

## Biology-B11; Concepts of Biology

Student Learning Outcomes or AUO	Measure	PLO	ILO	GE
1. Research a topic, design experiments, synthesize and evaluate the information, justify and express their opinions.	Lab assignment, quiz or exam		I II III IV	B.1
2. Identify various cells and their structural components, and differentiate the functions of each of their components.	Lab assignment, quiz or exam		III	B.1
3. a) Understand the significance of DNA as the basis for heredity, structure, function and disease in living organisms; b) describe the DNA molecule and explain how it is used in living systems to create proteins; and c) describe how proteins function in living cells.	Lab assignment, quiz or exam		III	B.1
4. Describe the organs found in selected human organ systems, then explain the role played by each organ in the overall functioning of that system.	Lab assignment, quiz or exam		III	B.1
5. Compare and contrast characteristics of various organisms particularly related to energy sources (feeding style), cellular composition, reproduction and relationship to the ecosystem.	Lab assignment, quiz or exam		III	B.1
6. a) Describe the flow of energy through the ecosystem, then construct a food web, placing specific species of organisms at each level; b) choose a common ecosystem disturbance of human origin and predict the effects of that disturbance on a food web and c) understand the complexity of ecosystems and environmental issues.	Lab assignment, quiz or exam		I II III IV	B.1
7. a) Recognize, value, and apply major biological concepts contributing to current issues in the biological realm; and b) apply critical thinking skills to formulate and defend a position on a controversial issue of biological importance.	Lab assignment, quiz or exam		I II III IV	B.1

**PLOs: Biology-B11 is not part of a program.**

**ILOs:**

- I. Think critically and evaluate sources and information for validity and usefulness.**
- II. Communicate effectively in both written and oral forms.**
- III. Demonstrate competency in a field of knowledge or with job-related skills.**
- IV. Engage productively in all levels of society – interpersonal, community, the state and nation, and the world.**

**GELOs:**

**B.1 Natural Sciences – Life Sciences**

Courses in the natural sciences are those that examine the physical universe, its life forms, and its natural phenomena.

Further, courses in the natural sciences help the student develop an appreciation and understanding of the scientific method. Courses in the natural sciences, math and logic help students apply logical, qualitative and quantitative reasoning in solving problems or analyzing arguments.

**Sociology Course Example:**

**SOCI B2: Problems of Modern Society**

<b>Student Learning Outcomes</b>	<b>Measure</b>	<b>PLO</b>	<b>ILO</b>	<b>GE</b>
1 Define the objective and subjective components of social problems and	Pre Post Test Essay	PLO 1	I II	D.2.2

demonstrate the ability to examine those problems from the perspective of the three major sociological theories.

2. Evaluate and apply sociological concepts to the analysis of social problems including health care, substance abuse, deviance, social institutions, race/ethnicity, gender, youth/aging, demography, environment, technology, war/conflict, and social change.

3. Relate the knowledge of the basic elements of the scientific method including the various research methodologies used to collect, analyze, and interpret the data/observations appropriate to the examination of social problems.

			III	
Post Test	PLO 1	I		D.2.2
Essay	PLO 2	II		D.2.3
	PLO 3	III		
Pre Post Test	PLO 1	I		D.2.1
Essay	PLO 2	II		
	PLO 3	III		

**PLOs:**

1. Demonstrate an understanding of the perspectives, theories, methods and core concepts of the sociology.
2. Explain the complex interplay between individual, culture, and social structure contributing to the historical development of the discipline of sociology.
3. Demonstrate the ability to utilize the sociological perspective to critically analyze and describe the diverse intersections of social categories, including race, ethnicity, class, gender, sexuality, age, religion, and nationality.

**ILOs:**

- I. **Think critically and evaluate sources and information for validity and usefulness.**
- II. **Communicate effectively in both written and oral forms.**
- III. **Demonstrate competency in a field of knowledge or with job-related skills.**
- IV. **Engage productively in all levels of society – interpersonal, community, the state and nation, and the world.**

**GELOs:**

**Use the GE categories from the catalog if this is a GE course. Areas A-E**  
**General Education Learning Outcomes for Sociology**

D.2. Foundations in the Social Sciences

1. Demonstrate an understanding of the perspectives, theories, methods, and core concepts of the social sciences.

2. Explain the major problems and issues in the disciplines in their contemporary, historical and geographical contexts.
3. Demonstrate an understanding of and an ability to describe the contributions and perspectives of women, ethnic and other minorities, and Western and non-Western peoples.