

**INTER AMERICAN UNIVERSITY OR PUERTO RICO
METROPOLITAN CAMPUS
NATURAL SCIENCES DEPARTMENT
BIOMEDICAL SCIENCES PROGRAM**

SYLLABUS

I. GENERAL INFORMATION

Course Title: Human Anatomy & Physiology
Code and Number: BMSC 3012
Credits: Three (3)
Academic Term:

Professor:
Office Hours:
Academic counseling:
E-mail: @intermetro.edu

II. DESCRIPTION

Fundamental concepts of the endocrine, reproductive, cardiovascular, lymphatic, immune, excretory, respiratory and digestive systems of the human body, including pathophysiological considerations. Requires 30 hours of lecture and 45 hours of lab. Prerequisite: BMSC 3011.

III. OBJETIVES

A. Terminals

At the end of the course, the student must be able to:

1. Recognize the anatomical and physiological terminology used to analyze and correlate the different systems studied in the course.
2. Correlate the different physiological mechanisms and how they contribute to maintain the homeostasis.
3. Explain the anatomy and physiology of the endocrine system.
4. Explain the anatomy and physiology of the cardiovascular system.
5. Explain the anatomy and physiology of the lymphatic system.
6. Explain the anatomy and physiology of the immune system.
7. Explain the anatomy and physiology of the respiratory system.
8. Explain the anatomy and physiology of the urinary system.
9. Explain the anatomy and physiology of the digestive system.
10. Explain the anatomy and physiology of the reproductive system.
11. Use of ethical reasoning for informed and responsible decision-making.

STUDENT PROFILE COMPETENCES ONCE EGRESSES THE COURSE:

1. Effective communication (written and verbal)
 2. Develop a proactive attitude towards individual and collective problem prevention. (leadership skills)
 3. The use of ethical reasoning for informed and responsible decision-making.
 4. The use of laboratory techniques with precision and safety.
 5. Problem solving using the appropriate methodology and integrating knowledge.
- Analyze and use scientific information based on evidence, to validate scientific arguments.

IV. CONTENTS

A. Endocrine System

1. Purpose of the Endocrine System
2. Hormone classification and action mechanism
3. Purpose of the Endocrine glands
4. Positive and negative feedback mechanism
5. Prostaglandins and Stress response
6. Endocrine diseases

B. Cardiovascular System

1. Function of the Circulatory System
2. Blood composition
3. Cardiac cycle and changes in pressure
4. Cardiac sounds
5. Electric activity of the heart and EKG
6. Exchange between capillaries and tissues
7. Blood pressure

C. Respiratory system

1. Structure
2. Inspiration y expiration and pressure changes
3. Pulmonary gas exchange
4. Gas exchange in tissues
5. Diseases related to the respiratory system

D. Digestive System

1. Function of the digestive System
2. Types of digestion
3. Anatomy and function
4. Peristalsis
5. Digestion y absorption
6. Regulation

E. Urinary System

1. Kidney structure and function
2. Process of Filtration

3. Urine formation
4. Regulation of urine composition
5. Excretion

F. Reproductive System

1. Sexual determination
2. Reproduction basic patterns
3. Hormonal control
4. Masculine reproductive system
5. Feminine reproductive system
6. Fertilization

V. CALENDAR

A copy of the calendar will be discussed and posted in Blackboard. If necessary, the professor can change the scheduled and students will be informed accordingly.

VI. ACADEMIC ACTIVITIES

- A. Conferences
- B. The methods used will be conferences, discussions, demonstrations, assignments and programmed teachings.
- C. The techniques used will be questions and answers, case studies, review sessions, problem solving and observation.
- D. Virtual and in-person laboratories will use the tool APR Connect.
- E. It is expected that students read assigned material, scientific articles in preparation for tests.
- F. Other activities can include blogs, problem solving meetings and other relevant activities that the professor deems necessary.

VII. EVALUATION

The evaluation of the course will be calculated by execution in partial tests, final test and laboratory experiences. The laboratory experiences will use APR Connect experiences primary but can be supplemented with others type of in-person and virtual experiences. The use of AP Connect has been approved as a requirement for this course by the Department of Natural Sciences.

The final grade will be calculated on a 100% basis as follows:

Component	Description	Percentage
3 partial tests 1 FINAL TEST	35-45 points	65%
Laboratory activities and tests	Virtual activities and in-person	25%

VIII. SPECIAL NOTES

A. Auxiliary services, or special needs

Every student that requires auxiliary services, or special assistance will request them at beginning of the course, or when the applicant acknowledges what is needed, through the Professional Counselor Office Registry, Mr. Jose Rodriguez, located in the College Orientation Program.

B. Honesty, fraud and plagiarism

The lack of honesty, fraud and plagiarism and any other inadequate behavior corresponding academic labor constitute sanctionable major infractions by the Student General Regulation. These infractions could have a consequence of college suspension for a period no less than one-year, or permanent college expulsion.

C. Use of electronic devices

Cellular phones or other electronic devices will be deactivated during the teaching process because it may interrupt, or alter the environment. Electronic devices are also prohibited during evaluations, or exams.

D. **Cumplimiento con las disposiciones del Título IX**

La Ley de Educación Superior Federal, según enmendada, prohíbe el discrimen por razón de sexo en cualquier actividad académica, educativa, extracurricular, atlética o en cualquier otro programa o empleo, auspiciado o controlado por una institución de educación superior independientemente de que esta se realice dentro o fuera de los predios de la institución, si la institución recibe fondos federales.

Conforme dispone la reglamentación federal vigente, en nuestra unidad académica se ha designado un(a) Coordinador(a) Auxiliar de Título IX que brindará asistencia y orientación con relación a cualquier alegado incidente constitutivo de discrimen por sexo o género, acoso sexual o agresión sexual. Se puede comunicar con el Coordinador(a) Auxiliar al teléfono Sr. George Rivera, extensión 2262 o 2147, o al correo electrónico griverar@metro.inter.edu.

El Documento Normativo titulado **Normas y Procedimientos para Atender Alegadas Violaciones a las Disposiciones del Título IX** es el documento que contiene las reglas institucionales para canalizar cualquier querrela que se presente basada en este tipo de alegación. Este documento está disponible en el portal de la Universidad Interamericana de Puerto Rico

IX. BIBLIOGRAPHY

1. Cinnamon VanPuttle, Jennifer Regan and Andrew Russo (2018). Seeleys Essentials of Anatomy and Physiology, 12th edition. Mc Graw Hill. N. Y. 10121.
2. Kenneth Saladin and Robin Mc Farland (2017). Essentials of Anatomy & Physiology, 2th edition. Mc Graw Hill. N. Y. 10121.
3. David Shier and Jackie Butler (2018). Hole's Essentials of Human Anatomy & Physiology, 13th edition. Mc Graw Hill. N. Y. 10121.

Note: The previous syllabus can be modified by the professor. Revised 2021,CLM