

Teachers' guide – summary sheet

1. IDENTIFICATION DETAILS

Title:	Degree in Computer Engineering (Plan 2010)		
Faculty/School:	Superior Polytechnic School		
Course subject:	Statistics		
Type:	Basic Teaching	Credits ECTS:	6
Year / Semester:	Second Year-4th semester	Code:	3623
Subject:	Statistics		
Module:	Basic Training		
Language:	Spanish		
Total number of hours undertaken by pupil:	150		

2. DESCRIPTION OF THE COURSE

Statistics is both a solidly axiomatized mathematical science as a science of implementation. Through its study the student will understand and deepen mainly in the basic concepts of descriptive statistics, probability, random variables, probability distribution models and statistical inference, directly applicable in the various branches of engineering and very useful for analyzing and interpreting and for interpreting the vast amount of data generated by any economic and business activity today.

3. SKILLS TO DEVELOP

3.1. General skills

Ability to design, develop, evaluate and ensure the accessibility, ergonomics, usability and security of the systems, services and applications, as well as the information they manage.

Knowledge of basic materials and technologies that enable learning and development of new methods and technologies, as well as equip them with great versatility to adapt to new situations.

Ability to solve problems with initiative, decision making, autonomy and creativity.

Ability to learn to communicate and transmit knowledge, skills and abilities of the profession of Technical Engineer in Computer Science.

Knowledge to perform measurements, calculations, assessments, appraisals, surveys, studies, reports, scheduling, and similar computer work.

3.2. Specific skills

Ability to solve math problems that may arise in engineering.

Ability to apply knowledge about: linear algebra, differential and integral calculus, numerical methods, numerical algorithms, statistical and optimization.

4. PRE-REQUISITES

Level of Mathematics subjects for High School Baccalaureate of Science and Technology.

5. WORK TIME DISTRIBUTION

CONTACT HOURS	REMOTE STUDY HOURS
68	82

6. OBJECTIVES

The course of Statistics seeks that the student uses the theory of probability, knows the main types of distributions of random variables and be able to do half point estimates of variance and proportion of a population and perform hypothesis testing.

7. INDEX OF SUBJECTS

- Descriptive statistics.
- Probability.
- Introduction to random variables.
- Univariate probability models.
- Introduction to statistical inference.
- Large-Sample Inference.
- Inference in a normal population.
- Comparison of populations.

8. METHODOLOGY/LEARNING ACTIVITIES

The methodology followed in this course is aimed at achieving significant learning by students of the concepts and fundamental techniques of the subject. That is why expository lessons combined with practical classes, workshops and presentation of work so as to encourage student participation and student-teacher and student-student interaction as a way to encourage collaborative learning and self-learning capacity, all this through problem solving strategies and intervention methodologies. The non-contact activities, which can be both individual and collective type, will be supervised by the teacher in classes and tutorials, individual and group, being designed to encourage autonomous and collaborative learning.

9. EVALUATION SYSTEM

Continuous evaluation of the student will be using one or more written tests (30% of the final grade), one or more practice exams (30%), oral defense and / or written work (30%) and the participation and involvement in the subject (10%). Continuous assessment will apply in cases where attendance at the classes of the course is equal to or greater than 80% (the only exception to this rule for students enrolled in higher grades and that have timetable incompatibility to attend all classes in person) and that the activities in the continuous assessment have been completed in the judgment of the teacher.

In cases that do not meet the conditions for applying the continuous assessment, evaluation of the course is done through a final exam that covers the entire syllabus and involving all aspects present in the continuous evaluation.

In the September session the teacher will decide, depending on the course and the characteristics of the group, whether students should be assessed through continuous assessment activities or through the completion of a final exam that covers the whole syllabus and include all aspects in continuous assessment.

10. BIBLIOGRAPHY

- Teaching materials available in the Virtual Classroom

- DEVORE, J. L. *Probabilidad y Estadística en Ciencias e Ingeniería*. Editorial Thompson Paraninfo. México. 2006. ISBN: 978-970-686-457-4.

- MANTEIGA GONZÁLEZ, M. T. y PÉREZ DE VARGAS LUQUE, A. *Estadística aplicada: Una visión instrumental*. Editorial Díaz de Santos. Madrid. 2009. ISBN: 978-84-7978-913-8.