UNINE
UNIVERSITÉ DE
NEUCHÂTEL

- Faculté des sciences économiques
- www.unine.ch/seco

Méthodes quantitatives pour managers (5MI2009)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master in General Management	**Cours: 4 ph**	**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 - MER
Institut du management de l'information,
A.L. Breguet 2, 2000 Neuchâtel
Tél: 032 718 1378
e-mail:paul.cotofrei@unine.ch

Contenu

The course starts with an overview of the main concepts used in quantitative analysis (business analytics, models and the problem modelling process). The part related to the methods for data understanding concerns data exploration, data visualisation. and the extraction of relationships and patterns from data. The theoretical support for this part is based on probability theory (distributions, Bayes' rules, conditional probability and probabilistic independece). In the second part the accent is put on the quantitative approaches to decision making. The main models used in decision analysis (influence diagrams, decision trees) are presented in both contexts - without and with uncertainty, together with the two kind of decision-making analysis: risk analysis and sensitivity analysis. The last part of the course is related to project manangement (network diagram, PERT/CPM approach, dealing with uncertainty for time and ressources).

Forme de l'évaluation

- Assignments (including case study presentation) : 40% of final grade.
- Final written exam (2 hours) during winter session: 60% of final grade.
- Resit: 2 hours written exam during autumn session: 100% of final grade.
- Allowed documents during exams: cours slides with 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.

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, thirtheen 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, sixth edition, 2017

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 :

- Apply appropriate methods for data exploration and data visualization
- Explain the quantitative models and methodologies applied in a real word case study
- Define the role and purpose of quantitative techniques in effective management
- Explain the implications of data analysis for a business environment
- Evaluate a decision problem according to several dimensions
- Develop an optimal strategy faced with several decision alternatives and uncertainty
- Recognise the different types of relationships and patterns extracted from data
- Analyse the consequences of a change in the assumptions of a probabilistic model

URLs	1) https://moodle.unine.ch/course/view.php?id=4759

- Faculté des sciences économiques
- www.unine.ch/seco

Méthodes quantitatives pour managers (5MI2009)

Compétences transférables

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

URLs	1) https://moodle.unine.ch/course/view.php?id=4759