

Centre	University College of Engineering of Vitoria-Gasteiz
Name of subject	25973 – Statistical Methods in Engineering
Qualification	Degree in Computer Management and Information Systems Engineering
Type	Basic branch subject
Credits	6 ECTS
Year	2
Term(s)	2nd
Department	Applied Mathematics
Language	Spanish

Outcomes / Objectives

- 1 Handle and clearly distinguish the basic elements of statistics, among them, and as a priority, the concepts of population and sample, and correctly classify the type of data being handled and summarise it graphically and numerically.
- 2 Understand the mathematical concept and the role of probability in statistics as a tool for formulating models, controlling any errors made in making statistical inferences and for comparing the different ways to make them.
- 3 Recognise in specific situations the most commonly used probability models, defining and unambiguously classifying the relevant random variable, and be able to answer probability questions relevant to those situations.
- 4 Draw statistical inferences from a set of data: estimate population parameters and suggest appropriate hypothesis testing from which statistical conclusions can be drawn, controlling error.

Syllabus

- Unit 1: Descriptive statistics.
- Unit 2: Regression and correlation.
- Unit 3: Probability.
- Unit 4: Discrete random variables.
- Unit 5: Continuous random variables.
- Unit 6: Estimation.
- Unit 7: Hypothesis testing.

Methodology

Teaching Method

Face-to-Face Teaching Hours

Lectures	Seminars	Classroom practice	Lab. practice	Computer sessions	Clinical practice	Workshops	Industrial workshops	Field practice
48		12						

Student Hours of Non Face-To-Face Activities

Lectures	Seminars	Classroom practice	Lab. practice	Computer sessions	Clinical practice	Workshops	Industrial workshops	Field practice
72		18						

Assessment System

General criteria

Written essay exam

Practical activities (exercises, case studies or problems)

Clarification regarding assessment

In the ordinary examination session:

The written exam will account for 80% of the final grade.

The practice will account for 20% of the final grade.

To be given a grade in the ordinary examination session, students must sit the written exam accounting for 80%, otherwise it will be regarded as not sat.

Extraordinary examination session:

The written exam will account for 100% of the final grade.

Bibliography

Basic Bibliography

Lecciones de Estadística Descriptiva Tomeo,V., Uña,I. Thomson

Lecciones de Cálculo de Probabilidades Uña,I., Tomeo,V. Thomson

Curso y Ejercicios de Estadística Quesada,V., Isidor,A., López, L.A. Alhambra Universidad

Probabilidad y Estadística. Aplicaciones y Métodos Canavos G.C. McGraw-Hill

Estadística Spiegel Murray R., Stephens Larry J. McGraw-Hill

Estatistikaren oinarriak. Ariketak Agirre Basurko, Elena Udako Euskal Unibertsitatea

Probabilitate Teoria eta Inferentzia Estatistikoa. Ariketak Fernández K.; Orbe J.; Zubia M. UEUK argitaratua.

In-depth Bibliography

Probabilidad y estadística para Ingeniería y Ciencias Mendenhall, W. - Sincich, T. Prentice Hall Hispanoamericana, S.A.

Probabilidad y estadística para Ingeniería y Ciencias Walpole, Myers, Myers, Ye. Prentice Hall Hispanoamericana, S.A.

Problemas de probabilidad y estadística Sarabia, A. y Mate, C. Clagsa

Problemas de estadística. Descriptiva, probabilidad e inferencia. Casas, J.M.; García, C.; Rivera, L.F. y Zamora, A.I. Pirámide

Websites

➤ <http://www.vc.ehu.es/matematicaaplicada/>

- <http://www.ine.es/>
- <http://www.eustat.es/>