

- Faculté des sciences
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### Statistics (3BL2185)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en biologie</b>	<b>Cours: 30 pg</b>	Voir ci-dessous	3

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

#### Période d'enseignement:

- Semestre Automne

#### Equipe enseignante

R. Slobodeanu

#### Contenu

We review some of the more advanced linear models with normal errors such as ANCOVA and multiple regressions. We will examine generalized linear models (GLM) with non-normal error functions that are adapted to analyze binomial data (for proportions), Poisson data (for counts). We will also study the concept of fixed versus random factors in experimental design and how these are used together to form mixed effects models. Finally we discuss the model selection methodology.

#### Forme de l'évaluation

Continuous assesment graded.

The final grade will be based on independent homework assignments (50%) and a take-home final exam (50%).

Reexamination next sessions, same year, must be organized directly with the professor (not in Pidex, please contact the professor).

#### Documentation

"The R Book" by Michael J. Crawley. Lecture notes and documentation available online on Moodle.

#### Pré-requis

'Introduction à la statistique et exercices' (3MT1012) = first-year statistics course

You should be familiar with the following concepts: mean, variance, standard deviation, degrees of freedom, standard error, confidence limits, hypothesis testing, p-values, two samples t-tests, paired t-tests, analysis of variance (ANOVA), simple linear regression. You should also be mildly familiar with the software program R and with RStudio.

#### Forme de l'enseignement

Teaching will include lectures and time in the computer room to analyze data.