INTER-AMERICAN UNIVERSITY OF PUERTO RICO
METROPOLITAN CAMPUS
FACULTY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND MATHEMATICS
SYLLABUS

I. GENERAL INFORMATION

Course Title	**STATISTICS 1**
Code and Number	**STAT 1201**
Credits	**THREE (3)**
Academic Term	
Professor	
Business hours	
Phone	**787-250-1912 EXT. 2230**
Email	

II. COURSE DESCRIPTION

Study of descriptive statistics and introduction to probability theory applied to representative situations of different disciplines. Study of frequency distribution to create tables and graphs. Study of position measurements and dispersion measures for grouped and non-grouped data. Characteristics of the normal curve and its applications.

III. PROFILE OF COMPETENCES

The Bachelor of Arts in Mathematics Program is designed to develop general competencies, linked to core courses, which allows the student to:

- Demonstrate knowledge and understanding of the concepts and standard mathematical processes (numerical, algebraic and graphical) in a variety of situations.

IV. COURSE OBJECTIVES

At the end of the course the student will be able to:

- Recognize the statistical discipline as a fundamental tool in data management.
- Understand the basic concepts of descriptive statistics.
- Represent numerical information through tables and graphs.
- Analyze information presented in tables and graphs.
- Understand the basic concepts of probability.
- Use probability distributions with discrete variables and continuous variables in solving problems.
- Communicate in an ethically appropriate manner using the language of statistics.
- Integrate the use of technology in a relevant way.
- Comprehend the importance of statistics and probability in the context of daily life.

IV. COURSE CONTENT

A. Descriptive Statistics

1. Introduction
   a) Basic Definitions
   b) Sampling
   c) Design of Experiments
2. Organization of the data
   a) Data types
   b) Graphic representations
   c) The form of the distribution
   d) Deceptive graphics
3. Measures of central tendency, dispersion and position
   a) Measures of central tendency
   b) Dispersion measures
   c) Percentiles and quartiles
   d) "Boxplots"

B. Probability

1. Probability
   a) Events and sample space
   b) Probability of an event
   c) Compound events
   d) Two laws of probability and their applications
2. Probability distributions for discrete random variables
   a) Random variables
   b) Probability distributions
   c) Mean and variance for a random variable
   d) Binomial probability distribution
   e) Poisson distribution
3. Probability distributions for continuous random variables:
   a) Normal Distribution
   b) Probability distribution for continuous random variables
   c) Normal probability distribution and standard normal distribution
   d) Normal approximation to the normal distribution
   e) Central Limit Theorem

V. ACTIVITIES

1. Active participation in conferences and discussions
2. Practice exercises in the classroom
3. Use of relevant technology to interpret and analyze functions.
4. Solution of application problems
5. Collaborative learning
6. Reflective Diary, emails, "three minutes papers", "Surveys", etc
7. Use different types of functions to model real situations.

VI. EVALUATION CRITERIA

Criteria	Score	% Score of the Final
Three Partial exams	300	51%
Final Cumulative Exam	100	20%
Assignments, Short Tests, participation in class, attendance and tutorial time	100	29%
Total	**700**	**100%**

The grade curve will be:

90 - 100 A

80 - 89 B

65 - 79 C

55 - 64 D

0 - 54 F

VII. SPECIAL NOTES

A. Auxiliary services or special needs

Students who requires auxiliary services or special assistance must request it at the beginning of the course or as soon as they know they need it, through the corresponding registration in the office of the professional counselor, Dr. María de los Ángeles Cabello, located in the Program of University Orientation, Ext. 2306. Email mcabello@metro.inter.edu

B. Honesty, fraud and plagiarism

The lack of honesty, 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 in the General Student Regulations, may result in the suspension of the University for a defined period of more 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 teaching and learning processes or alter the environment conducive to academic excellence will be disabled. The pressing situations will be addressed, as appropriate. The use of electronic devices that allow accessing, storing, or sending data during evaluations or examinations is prohibited.

D. Compliance with the provisions of Title IX

The Federal Higher Education Act, as amended, prohibits discrimination based on of sex in any academic, educational, extracurricular, athletic activity or any other program or employment, sponsored or controlled by a higher education institution regardless of whether it is performed inside or outside the premises of the institution, if the institution receives federal funds.

As provided by the current federal regulations, a Title IX Assistant Coordinator has been designated in our academic unit to provide assistance and guidance in relation to any alleged incident constituting discrimination based on sex or gender, sexual harassment or sexual assault. You can contact the Auxiliary Coordinator at telephone 787 250-1912, extension 2262, or email griverar@metro.inter.edu

The Normative Document titled Rules and Procedures to Address Alleged Violations of the Provisions of Title IX is the document that contains the institutional rules to channel any complaint 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).

E. Course requirements

1. It is a requirement that the student have access to a computer with Internet and the MS Office applications programs, compatible with the IBM system.

2. If the course offering is online or hybrid with remote virtual meetings, the exams are answered guarded with RESPONDUS or RPNow. It is the student's responsibility to find out about it. To use the applications, you must have access to a computer with a camera and microphone and good Internet service. Respondus or RPNow does not work on mobile devices and neither does it work with satellite Internet. You should read more

information in the General Information link on the Blackboard home page, in particular the links:

• **Student authentication**

• **Authentication process as a student in distance courses**

• **"RPNow" for exams or tests guarded**

Any questions in this regard the student should contact the professor or staff at the Center for Distance Learning and Technological Development (CAADT)

VIII. EDUCATIONAL RESOURCES

A. Text: Badalian, Raymond (2014) Probability and Statistics, A traditional / technology Approach, 1st Edition Educo International

B. Materials

- Educosoft Platform
- MSExcel
- The course requires a scientific calculator with statistical functions or the Graphing Calculator TI-83, TI-84, TI-83 Plus or TI-84 Plus.

IX. REFERENCES

A. BIBLIOGRAPHY

Johnson / Kuby (2012) STAT 2, 2nd Edition Brooks / Cole Cengage Learning, CA

Johnson - Kuby (2004). Elementary Statistics - the essentials. 3rd edition. International Thomson Editors S.A de C.V, Division of Thomson Learning, Mexico

Triola, Mario F. (2003). Elementary Statistics. 9th edition. Addison - Wesley Longman

Mc Grath, Robert E. (1997). Understanding Statistics: a research perspective. New York: Longman.

Rodríguez, Pedro J., Ana H. Quintero, Gloria E. Vega. (1997). Descriptive statistics: A conceptual introduction to data analysis. Puerto Rican Publications Editors.

Vera Vélez, Lambert (2003). Basic manual of descriptive statistics for education and social sciences. Puerto Rican Publications. Hato Rey, PR

Bluman, Allan (2004) Elementary Statistics: A Step by Step Approach, Fifth Edition, Mc Graw Hill

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