Login

Politecnico di Torino

Academic Year 2009/10 (first time established in A.Y.1999/00)

01LQRDR, 01LQRAX, 01LQRJA

Probability and statistics

1st degree and Bachelor-level of the Bologna process in Mechanical Engineering - Vercelli (I FACOLTA' DI INGEGNERIA)
1st degree and Bachelor-level of the Bologna process in Civil Engineering - Vercelli (I FACOLTA' DI INGEGNERIA)
1st degree and Bachelor-level of the Bologna process in Electronic And Computer Engineering - Vercelli (III FACOLTA' DI INGEGNERIA)

Teacher	Status	SSD	Les	Ex	Lab	Years Stability
Puppo Gabriella	AC	MAT/08	30	20	0	0

SSD	CFU	Activities	Area context
MAT/06	5	A - Di base	Matematica, informatica e statistica

Objectives of the course

The course provides basic knowledge on statistics and probability theory.

Expected skills

Ability to solve applied problems involving basic probability theory and to analyze data with simple tools from statistics.

Prerequisites

Calculus I and II.

Syllabus

Probability. Introduction to probability and counting. Axioms of probability. Conditional probability and Bayes theorem. Discrete random variables: binomial and Poisson distributions. Expectation and distribution parameters. Continuous random variables: Gamma and Normal distributions. Joint distributions: covariance and correlation, linear regression.
Statistics. Point estimation. Central limit theorem. Statistical intervals based on a single sample. Inferences on the mean and on variance. Testing hypotheses.

Laboratories and/or exercises

Problem sessions will widen and deepen the topics treated in the lectures. Time will be also devoted to problem solving and working out examples and exercises.

Bibliography

Main text:
J.S. Milton, J.C. Arnold
Introduction to Probability and Statistics: Principles and Applications for Engineering and the Computing Sciences, 4th edition
Mc Graw Hill international editions
Problem solving and exercises:
J.S. Milton, J.C. Arnold
Student Solutions Manual to accompany Introduction to Probability and Statistics, 4th Edition
Mc Graw Hill international editions

Revisions / Exam

The exam will consist in a test requiring the solution of three or four exercises and in an oral discussion on the solution strategy used in the test. The written test will account for roughly 80% of the final grade.

Programma definitivo per l'A.A.2009/10

⬅ BACK