

- Faculté des sciences économiques
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## Quantitative Methods in Management (5EN2024)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master en développement international des affaires</b>	<b>Cours: 4 ph</b>	Voir ci-dessous	6
<b>Master of Science en innovation</b>	<b>Cours: 4 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

Chargé d'enseignement : Dr. Michael Puntiroli Institute of Management, Rue A.-L. Breguet 2, CH-2000 NEUCHÂTEL email: [michael.puntiroli@unine.ch](mailto:michael.puntiroli@unine.ch) Phone : +41 (0)32 718 19 48 Office R.167: available by appointment

### Contenu

The course will cover the following topics:

- Why Data is valuable
- Experimental designs and research questions
- Data Cleaning and Robust Statistics
- Correlations, t-tests and ANOVAs
- Data-driven techniques such as Factor Analysis and Clustering
- Statistical matching techniques to create a control group
- From Simple regression models to more complex models with Moderation and/or Mediation.

### Forme de l'évaluation

Continuous evaluation through the handing-in of exercises based on the topics treated in class (20%).  
Project based evaluation based on a semester-long ongoing group project (30%).  
Two-hour written final exam during the winter session (50%).

The exam will be a closed-book exam. Neither documents nor connected devices are permitted during the exams (i.e. no connection to internet). A laptop will be necessary for the exam, as well as a software program to run statistical analyses, such as R, Stata or SPSS. In case of violation of these rules, the students are in a situation of fraud and the unauthorized will be removed. The exam could be deemed as failed.

### Modalités de rattrapage

Retake (written 2h) will be done during the exam retake session. In the case of a first attempt (i.e., justified absence from the exam at the first session), the course activities will be counted in the calculation of the final grade.  
In case of a second attempt or unjustified absence at the first attempt, the grade will be 100% on the written retake exam.

The exam will be a closed-book exam. Neither documents nor connected devices are permitted during the exams (i.e. no connection to internet). A laptop will be necessary for the exam, as well as a software program to run statistical analyses, such as R, Stata or SPSS. In case of violation of these rules, the students are in a situation of fraud and the unauthorized will be removed. The exam could be deemed as failed.

### Documentation

Articles, data and reports provided by the professor in class.

### Pré-requis

Basic statistics and numeracy

### Objectifs d'apprentissage

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

- Apply methods discussed in class to real life managerial issues
- Solve managerial issues through use of data
- Interpret findings from quantitative data appropriately

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### **Quantitative Methods in Management (5EN2024)**

- Choose among different methodological options

#### **Compétences transférables**

- Analyse a situation or problem by breaking it down into variables
- Examine data
- Interpret data
- Justify a chosen method or course of action