

- Faculté des sciences
- www.unine.ch/sciences

Probability theory (3ST2001)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en statistique	Cours: 2 ph Exercice: 2 ph	Voir ci-dessous	6

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

Période d'enseignement:

- Semestre Automne

Equipe enseignante

Lecturer: Prof. Alain Valette
Teaching assistant: Jérémy Colombo

Contenu

1. Counting and combinatorics
2. Axioms of probability
3. Conditional probability and independence
4. Discrete random variables
5. Continuous random variables
6. Jointly distributed random variables
7. Limit theorems

Forme de l'évaluation

Oral exam (30 minutes) on the exercises but requiring to be able to apply the theory.

Documentation

- Sheldon M. Ross. A First Course in Probability, Ninth Edition, Pearson Education Limited, 2014.
- R. Isaac, The pleasures of probability, Undergrad. Texts in Math., Springer-Verlag, 1995.

Pré-requis

High-school mathematics, especially combinatorics and calculus

Forme de l'enseignement

Ex cathedra in interaction with the class.

The course takes place during the four seven weeks of the fall semester (4 hours of theory + 4 hours of exercises per week)

Objectifs d'apprentissage

Au terme de la formation l'étudiant-e doit être capable de :

- Develop problem-solving techniques
- Formulate the fundamental concepts of probability theory
- Apply proba distributions to real-world questions
- Select relevant probability distributions
- Compute probabilities accurately
- Illustrate the use of the central-limit theorem

URLs	1) https://moodle.unine.ch/course/view.php?id=4909
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