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### **Advanced regression methods (3ST2003)**

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en statistique</b>	<b>Cours: 2 ph TP: 2 ph</b>	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**

Prof. Yves Tillé  
 Institut de statistique,  
 Av. de Bellevaux 51  
 CH - 2000 Neuchâtel

Assistant: Raphaël JAUSLIN.

#### **Contenu**

- Univariate and multivariate regression
- Method of least squares
- General linear model
- Gauss-Markov theorem
- Estimation, inference
- Test of hypotheses
- The general family of Wald tests
- Heteroscedasticity, autocorrelation

#### **Forme de l'évaluation**

2 hours written exam at any exam session. Authorized documents : syllabus without annotations

#### **Documentation**

Syllabus available on Moodle platform.

Tillé, Y. (2020). Advanced regression methods, University of Neuchâtel.

Exercises available on the Moodle platform.

#### **Pré-requis**

Probability, Linear Algebra, Theory of Tests.

#### **Forme de l'enseignement**

- 6 ECTS, with 3 ECTS course and 3 ECTS exercices
- Autumn semester
- Compulsory course for the master in statistics