

## Course Syllabus

### STATISTICS

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Program: Telecommunications Engineering

#### 1. Course number and name

ESTG1005 - STATISTICS

#### 2. Credits and contact hours

3 credits and 4 contact hours

#### 3. Instructor's course or coordinator's name

JOFFRE ERNESTO SANCHEZ CERON

#### 4. Text book, title, author, and year

- Gaudencio Zurita Herrera. Probabilidad y Estadística, Fundamentos y Aplicaciones (Segunda)
  - a. Other supplemental materials
  - Ronald E. Walpole, Raymond H. Myers, Sharon L. Meyers, Keying Ye. Probabilidad y estadística para ingeniería y ciencias (9na)
  - Johnson R, Miller I, Freund J.. Probabilidad y Estadística para ingenieros (Octava)
  - Wackerly, Dennis D. & Mendenhall, William & Scheaffer, Richard L.. Mathematical statistics with applications (Second)

#### 5. Specific course information

- a. Brief description of the content of the course (catalog description)

The course provides to the student's statistical fundamentals to turn data into information, associate daily situations with statistical processes and determine scientific conclusions through experimental observations, applying descriptive statistics, notions of probability, math models for random variables and inferential analysis.

- b. Prerequisites

MULTIVARIABLE CALCULUS - MATG1002

- c. This course is: Required

#### 6. Specific goals for the course

- a. Specific outcomes of instruction

- 1.- Analyze processed data with statistical criteria to convert it into useful information.
- 2.- Associate everyday situations using discrete or continuous random variable models.
- 3.- Apply statistical inference that minimizes risks in decision making.

- b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course

- An ability to design and conduct experiments, as well as to analyze and interpret data

#### 7. Brief list of topics to be covered

- 1.- Descriptive statistics



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- 2.- Probability
- 3.- Stochastic models of one and several variables
- 4.- Sampling distributions
- 5.- Confidence intervals and hypothesis testing
- 6.- Linear regression analysis