BI/BIO/BIOL 223Z Principles of Biology: Ecology and Evolution

For more detailed information, see CCN Reports & Memos on the Educator Resources—Common Course Numbering webpage.

CCN Course/Course Information
Biology
Course Number and Subject Codes: BI, BIO, or BIOL 223Z **Course Title:** Principles of Biology: Ecology and Evolution **Course Credits:** 5 (The course must include both lecture and lab components. Both of these components are embedded under the same course number and appearing as a single grade item on transcripts.) **Course Description:** Explores the unity and diversity of life through evolutionary mechanisms and relationships, and adaptation to the environment. Examines population, community, and ecosystem ecology. Intended for science majors. **Course Learning Outcome Introductory Statement:** This work is based on the national 2011 American Association of Advancement of Science (AAAS) report "Vision and Change in Undergraduate Biology Education" that recommended 5 overarching Core Concepts and 6 Core Competencies for biology majors. For details about implementation refer to: For Core Concepts see BioCore Guide (see Supplement 2 from Brownell et al., 2017) For Core Competencies see BioSkills Guide (see Supplement from Clemmons et al., 2020) **Course Learning Outcomes:** 1. Apply the iterative process of science to generate and answer biological questions by analyzing data and drawing conclusions that are based on empirical evidence and current scientific understanding. 2. Use evidence to develop informed opinions on contemporary biological issues and explain the implications of those issues on society. 3. Provide evidence for phylogenetic relationships which illustrate the unity and diversity of life. 4. Describe how adaptation, development, mutation, and the environment affect organismal evolution. 5. Apply mathematical models to describe how populations change through time in relation to biotic and abiotic factors. 6. Explain how organisms and their environments affect each other across different temporal and spatial scales. 7. Interpret models explaining the flow of energy and cycling of matter in ecosystems.