

- Faculté des sciences économiques
- [www.unine.ch/seco](http://www.unine.ch/seco)

## Quantitative Methods for Managers (5MI2009)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
<b>Master in General Management</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

Cotofrei Paul  
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### Contenu

The course starts with an overview of the main concepts used in quantitative analysis (business analytics, models and the modelling process). The first part is related to the methods for data understanding, i.e. data exploration, data visualization, and extraction of relationships and patterns from data. The theoretical support for this part is based on probability theory (probability distribution, Bayes' rules, conditional probability and probabilistic independence). The second part focus on multiple regression models, used to study relationships between variables, and on statistical inference, particularly confidence intervals for various population parameters.

### Forme de l'évaluation

- Assignments : 40% of final grade.
- Final written exam (2 hours) during winter session: 60% of final grade.
- Allowed documents during exams: four pages with personal annotations.
- Connected devices are not permitted during the exams. In case of violation of this rule, the students are in a situation of fraud and the unauthorized items will be removed. The exam could be deemed as failed.

### Modalités de rattrapage

- Resit: 2 hours written exam during autumn session: 100% of final grade.

### Documentation

Quantitative Methods for Decision Makers, by Mik Wisniewski; Pearson, sixth edition, 2016  
Quantitative Analysis for Management, by Barry Render, Ralph M. Stair, Michael E. Hanna, Trevor S. Hale; Pearson, thirteen edition, 2018  
Essential Quantitative Methods, by Les Oakshott; Palgrave MacMillan, sixth edition, 2016  
Quantitative Methods for Business, Management & Finance, by Louise Swift, Sally Piff; Palgrave MacMillan, fourth edition, 2014  
Business Analytics: Data Analysis and Decision Making, by S. Albright, W. Winston; Cengage Learning, seventh edition, 2020

### Pré-requis

None.

### Forme de l'enseignement

Cours ex-cathedra (2 hours) and practical exercises (individual or by groups) (2 hours). The time allowed to each teaching component may vary according to the lecture's topic.  
The use of a personal computer for applied exercises is strongly recommended.

### Objectifs d'apprentissage

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

- Explain the implications of data analysis for a business environment
- Analyse the consequences of a change in the assumptions of a probabilistic model
- Explain the quantitative models and methodologies applied in a real word case study
- Apply appropriate methods for data exploration and data visualization
- Evaluate a decision problem according to several dimensions
- Define the role and purpose of quantitative techniques in effective management

URLs	1) <a href="https://moodle.unine.ch/course/view.php?id=11195">https://moodle.unine.ch/course/view.php?id=11195</a>
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### **Quantitative Methods for Managers (5MI2009)**

- Recognise the different types of relationships and patterns extracted from data

#### **Compétences transférables**

- Develop hands-on, pro forma modelling skills using Excel
- Communicate results orally
- Discuss complex issues and interactions
- Apply knowledge to new situations
- Carry out critical and evidence-based analyses