

Elementary Science Endorsement

Requirement Options

4/12/2021

Requirement Area 1: Nature of Science and Engineering

University Course

- 3-credit course: Nature of Science and Engineering

Microcredentials

- Microcredential Stack: Nature of Science and Engineering
 - Developing conceptual understandings of the Nature of Science ([Competencies 1, 4, 6](#))
 - Developing conceptual understandings of the Nature of Engineering and its relationship to the Nature of Science ([Competencies 2, 3](#))
 - Planning, implementing, and reflecting on science instruction that includes Nature of Science components ([Competencies 5, 7](#))
 - Promoting effective and equitable science instruction both in personal practice and in the science education community: Level 1 ([Competency 8](#))

Requirement Area 2: Systems in Science

University Course

- 3-credit course: Systems in Science

Microcredentials

- Microcredential Stack: Systems in Science
 - Obtaining, evaluating, and communicating information about systems in science ([Competency 1](#))
 - Developing and using models to represent systems in science ([Competency 2](#))
 - Planning, implementing, and reflecting on science instruction related to systems ([Competency 3](#))
 - Promoting effective and equitable science instruction both in personal practice and in the science education community: Level 2 ([Competency 4](#))

Requirement Area 3: Matter and Energy in Science

University Course

- 3-credit course: Matter and Energy in Science

Microcredentials

- Microcredential Stack: Matter and Energy in Science
 - Developing and using models about energy and matter ([Competency 1](#))
 - Participating in science discourse by critiquing and revising models of matter and energy ([Competency 2](#))
 - Planning, implementing, and reflecting on science instruction related to matter and energy ([Competency 3](#))
 - Promoting effective and equitable science instruction both in personal practice and in the science education community: Level 2 ([Competency 4](#))

Requirement Area 4: Cause and Effect in Science

University Course

- 3-credit course: Cause and Effect in Science

Microcredentials

- Microcredential Stack: Cause and Effect in Science
 - Planning and carrying out investigations to identify causal relationships ([Competency 1](#))
 - Asking and refining scientific questions about causal relationships ([Competency 2](#))
 - Planning, implementing, and reflecting on science instruction related to cause and effect ([Competency 3](#))
 - Promoting effective and equitable science instruction both in personal practice and in the science education community: Level 2 ([Competency 4](#))

Requirement Area 5: Stability and Change in Science

University Course

- 3-credit course: Stability and Change in Science

Microcredentials

- Microcredential Stack: Stability and Change in Science
 - Constructing models and explanations related to stability and change in systems ([Competencies 1 & 3](#))
 - Analyzing and interpreting data related to stability and change in systems ([Competency 2](#))
 - Planning, implementing, and reflecting on science instruction related to stability and change ([Competency 4](#))
 - Promoting effective and equitable science instruction both in personal practice and in the science education community: Level 2 ([Competency 5](#))

Requirement Area 6: Classroom Practice in Science

University Course

- 3-credit course: Classroom Practice in Science

Microcredentials

- Microcredential Stack: Classroom Practice in Science
 - Using the crosscutting concepts and disciplinary core ideas to support sense-making ([Competency 1](#))
 - Planning, implementing, and reflecting on three-dimensional, phenomena-based science instruction units ([Competency 2](#))
 - Promoting effective and equitable science instruction both in personal practice and in the science education community: Level 3 ([Competency 3](#))