

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

SYLLABUS

I. GENERAL INFORMATION

Course Title: Biosafety
Code and Number: MOMI 5130
Credits : Three (3)
Academic Term: 2021-23
Professor:
Office Hours:
Academic counseling:
E-mail:

II. DESCRIPTION

Analysis of the health and safety regulations applicable to the facilities where microbiological and Recombinant DNA tests are carried out.

III. OBJECTIVES

1. Demonstrate knowledge of safety techniques in the Microbiological laboratory.
2. Identify safety regulations and standards in the Microbiological laboratory.
3. Demonstrate knowledge of safety practices in handling vertebrates and recombinant DNA material.
4. Demonstrate respect for human dignity through knowledge and practice of biosecurity regulations.

Competencies of the graduate's profile that are attended in the course

1. C2. Evaluate scientific information from various sources
2. D1. Apply molecular microbiology methodologies in scientific research aimed at solving problems.
3. A1. Assess the importance of ethical standards related to scientific conduct in research, respect for confidentiality and the defense of intellectual property.

IV. THEMATIC CONTENT

1. Safety levels in the laboratory
 - a. Level 1

1. Standard Microbiological Practices
 2. Personal safety equipment (first barrier)
 3. Laboratory facilities (second barrier)
 - b. Level 2
 1. Standard Microbiological Practices
 2. Special practices
 3. Personal safety equipment (first barrier)
 4. Laboratory facilities (second barrier)
 - c. Level 3
 1. Standard Microbiological Practices
 2. Special practices
 3. Personal safety equipment (first barrier)
 4. Laboratory facilities (second barrier)
 - d. Level 4
 1. Standard Microbiological Practices
 2. Special practices
 3. Personal safety equipment (first barrier)
 4. Laboratory facilities (second barrier)
2. Biological risk assessment
3. Characteristics of an infectious microorganism
 4. Precautions while working with a genetically modified microorganism
 5. Cell culture
 6. Characteristics of hazardous laboratory processes
3. Current topics of pathogens that present biomedical risk

V. ACTIVITIES

1. Information search exercises: Reading articles
2. Oral presentations
3. Conference
4. Group work in the classroom

V. EVALUATION

The evaluation of the course will be based on the following:

Component	Description	Percentage
3 exams	30 points	70%
Presentation	In person or virtually.	20%
Group discussions	Classroom activities. THESE ACTIVITIES ARE NOT REPLACEABLE.	10%

VI. SPECIAL NOTES

A. Ancillary services or special needs

Any student who requires auxiliary services or special assistance must request them at the beginning of the course or as soon as he acquires knowledge that he needs them, through the corresponding registration, in the Office of Services to Students with Disabilities, in the University Orientation Program.

B. Honesty, fraud and plagiarism

Dishonesty, fraud, plagiarism and any other inappropriate behavior in relation to academic work constitute major infractions, sanctioned by the General Student Regulations. Major infractions, as provided for in this Regulation, may result in the suspension of the University for a defined period of more than one year or the permanent expulsion from the University, among other sanctions.

C. Use of electronic devices

Cell phones and any other electronic device that could interrupt teaching and learning processes or alter the environment conducive to academic excellence will be deactivated. Pressing situations will be addressed as appropriate. The handling of electronic devices that allow access, storage or sending data during evaluations or exams is prohibited.

D. Compliance with the Provisions of Title 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 is conducted on or off the institution's premises, whether the institution receives federal funds.

In accordance with current federal regulations, our academic unit has appointed a Title IX Assistant Coordinator who will provide assistance and guidance regarding any alleged incident constituting discrimination based on sex or gender, sexual harassment or sexual assault. Assistant Coordinator Mr. George Rivera can be reached at 787-250-1912, extension 2262 or 2147, or email griverar@metro.inter.edu.

The Normative Document entitled Norms and Procedures to Address Alleged Violations of the Provisions of Title IX is the document that contains the institutional rules to channel any complaint that is filed based on this type of allegation. This document is available on the website of the Inter-American University of Puerto Rico (www.inter.edu).

VII. EDUCATIONAL RESOURCES

1. TextBook - There will be no textbook.

a. Online manual

Biosafety in the microbiological and biomedical laboratories, 5th Ed (2009). Public health Services, Center for Disease Control and Prevention.

2. Electronic Resources

Biosafety Laboratories National Institute of Health:

<https://www.niaid.nih.gov/research/biodefense-biosafety-labs>

Center for Design and Control and Prevention - CDC), Biosafety Publications:

<http://www.cdc.gov/biosafety/publications/bmbl5/index.htm>

Laboratory biosafety manual: World Health Organization

<https://www.who.int/csr/resources/publications/biosafety/en/Biosafety7.pdf>

American Society for Microbiology, Guidelines for Biosafety in teaching Laboratories:

<https://www.asm.org/Guideline/ASM-Guidelines-for-Biosafety-in-Teaching-Laborator>