



ASSESSMENT

BS Biological Sciences: Biology, Botany, Environmental Biology, Pre-professional Studies, Zoology, BS Biotechnology, and Wildlife Ecology and Management Program-Level Student Learning Outcomes

- Students will be able to (SWBAT) identify diversity as result of evolutionary and adaptive mechanisms while recognizing the underlying genetic principles and mechanisms of these processes.
- SWBAT Students will be able to distinguish biological mechanisms (for example cellular respiration; photosynthesis; DNA replication; etc.) and relate (apply?) these mechanisms to overall biological systems (for example energy production and flow; circulatory systems in plants and animals; ecological systems) and how they work.
- SWBAT construct hypothesis; design studies to test those hypotheses.

BSE General Sciences-Biology

Program-Level Student Learning Outcomes as prescribed by the specialized accreditor, National Science Teachers Association

- Effective teachers of science understand and articulate the knowledge and practices of contemporary science. They interrelate and interpret important concepts, ideas, and applications in their fields of licensure.
- Effective teachers of science understand how students learn and develop scientific knowledge. Preservice teachers use scientific inquiry to develop this knowledge for all students.
- Effective teachers of science are able to plan for engaging all students in science learning by setting appropriate goals that are consistent with knowledge of how students learn science and are aligned with state and national standards. The plans reflect the nature and social context of science, inquiry, and appropriate safety considerations. Candidates design and select learning activities, instructional settings, and resources-- including science-specific technology, to achieve those goals; and they plan fair and equitable assessment strategies to evaluate if the learning goals are met.





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- Effective teachers of science can, in a P-12 classroom setting, demonstrate and maintain chemical safety, safety procedures, and the ethical treatment of living organisms needed in the P-12 science classroom appropriate to their area of licensure.
- Effective teachers of science provide evidence to show that P-12 students' understanding of major science concepts, principles, theories, and laws have changed as a result of instruction by the candidate and that student knowledge is at a level of understanding beyond memorization. Candidates provide evidence for the diversity of students they teach.
- Effective teachers of science strive continuously to improve their knowledge and understanding of the ever changing knowledge base of both content, and science pedagogy, including approaches for addressing inequities and inclusion for all students in science. They identify with and conduct themselves as part of the science education community.

