Open to all AWI students:	Supplementary course (no ECTS points)
Title:	Topics in Cooperative Game Theory and Uncertainty
Lecturer:	Dr. Jean-Philippe Lefort
Language of Instruction:	English
Lecture/Tutorial Hours per Week:	2
Day/Time/Room:	Thursday, 16:00 – 18:00 CB 01.030
Start:	Thursday, 15 April 2010

Course description

This course offers an introduction to Cooperative Game Theory and the related mathematical techniques which find also applications in Decision Making under Uncertainty. The course is designed for students of economics who want to apply such methods in a thesis of the Masters, Diploma or PhD programme. The content of the course can be adapted to the needs of the participants.

Organization: 2-hours lecture

Language: English

Course Outline

- 1. Introduction
- 2. Cooperative games with transferable utility
 - a. Definitions
 - b. Examples
 - c. Applications
- 3. Solution concepts
 - a. Core
 - b. Bargaining set
 - c. Stable sets
 - d. Shapley value
- 4. Probability theory
 - a. Conceptual issues
 - b. Conditional probabilities
 - c. Hahn-Jordan and Radon Nykodim Theorem
 - d. Martingales

Readings:

PELEG, Bezalel, and SUDHOLTER, Peter (2003). Introduction to the Theory of Cooperative Games. Kluwer Academic Publishers, Boston. BILLINGSLEY, Patrick (1995): Probability and Measure, Wiley, New York.