

COURSE DETAIL

PROBABILITY, STATISTICS, AND COMBINATORICS

Country

France

Host Institution

University of Bordeaux

Program(s)

University of Bordeaux

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mathematics

UCEAP Course Number

114

UCEAP Course Suffix**UCEAP Official Title**

PROBABILITY, STATISTICS, AND COMBINATORICS

UCEAP Transcript Title

PROB STATS&COMBTRCS

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

The main objective of this course is the acquisition of language and basic probabilistic and statistical concepts, and their uses in computer science. The student must apply mathematical skills, logic, and reasoning. This course deals with notions of probability, statistics, and combinatorics. The teaching focuses on discrete probabilities (event concept, probabilistic calculation rules, conditional probabilities, random variables, expectation, variance, probability laws: uniform, binomial, geometric and Poisson). Practical manipulations (simulation and implementation) deepen the theoretical notions of the course. The link with certain continuous laws is approached (normal law, exponential). On the combinatorial aspects, the notions of elementary counts (i.e., sums, products, combinations), recurrences and generating function are approached and applied to the counting of words, sequences and discrete structures usual in computer science. Descriptive statistics (i.e., series, histograms, mean, standard deviation) and an introduction to hypothesis testing are also discussed.

Language(s) of Instruction

French

Host Institution Course Number

4TIN404U

Host Institution Course Title

PROBABILITÉS, STATISTIQUES ET COMBINATOIRE

Host Institution Course Details

Host Institution Campus

UNIVERSITÉ DE BORDEAUX: Collège des Sciences et Techniques

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mathématiques

Course Last Reviewed

[Print](#)