

Información del Plan Docente

Academic Year	2017/18
Faculty / School	100 - Facultad de Ciencias
Degree	453 - Degree in Mathematics
ECTS	7.5
Year	3
Semester	Second semester
Subject Type	Compulsory
Module	---

1.General information**1.1.Introduction****1.2.Recommendations to take this course****1.3.Context and importance of this course in the degree****1.4.Activities and key dates****2.Learning goals****2.1.Learning goals****2.2.Importance of learning goals****3.Aims of the course and competences****3.1.Aims of the course****3.2.Competences****4.Assessment (1st and 2nd call)****4.1.Assessment tasks (description of tasks, marking system and assessment criteria)****5.Methodology, learning tasks, syllabus and resources****5.1.Methodological overview**

The approach will be participatory and based on different types of learning activities.

5.2.Learning tasks

Lectures. Solving and discussion session problems. Computer laboratory sessions. Individual tutorial meetings. Group

activities. Individual study.

5.3.Syllabus

1. Statistical data analysis. Revision of the one and two variable cases.
2. Basic concepts on Statistical Inference. Population and random samples. Statistics. Sampling from the Normal distribution. Order statistics. Convergence concepts and limit theorems.
3. Point estimation. Desirable properties of an estimator. Methods of finding and evaluating estimators. Large sample properties for maximum likelihood estimators. Interval estimation.
4. Hypothesis testing. The Neyman-Pearson approach. The duality of confidence intervals and hypothesis tests. Likelihood ratio tests. Tests for Normality, goodness of fit and independence. Comparing two samples.

5.4.Course planning and calendar

The activities, classes, exams, etc. will be announced in the faculty webpage. The course will have an ADD page where the different materials and announcements will be put down.

5.5.Bibliography and recommended resources

- Casella, George. Statistical inference / George Casella, Roger L. Berger . - [2nd. ed.] Pacific Grove, California : Wadsworth and Brooks/Cole Advanced Books and Software, cop. 2002
- Cristóbal Cristóbal, José Antonio. Lecciones de Inferencia estadística / José Antonio Cristóbal Cristóbal . - 1a ed. Zaragoza : Prensas Universitarias de Zaragoza, 2003
- Dudewicz, Edward J. Modern mathematical statistics / Edward J.Dudewicz, Satya N.Mishra New York : John Wiley & Sons, cop.1988
- Rohatgi, Vijay K. An introduction to probability theory and mathematical statistics / V.K. Rohatgi and E. Saleh. New York [etc.] : John Wiley & Sons, cop. 2011
- Garthwaite, Paul H.. Statistical inference / Paul Garthwaite, Ian Jolliffe and Byron Jones . Oxford : Oxford University Press, 2009
- Bickel, Peter J.; Doksum, Kjell A.. Mathematical statistics: basic ideas and selected topics. vol. 1. 2nd. ed. Pearson Prentice Hall. 2006
- Vélez Ibarrola, Ricardo. Principios de inferencia estadística / Ricardo Vélez Ibarrola, Alfonso García Pérez Madrid : UNED, 2002
- Rice, John A. Mathematical Statistics and Data Analysis/ J. A. Rice. Brooks/Cole 3rd edition 2007.