- 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 - Professeur associé
Institut du management de l'information,
A.L. Breguet 2, 2000 Neuchâtel
Tél: 032 718 1378
e-mail:paul.cotofrei@unine.ch

Objectifs

The course intends to provide the student with a detailed understanding of both the role and purpose of quantitative techniques in effective management and in the process of managerial decision making.
By the end of the course the student should be able to use the techniques introduced, should have an awareness of common areas of business application and should have developed sufficient confidence and understanding to commission appropriate applications of more complex techniques and contribute to the evaluation of the results of such analysis.

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 presentations concerns data exploration (understanding various data types) 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) and statistics (estimators, confidence intervals). Then 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 probabilities, together with the two kind of decision-making analysis: risk analysis and sensitivity analysis. The part related to forcasting concerns the moving average and time series, followed by an analysis of the regression model. 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 : 30% of final grade.
- Final written exam (2 hours) during the last week of semester: 70% lof 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 practical exercises is strongly recommended.

URLs	1) https://moodle.unine.ch/course/view.php?id=2250