COURSE DESCRIPTION: ECON8021/4421
Topics in Advanced Microeconomics
Contract Theory and Applications to Finance
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Second Semester 2018

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The full legal ANU course syllabus will be available on wattle. The current document is a summary of that document.

Assessment

In-class mid-semester quiz
- One hour
- Worth 30% of the final grade
- Optional and redemptive
- No permitted materials
- Coverage is potentially all material in lectures, readings and tutorials up to the last lecture before the mid-semester.

Final Exam
- Three hours
- Worth 70% of the final grade
- Compulsory
- No permitted materials
- Coverage is potentially all material in lectures, readings and tutorials in the entire course.

Problem Sets
- Not compulsory
- Not graded, but feedback on questions you have had trouble with will be given in tutorials
- Have a due date: please follow instructions on the handout.
- Submitted problem sets will be used only to enhance the final grade as follows:

    If a student is on the border between grades i.e. if the student receives a final exam score within TWO marks of the next highest grade, then completion of the problem sets to the next highest grade level will push them up to that next highest grade. E.g.: A student receives 58% on all assessments undertaken (a borderline 'credit' grade), has handed in all problem sets and has performed at a credit average level. The student's final grade a credit at 60%

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Content and Objectives

Much of classical economics is concerned with basic exchange—the simplest form of a contract where a commodity is guaranteed to be transferred from one party to another upon receipt of a certain price (as measured in units of a numeraire) in a specified situation. Contract theory is primarily concerned with environments with imperfections, such as imperfect information or imperfect enforcement, that are not conducive to such simple contracts. It focuses on how economic agents may design contracts to obviate the effect of imperfect environments, thus on how contracts affect agents' incentives. Course material includes moral hazard, adverse-selection and incomplete contracts. For each topic we will study examples, mainly in the area of financial contracting. Time permitting, the latter part of the course will examine further topics in this area. At completion of the course, students should be able to read general journal articles in these areas. The course will stress both underlying assumptions and applications and is aimed at providing a basic introduction to the literature.

TOPICS

1. Background

2. Contracts with Moral Hazard

 2.1 Introduction
-   ° Expected utility
-   ° Risk aversion
-   ° Certainty equivalent

 2.2 Basic Model: Two Actions, Two Outcomes
-   ° First and second-best problems

 2.3 General Model with Finite Outcomes
-   ° First-best
-   ° Second-best problem: "change of variables" solution
-   ° Results 1: Efficiency properties
-   ° Results 2: Characteristics of the second-best incentive scheme

 2.5 General Model with Continuous Actions and Outcomes
-   ° First Best: Optimal risk-sharing
-   ° Second-best: Deviation from optimal risk sharing

3. Mechanism Design

 3.1 Self-Selection Constraints
-   ° Introduction
-   ° Model notation
  -    - The single agent case: Full information benchmark and the IR constraint
  -    - Multiple agents: Message games, the revelation principle and IC constraints
-   ° Single agent model with finite types
-   ° Single agent model with continuum of types
-   ° Many agent model: optimal auctions

 3.2 Implementation Theory
-   ° Gibbard Satterthwaite theorem
-   ° Clarke-Groves mechanism
-   ° AGV mechanism and budget balance

4. Topics on Financial Contracting: The Lender Borrower Relationship
-   ° Collateral and credit rationing
-   ° Comprehensive contracting theories of debt
  -    - Semi-verifiable Income: The costly-state-verification model
  -    - Verifiable income: The Innes model
-   ° The incomplete contracts approach

References

1) Bolton and Dewatripont, "Contract Theory", 2005. [BD]
2) Grossman and Hart, An Analysis of the Principal Agent Problem Econometrica, 51: pages 7 - 45, 1983. [GH]
3) Freixas and Rochet, Microeconomics of Banking, Second Edition, ch 7 [FR]
4) Kreps, "A Course in Microeconomic Theory" [K]
5) Lars Stole Lectures 2001 [LS]
6) Hart, "Firms, Contracts and Financial Structure" Clarendon Press, Oxford, 1995. [H]