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

Decision Support Systems (5MI2003)

Filières concernées	Nombre d'heures	Validation	Crédits ECTS
Master en développement international des affaires	**Cours: 4 ph**	**cont. continu**	6
Master en systèmes d'information	**Cours: 4 ph**	**cont. continu**	6

ph=période hebdomadaire, pg=période globale, j=jour, dj=demi-jour, h=heure, min=minute

Période d'enseignement:

- Semestre Printemps

Equipe enseignante:

Cotofrei Paul- maître d'enseignement et de recherche
Information management institute, Pierre-à-Mazel 7, 2000 Neuchâtel
Tél : 032 718 1378 e-mail:paul.cotofrei@unine.ch

Objectifs:

A student attaining this course should be able to:
- apply the phases of the decision-making process
- develop an optimal strategy faced with several decision alternatives and an uncertainty, using the risk analysis
- recognize, analyse and solve a problem demanding the linear programming approach, by identifying the constraints and the objective function
- use simulation models for inventory problem and waiting line problem

Contenu:

The course starts with an overview of the concepts used in a decision support system context (decision-making process, systems, models, components of a DSS). Then the accent is put on the quantitative approaches to decision making, also known as management science. 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. One of the most known and applied quantitative model, the linear programming, is deeply analysed (optimal solutions, sensitivity analysis, 0-1 variables, case application in marketing, finance, transportation, network distribution, game theory). The last part of the course investigates more sophisticated models, as simulation model, goal programming and analytic hierarchy process (the lasts two models being applied for multicriteria decision problems).

Forme de l'évaluation:

- Lab assignments: 20%
- Final written exam (2 hours): 80%
- Resit: 2 hours written exam

Documentation:

- An introduction to Management Science - Quantitative approaches to decision making, by Anderson, Sweeney, Williams and Martin, Thompson South-Western, 12 edition, 2008
- Decision Support Systems and Intelligent Systems, by E. Turban, J. Aronson and T. Liang, Pearson Education Inc, seventh edition, 2005

Pré-requis: