

**CAS EC404(A1)
Economics of Information**

**Boston University
Spring 2012**

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OFFICE HOURS TU 5-6:30PM & TH 11AM-12:30PM RM.309, 270 BAY STATE RD.
LECTURES TU TH 9:30-11AM CAS 325

TEXT Donald E. Campbell, *Incentives: Motivation and the Economics of Information* (2nd ed.), Cambridge 2006

GRADE Tests 30% (Test1 [15%] + Test2 [15%])
 Exams 70% (Exam1 [30%] + Exam2 [40%])
 *** No make-up tests or exams will be given. ***

COURSE DESCRIPTION

It is obvious that information plays an important role in economic decisions and economic interactions. The manifestations of information asymmetry are rather subtle, but they were also recognized early. Indeed, the terms 'adverse selection' and 'moral hazard' were current amongst practitioners in the insurance industry by mid-19th century; their origins might have been much older. However, a rigorous and systematic exploration of the economics of information only began in mid-20th century.

The 2001 Nobel Prize in Economics to Akerlof, Spence and Stiglitz, and the 2007 prize to Hurwicz, Maskin and Myerson, might be regarded as the canonization of this development. (As the textbook author points out, this was adumbrated by the earlier awards to Arrow, Mirrlees and Vickrey.) Happily, although the subject has been canonized it is far from being dead. Fresh insights and vigorous research continue unabated today, and applications can be found in almost every economic phenomenon. For instance, informational issues lie at the heart of the problems and proposed reforms in financial markets and healthcare provision, which dominate current policy debates.

The richness, variety and depth of information economics should be evident even from this introductory course. We shall study some of the central models of the subject, sometimes in simplified form. The emphasis is two-fold. On the one hand, we seek to understand how informational imperfection and asymmetry may cause inefficiencies and distortions in natural, existing economic and political institutions such as competitive markets and majority rule. On the other hand, we investigate how variant and alternative institutions can improve economic performance under these circumstances. Prominent examples of such institutions are incentive contracts, partial insurance, nonlinear pricing, and auctions.

This being an advanced undergraduate course, the student is assumed to come equipped with basic knowledge of microeconomics (preferably also game theory) and mathematics (including calculus and probability theory). But most important of all is his/her ability and willingness to think clearly and logically.

COURSE SCHEDULE See attached. Registered students should check the course website at <http://blackboard.bu.edu/> frequently for course material, announcements, updates on the schedule, and grades.

ACADEMIC CONDUCT

It is the student's responsibility to read, understand and observe the CAS *Academic Conduct Code* (available from room CAS105 and online at <http://www.bu.edu/cas/students/undergrad-resources/code/>). Cases of suspected misconduct will be referred to the Dean's Office. Furthermore, acts of plagiarism or cheating will be penalized with failing grades.

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COURSE SCHEDULE Details of this schedule are subject to change. Registered students can log into the course website at <http://blackboard.bu.edu/>. You should visit this website frequently to get the latest course schedule, check announcements, obtain class material and verify your personal grading record.

- ◆ LECTURE complements READING and self-study. They are not substitutes. To do well in this course, you must understand both thoroughly. Reading assignments in this schedule refer to Campbell's book. Supplementary reading may be assigned or suggested from time to time.
- ◆ HOMEWORK assignments in this schedule are taken from Campbell's book. They are specified as follows: "2.6.1" refers to problem 1 in the Problem Set at the end of Chapter 2 Section 6, and "3.9.1-3,8,9" means "3.9.1, 3.9.2, 3.9.3, 3.9.8 and 3.9.9". Supplementary problems may be assigned from time to time.
- ◆ SOLUTION to homework problems, tests and exams will be posted on the course website and/or discussed in class, office hours or review sessions. But to benefit from the solutions you must work on the problems first.
- ◆ A TEST will focus on homework and supplementary problems assigned since the last test or exam (but not including the day of the test). It takes place in the second half of the class and 40 minutes will be allowed.
- ◆ An EXAM will test your comprehensive understanding of the course material up to the time of the exam.

| DATE | LECTURE | READING | HOMEWORK |
|---------------------|--|--|---|
| Tu1/17 | Introduction to Information Economics & Review of Microeconomics & Mathematics | Ch 1 Ch 2 Sec 1-3 | 1.2.1-2, 1.4.2,4,6, 1.5.2,4 1.6.2,4, 1.7.1-4, 2.3.2 |
| | ► Scarcity of Information and its Effects on Decision Uncertainty and Probability | | *The above problems will help your review; but they will not appear on Test 1. |
| Th1/19 | Uncertainties & the Lack of Information Types & Sources of Information | Review EC305 or equivalent statistics course | |
| Tu1/24 | Quantifiable Uncertainty & Probability Theory Decision and Inference | | |
| Th1/26 | Statistical Inference & Statistical Independence | | |
| Tu1/31 | Decision under Uncertainty Expected Utility & Risk Attitudes | Ch 2 Sec 4-7 | 2.6.1,4,6,9,11, 2.7.2-4 |
| | ► Asymmetry of Information and its Economic Consequences Moral Hazard and Incentive Contracts | | |
| Th2/02 | Excessive Risk-taking in Insurance & Investment Markets | Ch 3 Sec 4, 9 | 3.4.3-4, 3.9.1-3,8,9 |
| Tu2/07 | Partnerships | Ch 4 Sec 1-2 | 4.2.4-6 |
| Th2/09 | Owner-Employee Relationships | Ch 4 Sec 3-4 | 4.3.1-3 |
| Tu2/14 | Capital-Management Relationships Adverse Selection in Competitive Markets | Ch 4 Sec 5 | 4.5.1,6,8,11,14 |
| Th2/16 <u>Test1</u> | Used-Car Market | Ch 5 Sec 3 | 5.3.1 |
| Tu2/21 | <Substitute Monday class schedule: No Lecture> | | |
| Th2/23 | Credit Market | Ch 5 Sec 4 | 5.4.1-4 |
| Tu2/28 | Competitive Insurance Market | Ch 5 Sec 7 | 5.7.1-3,9,10 |

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| DATE | LECTURE | READING | HOMEWORK |
|-----------------------------|---|---|--|
| Th3/01 | Signaling and Screening in Higher Education and Social Prejudice Job Markets & Investments in Higher Ed | Ch 5 Sec 6 | 5.6.2,3,5 |
| Tu3/06 | Wage Discrimination by Race or Gender | | |
| Th3/08 <u>Exam1</u> | <i>Covers material through 3/08</i> < Spring Recess > | | |
| | Selling to Buyers with Hidden Characteristics or Information | | |
| Tu3/20 | Price Discrimination & Product Differentiation by a Monopoly | Ch 5 Sec 1, 5 | 5.5.1,2,4 |
| Th3/22 | Bargaining | Ch 5 Sec 2 | 5.2.2,4 |
| Tu3/27 | Auctions – Independent Private Values & Standard Auctions | Ch 6 Sec 1-2 | 6.1.2, 6.2.2-3 |
| Th3/29 | Auctions – Equilibrium Bidding Strategies | Ch 6 Sec 3 | 6.3.2-4,6,9 |
| Tu4/03 | Auctions – Outcome Equivalence & Revenue Equivalence | Ch 6 Sec 4-5 | 6.4.1-2,4,6,8,13,14 |
| Th4/05 | Auctions – Common Values | Ch 6 Sec 6 | |
| | Speculative Trades and Rational Expectations Equilibrium | | |
| Tu4/10 | Can traders agree to disagree about the value of an asset? | Ch 10† | 10.2.1,3,5, 10.4.2, 10.5.2 |
| Th4/12 <u>Test2</u> | Common Knowledge of Equilibrium Price & Willingness-to-Trade | †Chapter 10 provides the background, but not the main substance, for this topic. | |
| | Social Decisions: Efficiency, Democracy and the Public Expressions of Political Preferences | | |
| Tu4/17 | Dictatorship, Majority Rule & Other Voting Mechanisms | Ch 7 | 7.1.4,5,8, 7.2.3,4,6,7 7.3.1,3 |
| Th4/19 | Bias towards the Status Quo & Political Polarization | | |
| Tu4/24 | Provision & Taxation of Public Goods | Ch 8 | 8.1.2,7,8,10,13,17, 8.2.2,4,9, 8.4.1-3 |
| | ► Transmission of Information and the Economics of Language (a brief introduction) | | |
| Th4/26 | Properties of Language Strategies of Communication – Cheap Talk, Persuasion & Debate | | |
| Tu5/01 | Review for the Final Exam | | |
| M5/07 <u>Exam2</u> <9-11am> | <i>Covers material from the whole course</i> | | |