology specific domains (Subtest 2)	
From Molecules to Organisms: Structures and Processes (Subtest II)	Complete these three courses _____BIO 1210/L Foundations of Biology: Energy and Matter and Information & Lab _____BIO 2050/L Form and Function in Plants & Lab _____BIO 2070/L Animal Biology & Lab AND select one of the following laboratory courses _____BIO 4450/L Physiology I: Cells & Lab _____BIO 4480/L Plant Physiology & Lab _____BIO 4660/L Microbial Physiology & Lab _____BIO 4460/L Physiology II: Systems & Lab

Ecosystems: Interactions, Energy, and Dynamics (Subtest II)	Complete these two courses _____BIO 3250/L Principles of Ecology & Lab _____STA 1300/BIO 2110L Biostatistics & Lab AND select one of the following laboratory courses _____BIO 3040 Environment and Society _____BIO 2060/L Basic Microbiology & Lab
Domain 3: Heredity: Inheritance and Variation of Traits (Subtest II)	_____BIO 2400 Genetics _____BIO 3220 Cell and Molecular Biology
Domain 4: Biological Evolution: Unity and Diversity (Subtest II)	_____BIO 1220/L Foundations of Biology: Evolution, Ecology, and Biodiversity & Lab _____ BIO 3240 Principles of Evolution

More detail about the Domains

Science: Foundational Level Science
- **General Science Domain 1: Scientific Practices, Engineering Design and Applications, and Crosscutting Concepts (Subtest I)**
  - o Understand scientific practices
  - o Understand engineering practices, design, and applications
  - o Understand crosscutting concepts among the sciences and engineering
- **General Science Domain 2: Physical Sciences (Subtest I)**
  - o Understand structure and properties of matter
  - o Understand chemical reactions and biochemistry
  - o Understand motion and stability: forces and interactions
  - o Understand waves and their applications in technologies for information transfer
  - o Understand energy
  - o Understand electricity and magnetism
- **General Science Domain 3: Life Sciences (Subtest I)**
  - o Understand the structure and function of cells
  - o Understand growth, development, and energy flow in organisms
  - o Understand ecosystems: interactions, energy, and dynamics

- o   Understand heredity: inheritance and variation of traits
- o   Understand biological evolution: unity and diversity

- **General Science Domain 4: Earth and Space Sciences (Subtest I)**
  - o   Understand Earth's place in the universe
  - o   Understand Earth's materials and systems and surface processes
  - o   Understand plate tectonics and large scale system interactions
  - o   Understand weather and climate
  - o   Understand natural resources and natural hazards

Biology specific domains (Subtest 2)
- **Domain 1: From Molecules to Organisms: Structures and Processes (Subtest II)**
  - o   Understand the structure and function of cells
  - o   Understand the hierarchical organization and functioning of systems in multicellular organisms
  - o   Understand growth and development of organisms
  - o   Understand matter and energy flow in organisms
- **Domain 2: Ecosystems: Interactions, Energy, and Dynamics (Subtest II)**
  - o   Understand interdependent relationships in ecosystems
  - o   Understand cycles of matter and energy transfer in ecosystems
  - o   Understand ecosystem dynamics, functioning, and resilience
- **Domain 3: Heredity: Inheritance and Variation of Traits (Subtest II)**
  - o   Understand inheritance of traits
  - o   Understand variation of traits and genetic engineering
- **Domain 4: Biological Evolution: Unity and Diversity (Subtest II**)
  - o   Understand evidence of common ancestry and diversity
  - o   Understand natural selection
  - o   Understand adaptation.