

# Biological Sciences SLO to ILO Alignment(No Results)\_February 2017

## CAN Institutional SLOs

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Select, evaluate, and use information to investigate a point of view, support a conclusion, or engage in problem solving.

### CAN Dept - Biological Sciences

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#### CAN BIOL 100 : Intro To Life Sciences

**genetics:** Explain the functions of genes and their role in inheritance and evolution.

#### CAN BIOL 100 : Intro To Life Sciences

**analyze science info:** Gather and evaluate information to analyze contemporary issues in science.

#### CAN BIOL 103 : Native Plants and Wildflowers

**Field Identification:** Identify plants in the field using the knowledge of structures.

#### CAN BIOL 103 : Native Plants and Wildflowers

**Botanical Nomenclature:** Understand and use the correct scientific names and levels of classification to communicate the identity and relationships among native Californian Plants.

#### CAN BIOL 103 : Native Plants and Wildflowers

**Endemism and adaptations:** Explain the concept of endemism in terms of natural selection and adaptations to particular climate and soil types.

#### CAN BIOL 103 : Native Plants and Wildflowers

**Dichotomous keys:** Understand the principles behind dichotomous keys and be able both to create a simple key and use keys in the field to identify plants.

#### CAN BIOL 103 : Native Plants and Wildflowers

**Scientific Method:** Demonstrate the ability to formulate hypotheses and be able to use the scientific method to investigate biological processes and phenomenon.

#### CAN BIOL 110 : Principles Of Biology

**traits of life:** 1. Describe key characteristics of all living things

#### CAN BIOL 110 : Principles Of Biology

**analyze info:** 5. Gather, evaluate, and effectively organize information to analyze contemporary issues in science.

Select, evaluate, and use information to investigate a point of view, support a conclusion, or engage in problem solving.

**CAN BIOL 110 : Principles Of Biology**

**Scientific method:** 6. Apply the scientific method of observation, hypothesis, prediction, experimentation, and interpretation of results.

**CAN BIOL 130 : Human Biology**

**analyze issue:** Find, evaluate the validity of, and analyze information about contemporary topics in human biology.

**CAN BIOL 130 : Human Biology**

**vital processes:** Describe essential biological structures and processes that occur at the molecular and cellular levels and explain how they enable life.

**CAN BIOL 130 : Human Biology**

**disease:** Explain how malfunctions of these organ systems can cause disease.

**CAN BIOL 132 : Human Biology Laboratory**

**scientific method:** apply all steps of the scientific method to answer questions and solve problems.

**CAN BIOL 132 : Human Biology Laboratory**

**genetic inheritance:** analyze inheritance of traits using genetic data

**CAN BIOL 225 : Biology Of Organisms**

**scientific method:** Explain and practice the scientific method of inquiry.

**CAN BIOL 225 : Biology Of Organisms**

**adaptive behavior:** Analyze behavioral adaptations of organisms and their basis.

**CAN BIOL 230 : Cell and Molecular Biology**

**gene and cell cycle regulation:** Provide specific examples to describe the various levels of eukaryotic gene regulation and cell cycle regulation, and explain how these molecular mechanisms usually ensure successful reproduction of healthy cells.

**CAN BIOL 240 : General Microbiology**

**classification and impact on health:** Compare and contrast the major classes of bacterial, eukaryotic, and acellular microbes and their relationships to human and/or environmental health.

**CAN BIOL 260 : Human Physiology**

**membrane potential:** Explain the basis of membrane potentials and their significance to physiologic control systems

**CAN BIOL 260 : Human Physiology**

**scientific analysis:** Propose and/or execute laboratory experiments in physiology. Analyze, interpret and effectively communicate results from these experiments.

**CAN BIOL 260 : Human Physiology**

**information competency:** Research, summarize and cite articles from peer-reviewed scientific literature.

**CAN BIOL 260 : Human Physiology**

**metabolism and exercise:** Describe how multiple physiologic systems integrate their responses to maintain control of metabolism and exercise.

Select, evaluate, and use information to investigate a point of view, support a conclusion, or engage in problem solving.

**CAN BIOL 260 : Human Physiology**

**application to lifestyle:** Apply knowledge of physiologic processes to develop a healthy lifestyle, and predict the likely impact of unhealthy practices on bodily well-being.

**CAN BIOL 310 : Nutrition**

**Apply nutrition to own diet:** Students should be able to apply to their own diets the knowledge of the Food Guide Pyramid, the major nutrients, recommended servings and quantities of servings.

**CAN BIOL 310 : Nutrition**

**nutrition labels:** Students will be able to accurately analyze the nutrition labeling of food products and interpret the information.

**CAN BIOL 310 : Nutrition**

**information competency:** Students can differentiate between scientific, evidence-based nutrition information and nutrition fads.

Produce, combine, or synthesize ideas in creative ways within or across disciplines.

**There are no Results for this SLO**

Use language to effectively convey an idea or a set of facts, including the accurate use of source material and evidence according to institutional and discipline standards.

## CAN Dept - Biological Sciences

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### CAN BIOL 100 : Intro To Life Sciences

**traits of life:** Identify and explain how the key characteristics of all living things are essential to life.

### CAN BIOL 100 : Intro To Life Sciences

**processes of life:** Describe essential biological structures and processes that occur at the molecular, cellular, and organismal levels that enable life.

### CAN BIOL 100 : Intro To Life Sciences

**ecology:** Discuss ecological principles that influence plant and animal interactions within ecosystems, communities, and populations.

### CAN BIOL 103 : Native Plants and Wildflowers

**Botanical Terms:** Use the correct botanical terms to name and identify vegetative and reproductive structures of plants.

### CAN BIOL 103 : Native Plants and Wildflowers

**Botanical Nomenclature:** Understand and use the correct scientific names and levels of classification to communicate the identity and relationships among native Californian Plants.

### CAN BIOL 103 : Native Plants and Wildflowers

**Human Uses of Plants:** Understand and be able to explain the properties of plants that have proven to be useful to Native Californians.

### CAN BIOL 110 : Principles Of Biology

**life processes:** 2. Describe essential biological structures and processes that occur at the molecular, cellular, and organismal levels that enable life.

### CAN BIOL 110 : Principles Of Biology

**genetics:** 3. Discuss the functions of genes and their role in inheritance and evolution.

### CAN BIOL 110 : Principles Of Biology

**ecology:** 4. Discuss ecological principles that influence plant and animal interactions within ecosystems, communities, and populations.

### CAN BIOL 130 : Human Biology

**analyze issue:** Find, evaluate the validity of, and analyze information about contemporary topics in human biology.

### CAN BIOL 130 : Human Biology

**organ systems:** Describe the basic structure and physiology of human organ systems and how they function to maintain life.

### CAN BIOL 130 : Human Biology

**genetics, disease, evolution:** Explain the role of genetics and environment in health, disease, and evolution.

### CAN BIOL 225 : Biology Of Organisms

**traits of phyla:** Describe key characteristics of different phyla and discuss their phylogeny.

Use language to effectively convey an idea or a set of facts, including the accurate use of source material and evidence according to institutional and discipline standards.

**CAN BIOL 225 : Biology Of Organisms**

**organ systems and homeostasis:** Compare the various structures of diverse organisms and explain how they are used to maintain essential life processes.

**CAN BIOL 225 : Biology Of Organisms**

**mechanisms of evolution:** Discuss how mechanisms, including natural selection, affect evolution.

**CAN BIOL 225 : Biology Of Organisms**

**embryogenesis:** Describe embryonic development of animals and plants and explain its significance.

**CAN BIOL 230 : Cell and Molecular Biology**

**transformation of energy:** Describe and explain how enzymes and specific organelles function in catabolic and anabolic (photosynthetic) pathways during cellular transformation of energy and organic matter.

**CAN BIOL 230 : Cell and Molecular Biology**

**genetics and evolution:** Compare and contrast the various processes of gene expression, genetic transfer, and gene regulation in bacterial and eukaryotic cells, and relate them to biological evolution and metabolism.

**CAN BIOL 240 : General Microbiology**

**subcellular structures and function:** Describe and distinguish between the major macromolecules and subcellular structures in bacteria and eukaryotic cells, and explain how these structures determine associated functions in an organism.

**CAN BIOL 240 : General Microbiology**

**metabolic enzymes:** Describe and explain how enzymes function in metabolic pathways during the transformation of energy and organic matter (especially carbon) by cells.

**CAN BIOL 240 : General Microbiology**

**genetics and evolution:** Compare and contrast the various processes of genetic transfer, gene expression, and gene regulation in microbial cells and relate them to microbial evolution, growth and metabolism.

**CAN BIOL 240 : General Microbiology**

**immune response:** Compare and contrast specific mechanisms of innate and acquired immunity in humans, and describe how each aids in defense against specific infectious diseases of major organ systems.

**CAN BIOL 240 : General Microbiology**

**analysis and communication:** Organize and analyze qualitative and quantitative data into cohesive and well-written laboratory reports that properly reference relevant scientific literature.

**CAN BIOL 250 : Human Anatomy**

**form and function:** Explain how the shape and composition of anatomical structures determine their function.

**CAN BIOL 250 : Human Anatomy**

**changes through lifespan:** Describe the anatomical changes that occur throughout the human lifespan.

**CAN BIOL 250 : Human Anatomy**

Use language to effectively convey an idea or a set of facts, including the accurate use of source material and evidence according to institutional and discipline standards.

**CAN BIOL 250 : Human Anatomy**

**gross and microscopic:** Describe the gross and microscopic anatomical features of human organ systems.

**CAN BIOL 260 : Human Physiology**

**homeostatic control systems:** Describe the coordinated responses of physiologic systems to maintain homeostasis and to regulate change and growth.

Understand and interpret various points of view that emerge from a diverse world of peoples and cultures.

## CAN Dept - Biological Sciences

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### **CAN BIOL 103 : Native Plants and Wildflowers**

**Human Uses of Plants:** Understand and be able to explain the properties of plants that have proven to be useful to Native Californians.

### **CAN BIOL 250 : Human Anatomy**

**cadaver appreciation:** Develop respect and appreciation for the gift of human cadavers; explain and defend their use in anatomy education.

### **CAN BIOL 260 : Human Physiology**

**teamwork:** Demonstrate proper and effective interpersonal conduct and teamwork while performing laboratory experiments and writing cohesive lab reports.



Represent complex data in various mathematical forms (e.g., equations, graphs, diagrams, tables, and words) and analyze these data to draw appropriate conclusions.

## CAN Dept - Biological Sciences

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### CAN BIOL 100 : Intro To Life Sciences

**organize data:** Effectively organize and present scientific information to a group.

### CAN BIOL 103 : Native Plants and Wildflowers

**Analytical Skills:** Organize, analyze, and successfully communicate scientific data with clear and meaningful explanations and evaluation.

### CAN BIOL 132 : Human Biology Laboratory

**data, graphs:** create and interpret graphs and tables with data

### CAN BIOL 132 : Human Biology Laboratory

**genetic inheritance:** analyze inheritance of traits using genetic data

### CAN BIOL 225 : Biology Of Organisms

**scientific method:** Explain and practice the scientific method of inquiry.

### CAN BIOL 230 : Cell and Molecular Biology

**laboratory competency:** Use current laboratory techniques and apply the scientific method to identify and isolate various biological macromolecules and organelles, and to analyze enzyme activity and metabolic pathways.

### CAN BIOL 230 : Cell and Molecular Biology

**data analysis and communication:** Organize and analyze qualitative and quantitative data into cohesive and well-written laboratory reports that properly reference relevant scientific literature.

### CAN BIOL 240 : General Microbiology

**analysis and communication:** Organize and analyze qualitative and quantitative data into cohesive and well-written laboratory reports that properly reference relevant scientific literature.

### CAN BIOL 260 : Human Physiology

**scientific analysis:** Propose and/or execute laboratory experiments in physiology. Analyze, interpret and effectively communicate results from these experiments.

### CAN BIOL 310 : Nutrition

**nutrition labels:** Students will be able to accurately analyze the nutrition labeling of food products and interpret the information.