



[30h+30h exercices] 5 credits

This course is taught in the 2nd semester

**Teacher(s):** Eric Le Boulengé  
**Language:** french  
**Level:** 2nd cycle course

### Aims

Introduction to the use of statistical methods in the domains of biology. This course should allow memorantsXX students to analyse and interpret the quantitative results of their experimental work.

### Main themes

- Initiation to planification of experimental research.
- Concept of statistical inference.
- Average, variance, t test and z test.
- Analysis of variance to 1 or 2 terms of classification, interactions, fixe model, varying model, mixt model and hierarchical model.
- Multiple comparaisons of averages.
- Analysis of discret data: chi-square test and proportion comparaison.
- Simple and multiple correlation.
- Simple, multiple and polynomial regression.
- Biological tests: dose-effect theories and probit analysis.
- Practical work illustrating the statistical methods and their applications to different orientations in the biology taught in masters and practiced in the laboratories. Application of statistical software available on micro-computers.

### Other credits in programs

<b>BIOL21/A</b>	Première licence en sciences biologiques (Biologie moléculaire, cellulaire et humaine)	(5 credits)	Mandatory
<b>BIOL21/B</b>	Première licence en sciences biologiques (Biologie des organismes et des populations)	(5 credits)	Mandatory