

# INTEGRATIVE SCIENCE, B.S. (UNIVERSITY COLLEGE)

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**Begin Campus:** Any Penn State Campus

**End Campus:** Scranton, York

## Program Learning Objectives

- **Process of Science:** Apply the elements of the process of science such as posing questions, generating novel hypotheses based on the scientific literature; developing appropriate technical skills for research; designing/conducting experiments to test hypotheses in laboratory and/or field settings; summarizing/interpreting data; integrating/evaluating findings in the broader scientific field to construct new knowledge; and/or participating in the peer review/revision process.
- **Quantitative Reasoning and Data Science:** Apply basic quantitative competencies such as algebra, probability, statistics, unit conversions, and fundamental principles; organize, summarize, and interpret quantitative data; use modeling/simulation to approach problems from across various scales; and/or find and analyze large databases using statistical methods and/or other approaches.
- **Interdisciplinary Thinking:** Integrate knowledge among science subfields and between science and other disciplines.
- **Collaboration and Communications:** Engage with diverse communities and leverage the skills in the community to pose and solve scientific questions; demonstrate the ability to work in teams to solve problems; and/or communicate in a variety of formal and informal ways in the discussion of scientific research.
- **Science and Society:** Explore the impacts of scientific research on society and the environment and how society influences/relies on research to inform decision-making; evaluate the ethical implications of scientific research; recognize ethical issues in a variety of settings; and/or describe how different perspectives and the resulting alternative approaches might be evaluated using ethical principles to identify a solution to an issue.
- **Professional Experiences:** Communicate in a professional manner and learn/use professional behaviors in all aspects of college and career building activities, including participation in opportunities such as research, internships, cooperative education, teaching and tutoring, study abroad, and/or volunteer work.