**Science: Biology  -  Content Knowledge**

**DIRECTIONS:** In order to meet the Content Knowledge Requirements candidates must show that they have had undergraduate or graduate coursework that fulfills the Domains of the Subject Matter Requirements (SMRs) as set down by the Commission on Teacher Credentialing. Using this form read the domains listed on the left. In the right-hand column, list the Course Number, title, and catalog description in which you think the domain outlined was covered. It must be a course that is on your transcript. It can be from a Community College or 4-year institution or a graduate school. Courses from Teacher Education programs cannot be included. Professional development courses do not count. It is very likely that you may list more than one course for each domain, it is preferable that you do so. It is also likely that one course may fulfill several domains. **You will need to include a copy of your transcripts (unofficial are acceptable) in your email.**

When complete, save the document titling it (last name)(first name)(Content area)(net id)2022 and send it to smc@csueastbay.edu . In the Subject Line of the email write “Content Knowledge (Last Name).”  If these conventions must be followed for your submission to be reviewed.

**Name**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Net ID**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Undergraduate/Graduate Schools Attended**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
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| **General Science Domain 1: Scientific Practices, Engineering Design and Applications, and**  **Crosscutting Concepts (Subtest I)** | **List Course Number(s), Title(s) and include the catalog description. (All college/university catalogs are online and contain course descriptions. These are necessary especially for classes with generic names, eg BIOL 101 Introduction to Biology. )** |
| --- | --- |
| 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)** | **List Course Number(s), Title(s) and include the catalog description. (All college/university catalogs are online and contain course descriptions. These are necessary especially for classes with generic names, eg BIOL 101 Introduction to Biology. )** |
| 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)** | **List Course Number(s), Title(s) and include the catalog description. (All college/university catalogs are online and contain course descriptions. These are necessary especially for classes with generic names, eg BIOL 101 Introduction to Biology. )** |
| 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)** | **List Course Number(s), Title(s) and include the catalog description. (All college/university catalogs are online and contain course descriptions. These are necessary especially for classes with generic names, eg BIOL 101 Introduction to Biology. )** |
| 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 |  |
| **Domain 1: From Molecules to Organisms: Structures and Processes (Subtest II)** | **List Course Number(s), Title(s) and include the catalog description. (All college/university catalogs are online and contain course descriptions. These are necessary especially for classes with generic names, eg BIOL 101 Introduction to Biology. )** |
| Understand the structure and function of cells |  |
| Understand the hierarchical organization and functioning of systems in multicellular organisms |  |
| Understand growth and development of organisms |  |
| Understand matter and energy flow in organisms |  |
| **Domain 2: Ecosystems: Interactions, Energy, and Dynamics (Subtest II)** | **List Course Number(s), Title(s) and include the catalog description. (All college/university catalogs are online and contain course descriptions. These are necessary especially for classes with generic names, eg BIOL 101 Introduction to Biology. )** |
| Understand interdependent relationships in ecosystems |  |
| Understand cycles of matter and energy transfer in ecosystems |  |
| Understand ecosystem dynamics, functioning, and resilience |  |
| **Domain 3: Heredity: Inheritance and Variation of Traits (Subtest II)** | **List Course Number(s), Title(s) and include the catalog description. (All college/university catalogs are online and contain course descriptions. These are necessary especially for classes with generic names, eg BIOL 101 Introduction to Biology. )** |
| Understand inheritance of traits |  |
| Understand variation of traits and genetic engineering |  |
| **Domain 4: Biological Evolution: Unity and Diversity (Subtest II)** | **List Course Number(s), Title(s) and include the catalog description. (All college/university catalogs are online and contain course descriptions. These are necessary especially for classes with generic names, eg BIOL 101 Introduction to Biology. )** |
| Understand evidence of common ancestry and diversity |  |
| Understand natural selection |  |
| Understand adaptation. |  |