

- Faculté des sciences économiques
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## Nonparametric statistics (5ST2023)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en méthodologie d'enquête et d'opinion publique</b>	<b>Cours: 2 ph</b>	<b>cont. continu</b>	<b>3</b>
<b>Master en statistique</b>	<b>Cours: 2 ph</b>	<b>cont. continu</b>	<b>3</b>

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

### Période d'enseignement:

- Semestre Printemps

### Equipe enseignante:

Dr. Lionel Qualité  
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Phone office +41 32 718 14 38 - email : [lionel.qualite@unine.ch](mailto:lionel.qualite@unine.ch)

### Objectifs:

The student gains some knowledge of nonparametric statistical methods. Emphasis is put on nonparametric tests for one or many related or unrelated samples, and on kernel density estimation.

### Contenu:

- Nonparametric location comparison tests such as the median test, sign test, Wilcoxon's signed-rank test and Wilcoxon's sum of rank test (along with Mann-Whitney U test), Kruskal-Wallis and Friedman's test.
- Nonparametric goodness of fit tests (Kolmogorov-Smirnov, Cramer-Von Mises...).
- Histogram and Kernel density estimation.
- If time permits, nonparametric regression.

### Forme de l'évaluation:

ES : 2-hour written test during the last week of the semester.

Reexamination session (August-September) : 2h written test

### Documentation:

Applied nonparametric statistical Methods (2007), Sprent P. and Smeeton N.C., Chapman & Hall.  
Density estimation for statistics and data analysis, Silverman B.W., Chapman & Hall.

### Forme de l'enseignement:

- 3 ECTS credits
- Compulsory course for master in statistics
- Spring Semester
- Course: 2 hours