

**INTER AMERICAN UNIVERSITY OF PUERTO RICO
METROPOLITAN CAMPUS
Department of Natural Sciences
Biomedical Sciences Program**

SYLLABUS

I. GENERAL INFORMATION

Course Title	:	Human Anatomy and Physiology I
Code and Number	:	BMSC 3011
Credits	:	3 credits
Academic Period	:	
Professor	:	
Office Hours	:	
Office Phone	:	
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. Prerequisite: BIOL 1102.

III. OBJECTIVES

1. Interpret the anatomical terminology and physiology 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 they contribute to maintaining homeostasis.
4. Identify and mention the function of body tissues.
5. Explain the anatomy and physiology of the Integumentary System.
6. Explain the anatomy and physiology of the Skeletal System.
7. Explain the anatomy and physiology of the Muscular System.
8. Explain the anatomy and physiology of the Nervous System.

IV. THEMATIC CONTENT

A. Homeostasis

1. Homeostatic cycle
2. Receptor
3. Afferent or sensory pathway
4. Integrating Center
5. Efferent motor pathway
6. Effector
7. Positive Feedback Mechanism
8. Negative Feedback Mechanism
9. Variables affecting homeostasis
10. pH
11. Blood pressure
12. Osmolarity
13. Gases
14. Inorganic ions
15. Organic nutrients

B. Cell Physiology

1. Structure of the cell membrane
2. Compartments of body fluids
3. Movement through the membrane
4. Passive transport: diffusion
5. Protein mediated transport
6. Facilitated diffusion
7. Active transport
8. Movement of the molecules through the epithelia
9. Distribution of water and solutes in the body
10. Osmotic, chemical and electrical equilibrium
11. Distribution of fluids through the body
12. Osmosis, osmolarity and osmolality
13. Tonicity

C. Anatomical Terminology

1. Directional
2. Cavities
3. Regions or quadrants
4. Planes

D. Tissues

1. epithelial tissue
2. connective tissue
3. muscle tissue
4. nervous tissue

E. Integumentary System

1. Skin
 - A. Dermis
 - B. Epidermis
2. Homeostatic interrelations of the Integumentary System.
3. Homeostatic imbalance
 - A. burns
 - B. skin cancer
 - C. aging of the skin
 - D. blemishes

F. Skeletal System

1. Function
2. Classification
3. Bone structure
4. Bone Homeostasis
5. Homeostatic Imbalances
6. Skeleton Divisions
 - A. Axial
 - B. Appendicular

H. Nervous System

1. Function
2. Cells
3. Classification
 - A. Central
 - B. Peripheral
4. Anatomic Structure and function
 - A. Encephalon
 - B. Spinal Cord
5. Neurotransmitters

I. Muscular System

1. Function
2. Muscle Tissue - Classification
3. Muscle contraction
4. Regulation of muscle contraction
5. Types of contraction
6. Exercise

V. ACTIVITIES

1. The methods to be used are: lectures, discussions, executions (practice in laboratories), demonstrations, assignments, and programmed teaching.
2. The techniques to be used are: questions and answers, case study, review sessions, problem solving and observation.
3. The means to be used are: projector and transparencies, projector and slides, black board, flakes, filminas, microscopes, television, videocassettes, models, textbooks, laboratory manuals, posters, charts, diagrams, Photographs, magazines, newspapers, computers, computer programs, and television.

VI. EVALUATION

VII. SPECIAL NOTES

A. Auxiliary services or special needs

All students who require ancillary services or special assistance must request the same at the beginning of the course or as soon as they acquire knowledge that they need them, through the corresponding register, or You can communicate with the Coordinator (a) Auxiliary to the telephone Mr. Jose Rodriguez, extension2306, or email jrodriguez@metro.inter.edu.

B. Honesty, fraud, plagiarism.

Lack of honesty, fraud, plagiarism and any other inappropriate behavior in relation to academic work are major infractions sanctioned by the General Regulations of Students. Major infractions, according to the General Regulations of Students, may result in the suspension of the University for a definite time greater than one year or permanent expulsion from the University, among other sanctions.

C. Use of electronic devices

Cell phones and any other electronic device that could disrupt the teaching and learning processes or switch the driving environment to academic excellence were deactivated. The answers are correct, as appropriate. The handling of electronic devices that allow access, storage or sending of data during test evaluations is prohibited.

D. Compliance with the provisions of " Título IX "

The Federal Higher Education Act, as amended, prohibits discrimination on the basis of sex in any academic, educational, extracurricular, athletic or any other program or employment, sponsored or controlled by an institution of higher education regardless of whether it takes place Inside or outside the institution's premises, if the institution receives federal funds.

As provided by current federal regulations, a Title IX Assistant Coordinator has been designated in our academic unit to provide assistance and guidance regarding any alleged incidents of discrimination based on sex or gender, sexual harassment or sexual assault.

You can communicate with the Coordinator (a) Auxiliary to the telephone Sr. George Rivera, extension 2262 or 2147, or email griverar@metro.inter.edu.

The Normative Document entitled "Normas y Procedimientos para Atender Alegadas Violaciones a las Disposiciones del Título IX" is the document that contains the institutional rules for channeling any lawsuit that is filed based on this type of claim. This document is available on the website of the Inter-American University of Puerto Rico (www.inter.edu).

VIII. EDUCATIONAL RESOURCES

Text: *Human Anatomy and Physiology 8th ed.* 2010 Elaine Marieb, Katja Hoehn, Benjamin Cummings

Text Lab. *Human Anatomy and Physiology Laboratory Manual 10th.* ed. 2011(cat version); Elaine Marieb

IX. ELECTRONIC RESOURCES

1. PHYB 402 Human Physiology II www.uic.edu/classes/phyb/phyb402dbh
2. Understanding the **Human** Body An Introduction to Anatomy and Physiology

www.teach12.com/ttcx/CourseDescLong2.aspx?cid=160_

3. Youtube Videos

X. BIBLIOGRAPHY

1. Essentials of human anatomy & physiology *8th ed.* **QP34.5 .M455** 2006
2. Anatomy & physiology *6th ed.* Thibodeau, Gary A., **QP34.5 .T49** 2007
3. Structure & function of the body *13th ed.* Thibodeau, Gary A., 1938-2008 **QP34.5 T5**
4. Human physiology : from cells to systems *6th ed.* Sherwood, Lauralee **QP34.5 .S48** 2007