



TRINITY
MEDICAL SCIENCES
UNIVERSITY

SCHOOL OF
BIOMEDICAL SCIENCES

GENERAL BIOLOGY

BIOS 101

Course Description

This course is designed to introduce students to the fundamentals of biology. A chemical and molecular approach is used to study the structure and function of living organisms. It also deals with the principles of evolution, diversity of life, and ecosystems. Emphasis is given to various organ systems that work together to perform coordinated functions while contributing a particular function to the body.

Credit Hours: 3 credits

Repeatable: No

Course Structure

The course will be presented in different formats: Lectures with PowerPoints, self-directed learning, discussions and student assignments etc.

Competencies

This course emphasizes competencies to enhance skills essential for a future health care professional.

- Knowledge
 - **Demonstrate content knowledge and skills in foundational courses required by biomedical professionals**
 - **Demonstrate information literacy**
 - Demonstrate quantitative reasoning
 - **Demonstrate longitudinal learning through coursework**
- Critical Thinking
 - **Develop the skills of self-reflection and peer assessment to improve personal performance.**
 - **Demonstrate the ability to analyze literature and written material**
 - Demonstrate the ability to distinguish between well-reasoned and poorly reasoned arguments
- Communication Skills
 - **Demonstrate effective presentation skills to faculty and peers.**
 - **Demonstrate effective listening skills**
 - **Demonstrate effective written communication**

Objectives:

Upon completion of BIOS 101 course, the student should be able to:

1. Explain the different biological systems (eukaryotic, prokaryotic and viruses) and its chemical architecture to make the cells and organelles.
2. Discuss the origin of life on earth and its diversification.
3. Describe the basic concept of different organ systems in animals and humans.
4. Recognise the role of the ecosystem on the human survival.

Schedule: Dates and times to be posted at the beginning of the term on the online calendar.

Course Topics / Outline

Activity #	Lecture Topics
Week1	Introduction to Biology, The Chemical Context of Life
Week 2	Water and Carbon: Chemical Basis of Life
Week 3	The Structure and Function of Large Biological Molecules, A Tour of the Cell
Week 4	Quiz 1 , Descent with Modification: A Darwinian View of Life
Week 5	The Evolution of Populations, The Origin of Species
Week 6	The History of Life on Earth
Week 7	Mid-Term Exam
Week 8	Circulatory System and Respiratory System
Week 9	The Immune System
Week 10	Renal System, Hormones and the Endocrine System
Week 11	Quiz 2 , Animal Reproduction
Week 12	Nervous Systems, Sensory and Motor Mechanisms
Week 13	Ecosystems and Restoration Ecology
Week 14	End of Term Exam

Assignments:

Students are required to present a topic (the presentation time is 15-20 minutes and the students are required to submit the power-point 24 hours before the presentation schedule), and/or to write a summary of a lecture topic.

Textbooks and Reference Materials:**Required Text**

Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky, Jane B. Reece. Campbell Biology. 11th Edition. Publisher: Pearson.

Recommended Text

Scott Freeman, Kim Quillin, Lizabeth Allison, Michael Black, Emily Taylor, Greg Podgorski, Jeff Carmichael. Biological Science. 6th Edition. Publisher: Pearson.

Evaluation: Students are evaluated by two quizzes, a midterm exam, a final exam, assignments and their attendance.

Points:

	Percent (%)
Assignments	10
Quizzes	20
Mid Term	30
Final exam	30
Attendance	10
Total	100

Grade:

Percent of Points	Letter Grade
95-100%	A(h)
90-94%	A
85-89%	B+
80-84%	B
75-79%	C+
70-74%	C
<70%	F

Attendance:

Students are expected to attend at least 80% of all scheduled learning activities. Attendance in the class will be recorded. Students who attend 80% or more will be awarded with 10% on total scoring system. Please note that absences due to illness or misadventure will be factored into the 20% of allowable absences if informed respective faculty or the Dean of students.

Policies:

Professional Demeanor

The student should be thoughtful and professional when interacting with faculty and other students. Inappropriate behavior includes the use of offensive language, gestures, or remarks with sexual overtones. Students should maintain a neat and clean appearance, and dress in attire that is generally accepted as professional.

Honesty

Students are expected to demonstrate honesty and integrity in all aspects of their education and in their interactions with faculty, administration, physicians, patients, and fellow students. They will not cheat, plagiarize, or assist others in the commission of these acts.

Faculty and office hours:

Dr. Rama Paudel, Assistant Professor

Contact office hours:

- Tuesday and Thursday 10:00 AM-12:00 Noon (subject to change),
- Students can also make an appointment via email.
- Drop-in visits are also welcome.