Course title	Macroeconomic Analysis II				
Responsible person to enter grades				開講区分	単位数
				1st semester	2.0
Numbering Code		Day・Period, etc.	Mon2(対面)	Timetable Slot Code	1J369

Lesson topic

This is an advanced course on general equilibrium theory. The course equips students with the methodological knowledge necessary to conduct independent research in this field. Students learn how to prove classical results on efficiency, existence, and multiplicity of equilibrium, using methods from variational analysis, fixed point theory, and differential topology as tools. A strong focus is placed on understanding markets with imperfections: The course addresses how market incompleteness tampers not only with welfare but with the theoretical underpinnings of general equilibrium models. A discussion of recent results outlines the research frontier in the field of incomplete markets.

Lesson target

Students will understand the structure of general equilibrium models, and the mathematical tools used in equilibrium analysis to a degree that enables independent research in this field.

Syllabus and plan

Tentative schedule and topics:
Week 1: Introduction, Mathematical Concepts
Week 2: Basics of Decision Theory, Variational Analysis I
Week 3: Allocations and Welfare, Differential Topology
Week 4: Variational Analysis II, Basics of Demand Theory
Week 5: Equilibrium and Welfare with Utility
Week 6: Basics of Fixed Point Theory, Existence of Equilibrium
Week 7: Uniqueness of Equilibrium
Week 8: <Midterm Exam>
Week 9: Equilibrium and Welfare without Utility, Financial Markets
Week 10: Radner Equilibrium, Special Case: Arrow-Debreu Equilibrium
Week 11: No-Arbitrage Valuation, Regular Economies
Week 12: Genericity Analysis and the Index Theorem
Week 13: Welfare Properties of Incomplete Markets
Week 14: Production in Incomplete Markets
Week 15: <Review Session>
Week 16: <Exam>

Evaluation method

Midterm Exam: 50%
Final Exam: 50%

Evaluation baseline

The exams will test students' understanding of the course content (theory and methods), and ability to write simple mathematical proofs.

Notice (include info. on related class)

Even though this course relies heavily on mathematics, little prior knowledge is expected: Students are required to have a good understanding of linear algebra, differential calculus, and constrained optimization. All other necessary mathematical concepts are reviewed when first used. What is expected, though, is curiosity and willingness to learn something new.

Review and preparation

Kobe University requires 45 hours of study from students to award one credit, including both in-class instructions as well as study outside classes. However, depending on your background in mathematics and your research interests, you may be inclined to invest more time to get the most out of this course. Students are strongly advised to solve the weekly problem sets before the next lecture. Sample solutions will be provided in advance of the exams.

Office hour・Contact information

By appointment via email.

Message for student

This course is open to all students interested in mathematical economics. Taking "Macroeconomic Analysis I" prior to this course is not necessary.

Improvemenets in Teaching

Text

Theory Of Incomplete Markets / Michael Magill and Martine Quinzii : The MIT Press ,2002 ,ISBN:9780262632546

Reference Material

Lecture slides will be provided on BEEF+.

Classroom Language

English

Keywords

General Equilibrium Theory Incomplete Markets