

Assignatura	Codi
Statistics I	25033

Curs acadèmic	Cicle	Quadrimestre
2010/2011	1	Setembre - Febrer

Groups	Professors	Office	Telephone
4	Michael Creel (Theory)	B3-1104	93 581 1696
4	Jing Xu (Problems)	B3-112-D	93 581 1813

PROGRAM

OFFICIAL DESCRIPTION: Descriptive statistics; probability and combinatorics; random variables; distribution and density functions

COURSE OBJECTIVES: This is an introductory course on probability and statistics. In this semester we will cover probability theory, random variables, and descriptive statistics.

PREREQUISITES: Mètodes Matemàtics de l'Economia I i II.

METHODOLOGY: This is fundamentally an analytic course focussed on the theory of probability and random variables. The solution of the problem sets will be a main tool for learning the material

DETAILED CONTENTS:

- Probability:** (C: Capítol 2; D-L: Tema 4; N: Capítol 4; P: Capítol 4) Random experiments, events, probability, conditional probability
- Random variables:** (C: Capítols 3 i 6; D-L: Temes 5 i 6; N: Capítols 5 i 7; P: Capítols 4 i 6) discrete and continuous random variables, density and distribution functions, integration
- Characteristics of random variables:** (C: Capítols 3 i 6; D-L: Tema 7; N: Capítols 5 i 7; P: Capítols 4 i 6) Expectation, variance and moments; transformations
- Random vectors:** (C: Capítols 3 i 6; D-L: Temes 5-7; N: Capítols 5 i 7; P: Capítols 4 i 6) joint and marginal densities; conditional densities; conditional expectation; covariance and correlation
- Special distributions:** (C: Capítols 4 i 5; D-L: Temes 9 i 10; N: Capítols 6 i 7; P: Capítols 5 i 6) the normal distribution; t, F and Chi-square distributions
- Descriptive statistics.** (C: Capítol 1; D-L: Temes 1 i 2; N: Capítol 1; P: Capítols 1, 2 i 3) Frequency tables, histograms, bar graphs, sample mean and variance; measures of other characteristics

BIBLIOGRAPHY

- G. C. Canavos (C): Probabilidad y estadística. McGraw-Hill. (Capítols 1, 2, 3, 4, 5 i 6)
- A. C. Chiang (Ch): Métodos fundamentales de economía matemática. McGraw-Hill. (Capítol 13)
- J. M. Durá i J. M. López Cuñat (D-L): Fundamentos de estadística. Ariel. (Temes 1, 2, 4, 5, 6, 7, 9 i 10)
- A. Novales (N): Estadística y econometría. McGraw-Hill. (Capítols 1, 4, 5, 6 i 7)
- D. Peña (P): Fundamentos de estadística. Alianza editorial (Capítols 1, 2, 3, 4, 5 i 6)
- K. Sydsaeter i P.J. Hammond (S-H): Matemáticas para el análisis económico. Prentice-Hall. (Capítols 10 i 11)

I assume many of you can read Spanish. If not, some books in English available in the library include DeGroot, Morris H. Probability and statistics 2nd. ed. Wonnacott, Thomas H. Introductory statistics

EVALUATION: Two options. The final grade will be determined using the option that leads to the highest score.

Option 1: 33.33% each of 3 short exams.

First short exam: Mon 08 Nov. Topics: 1 and first part of 2

Second short exam: Mon 13 Dec. Topics: Second half of 2, 3, first part of 4

Third short exam: same time and day as overall final, as scheduled by the Facultat. Topics: second part of 4, 5 and 6.

Option 2:: 100% overall final exam. Students who have previously taken short exams may opt to take the comprehensive final exam instead of the third short exam.

OFFICE HOURS:

PROFESSOR	OFFICE HOURS (First semester)
Michael Creel Jing Xu	Mondays and Wednesdays 9:30 – 11:00 to be announced in class

EXTRA CREDIT: As established by the Deganat., students who attend 2/3 of the classes will be eligible for 1.5 extra credits. To determine who will receive these credits, attendance will be taken every day.

Web page: <http://pareto.uab.es/mcreel/statistics/>
Check this page for materials and announcements.

