Introduction
The biology program is designed to prepare students for careers in biological research, development, teaching, and in health sciences, nursing, biotechnology, conservation biology and wildlife management, forestry, and other applied fields. It also provides the necessary background for prospective teachers and for advanced study leading to graduate degrees in the more specialized fields of the biological sciences.

A student planning to enter medicine, dentistry, or other professional fields should consult the catalog of the professional school to which the student intends to apply following pre-professional work in biology and other sciences at Portland State. Biology is also a teaching endorsement area in the program of secondary education.

Undergraduate Program Learning Outcomes

Communication:
- Exiting students will reflect upon their studies within the biology department and provide first hand feedback on the quality of their experiences at PSU.
- Students will become acquainted with basic physiological mechanisms of organism functions (including energetics, feedback, and homeostasis, transport, intercellular communication, and environmental perception).
- Students will become acquainted with data collection and analysis.
- Students will become acquainted with experimental design and critical observation.
- Students will become acquainted with major evolutionary trends among organisms.
- Students will become acquainted with proper format for written and/or oral communication in the biological sciences.
- Students will become acquainted with the primary literature of various fields of biology.

Creative and Critical Thinking:
- Students will gain familiarity with importance of ecosystems and environments for living systems.
- Exiting students will reflect upon their studies within the biology department and provide first hand feedback on the quality of their experiences at PSU.
- Students will become acquainted with basic physiological mechanisms of organism functions (including energetics, feedback, and homeostasis, transport, intercellular communication, and environmental perception).
- Students will become acquainted with data collection and analysis.
- Students will become acquainted with experimental design and critical observation.
- Students will become acquainted with mechanisms of genetic inheritance.
- Students will become acquainted with proper format for written and/or oral communication in the biological sciences.
- Students will become acquainted with structure and function relationships.

**Disciplinary Expertise:**
- Students will gain familiarity with importance of ecosystems and environments for living systems
- Exiting students will reflect upon their studies within the biology department and provide first hand feedback on the quality of their experiences at PSU.
- Students will become acquainted with basic physiological mechanisms of organism functions (including energetics, feedback, and homeostasis, transport, intercellular communication, and environmental perception).
- Students will become acquainted with data collection and analysis.
- Students will become acquainted with experimental design and critical observation.
- Students will become acquainted with major evolutionary trends among organisms.
- Students will become acquainted with mechanisms of genetic inheritance.
- Students will become acquainted with operation of basic instrumentation.
- Students will become acquainted with organism/environment interactions.
- Students will become acquainted with salient distinctions among different major groups of organisms.
- Students will become acquainted with the primary literature of various fields of biology
- Students will become acquainted with unity and diversity of life.

**Diversity:**
- Students will gain familiarity with importance of ecosystems and environments for living systems
- Exiting students will reflect upon their studies within the biology department and provide first hand feedback on the quality of their experiences at PSU.
- Students will become acquainted with major evolutionary trends among organisms.
- Students will become acquainted with mechanisms of genetic inheritance.
- Students will become acquainted with organism/environment interactions.
- Students will become acquainted with salient distinctions among different major groups of organisms.
- Students will become acquainted with unity and diversity of life.

**Engagement:**
- Students will gain familiarity with importance of ecosystems and environments for living systems
- Exiting students will reflect upon their studies within the biology department and provide first hand feedback on the quality of their experiences at PSU.
- Students will become acquainted with proper format for written and/or oral communication in the biological sciences.
- Students will become acquainted with the primary literature of various fields of biology

**Ethics and Social Responsibility:**
- Students will gain familiarity with importance of ecosystems and environments for living systems
- Exiting students will reflect upon their studies within the biology department and provide first hand feedback on the quality of their experiences at PSU.
Students will become acquainted with mechanisms of genetic inheritance.
Students will become acquainted with organism/environment interactions.

Internationalization:
Exiting students will reflect upon their studies within the biology department and provide first hand feedback on the quality of their experiences at PSU.
Students will become acquainted with the primary literature of various fields of biology

Sustainability:
Students will gain familiarity with importance of ecosystems and environments for living systems
Exiting students will reflect upon their studies within the biology department and provide first hand feedback on the quality of their experiences at PSU.
Students will become acquainted with experimental design and critical observation.
Students will become acquainted with major evolutionary trends among organisms.
Students will become acquainted with mechanisms of genetic inheritance.
Students will become acquainted with organism/environment interactions.
Students will become acquainted with salient distinctions among different major groups of organisms.
Students will become acquainted with unity and diversity of life.