

**INTER-AMERICAN UNIVERSITY OF PUERTO RICO
METROPOLITAN PRECINCT
FACULTY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF NATURAL SCIENCES**

Syllabus

I. GENERAL INFORMATION

Course Title:	Anatomy and Human Physiology
Course code and number:	BMSC 3011
Credits:	3
Academic Term:	
Instructor:	
Office Hours and Location:	
Office Telephone:	(787) 250-1912
E-mail:	

II. Description

Fundamental concepts of histology and the integumentary, skeletal, muscular and nervous systems of the human body from the anatomical and physiological point of view, including pathophysiological considerations of these. Requires 30 hours of lecture and 45 hours of lab. Credits 3 Prerequisite BIOL 1102

III. Objectives

It is expected that, at the end of the course, the student will be able to:

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1. Recognize the anatomical and physiological terminology used to analyze and correlate the different systems studied in the course.
2. Explain the morphological and functional aspects of the different organs and systems of the human body.
3. Correlate the different physiological mechanisms and how it contributes to maintaining homeostasis.
4. Identify and mention the function of body tissues.
5. Explain the anatomy and physiology of the Integumentary System, the Skeletal System, Muscular System, and the Nervous System.
6. Use ethical reasoning to make informed, responsible decisions while discussing diseases.

IV. COMPETENCIES OF THE PROFILE OF THE GRADUATE THAT ARE ATTENDED IN THIS COURSE:

- a. Effective communication (written/verbal/auditory).

- b. Solve problems using the right methodology and knowledge integration.

V. CONTENT

A. Homeostasis

1. Homeostatic cycle
2. Receptor
3. Afferent or sensory pathway
4. Integration center
5. Via efferent or motor
6. Effector
7. Positive feedback mechanism
8. Negative feedback mechanism
9. Variables affecting homeostasis

B. Cellular Physiology

1. Structure of the cell membrane
2. Compartments of body fluids
3. Movement across the membrane
4. Types of cellular transport
5. Distribution of water and solutes in the body
6. Osmotic, chemical and electrical balance
7. Osmosis, osmolarity and osmolality
8. Tonicity

C. Anatomical Terminology

1. Directional Terms
2. Cavities
3. Regions or quadrants
4. Plans

D. Types of Tissues

1. function
 - A. Classification of Tissue and location
 1. epithelial tissue
 2. connective tissue
 3. muscle tissue
 4. nerve tissue

E. Integumentary System

1. Function of the Integumentary System
 - A. skin
 - a. dermis

b. epidermis

B. Homeostatic imbalance

- a. burns
- b. skin cancer
- c. skin aging
- d. spots

F. Skeletal System

- 1. Function of the Skeletal System
- 2. Classification of bones
- 3. Bone structure
- 4. Bone homeostasis
- 5. Homeostatic imbalances
- 6. Skeleton Divisions
 - a. axial
 - b. appendicular

G. Muscular System

- 1. Function of the Muscular System
- 2. Muscle Tissue- Classification
- 3. Muscle contraction
- 4. Regulation of muscle contraction
- 5. Types of contraction
- 6. Effect of exercise

H. Nervous system

- 1. Nervous System Function
- 2. Cells – Anatomy and Physiology
- 3. Neurons
- 4. Neuroglia
- 5. Classification
 - A. Central
 - B. Peripheral
- 6. Anatomical structure and function of the spinal cord
- 7. Brain and cranial nerves
- 8. Nerve interaction
- 9. Autonomic nervous system
- 10. Senses

B. Calendar

It will be discussed in the course and a copy will be placed on Blackboard.

It is important that you fill out the Acknowledgement on Blackboard.

VI. LEARNING ACTIVITIES

- A.Conferences
- B.Face-to-face and virtual laboratories using the resources available on the Web.
- E.Demonstrations
- F.Oral and/or written reports

VII. EVALUATION

	Score	% of Final Grade
4 Exams	200	75%
Laboratory	100	25%
Total	300	100%

VIII. SPECIAL NOTES

A. Auxiliary services or special needs

All students who require auxiliary services or special assistance must request these at the beginning of the course or as soon as they know that they need them, through the proper registry, in the Office of the Coordinator of Services to Students with Disabilities, Dr. Maria de los Angeles Cabello, located in the Counseling Program, Room 419, on the fourth floor of the John Will Harris Building, 787-2501912, extension 2306.

B. Honesty, fraud, and plagiarism

Dishonesty, fraud, plagiarism, and any other inappropriate behavior in relation to academic work constitutes major infractions sanctioned by the General Student Regulations. The major infractions, as stated in the General Student Regulations, may have as a consequence, suspension from the University for a definite period greater than one year or the permanent expulsion from the University, among other sanctions.

C. Use of electronic devices

Cellular telephones and any other electronic device that could interrupt the teaching and learning processes or alter the environment leading to academic excellence will be deactivated. Any urgent situation will be dealt with, as

appropriate. The handling of electronic devices that allow students to access, store or send data during evaluations or examinations is prohibited.

D. Compliance with the Provisions of Title IX

The Federal Higher Education Act, as amended, prohibits discrimination because of sex in any academic, educational, extracurricular, and athletic activity or in any other program or function, sponsored or controlled by a higher education institution, whether or not it is conducted within or outside the property of the institution, if the institution receives federal funds.

In harmony with the current federal regulation, in our academic unit an Assistant Coordinator of Title IX has been designated to offer assistance and orientation in relation to any alleged incident constituting discrimination because of sex or gender, sexual harassment, or sexual aggression. The Assistant Coordinator, Sr. George Rivera Rodríguez, can be reached by phone at 787 250-1912, extension 2262, or by e-mail griverar@metro.inter.edu

The Normative Document Titled Norms and Procedures to Deal with Alleged Violations of the Provisions of Title IX is the document that contains the institutional rules to direct any complaint that appears to be this type of allegation. This document is available in the Web site of Inter American University of Puerto Rico (www.inter.edu).

IX. Bibliography

Cinnamon VanPuttle, Jennifer Regan and Andrew Russo (2018). Seeley's Essentials of Anatomy and Physiology, 12th edition. Mc Graw Hill. N. Y. 10121

Kenneth Saladin and Robin Mc Farland (2017). Essentials of Anatomy & Physiology, 2th edition. Mc Graw Hill. N. Y. 10121.

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