

Preference Modelling and Multiple Criteria Decision Making

**ECTS** : 3

**Volume horaire** : 15

**Description du contenu de l'enseignement :**

This course is an introduction to the main tools and techniques of preference modelling and multiple criteria decision making.

**Compétence à acquérir :**

- Introduction to modelling for decision aiding: decision making process and decision aiding process
- Preference modelling: main structure for preference modelling, numerical representations and classical problems
- Social choice: introduction to social theory, voting rules and their properties
- Multiattribute Value Theory: even swap technique, additive value functions (main results and elicitation)
- ELECTRE methods: introduction to the ELECTRE methods.

**Mode de contrôle des connaissances :**

Examen écrit de 2h

**Bibliographie, lectures recommandées :**

- B. Roy et D. Bouyssou, Aide Multicritère à la Décision: Méthodes et Cas. Economica, Paris, 1993.
- B. Roy, Méthodologie multicritère d'aide à la décision, Economica, Paris, 1985
- Vincke Ph. (1989), L'Aide Multicritère à la Décision, Editions Editions Ellipses, Bruxelles.
- Roubens, M. and Ph. Vincke (1985), Preference Modelling, Lecture Notes in Economics and Mathematical Systems n° 250, Springer Verlag, Berlin.
- Sen A.K. (1986), Social choice theory, in K.J. Arrow and M.D. Intriligator (eds.), Handbook of Mathematical Economics III, North-Holland, Amsterdam, 1073-1181
- French S. (1993) Decision Theory - An Introduction to the Mathematics of Rationality, Ellis Horwood, chapitre 4.
- D. Bouyssou, Th. Marchant, M. Pirlot, P. Perny, A. Tsoukiàs, et Ph. Vincke. Evaluation and decision models: a critical perspective, Kluwer 2000.

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