

# Rutgers University - New Brunswick

01:220:483: INFORMATION ECONOMICS  
FALL 2017

**Instructor:** Tomas Sjöström <tsjostrom@economics.rutgers.edu>

**Time and Location:** Mo, Th 9:50 - 11:10 in Murray 211.

**Office Hours:** Mo, Th 1:30-2:30 or by appointment, New Jersey Hall 301C

**T.A.:** Hyungil (Henry) Kye <hkyl@economics.rutgers.edu>. **T.A. Office hours:** TBA NJ Hall 423

**Textbooks:** *Games and Information: An Introduction to Game Theory* 4th Edition, by Eric Rasmusen. Wiley-Blackwell; 4 edition (November 28, 2006), ISBN-10: 1405136669, ISBN-13: 978-1405136662

**Prerequisites:** 220:320, and 960:211 or 960:285, and 640:136 or 640:152

**Grading:** There will be 7 homework assignments, three midterm exams and a final exam. They will count toward the grade as follows.

Assignments	30%
Midterms	40%
Final	30%

The final is comprehensive: it covers all the chapters and handouts listed on the course outline. No books, no notes, no logging into the Sakai site during exams. It is OK to miss an exam for a legitimate reason (for example illness, family emergency) *but you must notify us no later than the day of the exam*. If you miss a midterm *for legitimate reasons* the weight will be increased on the other midterms and the final (but if there is no legitimate reason, you will simply be assigned 0 points). There will be *no* make-up midterms. For each homework, after the due date has passed the solutions will be posted on the Sakai site. At that time, if you did not hand in the homework assignment, you will be assigned 0 points for this assignment, unless you have notified me *before* the solutions were posted and have a legitimate excuse. If you hand in homework after the due date, but before the solutions are posted, you get partial credit. If you cannot hand in a homework for a legitimate reason such as illness, the weight will be transferred to the other homework. I will distribute graded homework in class, but not graded midterms - you have to pick up your midterm from the TA's office. If you are not happy with the grading, you must return the bluebook to the TA immediately, he will give it to me for review. After you remove the bluebook from his office, we will not review it, with the exception of clerical errors (adding up points incorrectly). In general, if you have questions about how the homework or midterm was graded, please ask the TA first - if you are not happy with the answer, please talk to me. A Sakai site will be made available, containing documents for the class <https://sakai.rutgers.edu/portal>. Important announcements will be posted there occasionally - I will assume everybody reads the announcements. Students are expected to attend all classes; if you miss class, please use the University absence reporting website <https://sims.rutgers.edu/ssra> to indicate the date and reason for your absence. Each student is responsible for knowing everything written on this syllabus (including this sentence).

**Note:** The class room is *not* a good place to take a nap, read newspapers, or solve a crossword puzzle. *Turn off cell phones when the lecture starts*. This is just common courtesy.

**Important dates:** Last day to drop classes without a "W" grade, Tu Sept 12; Last day to add classes, We Sept 13; Last day to drop with a "W" grade, Mo Oct 30.

**Learning Outcomes:** Students who complete Econ 483 will understand the role of uncertainty and incomplete information in markets and strategic interactions. They will have learned how individual agents optimally incorporate new information in order to maximize expected payoff, and how informational problems, compounded by strategic behavior, impact market equilibrium. They will have learned the basics of game theory, with emphasis on incomplete information games. They will fully understand the key equilibrium concepts: Bayesian (Nash) Equilibrium and Perfect Bayesian Equilibrium. They will understand how incomplete information game theory can be applied to important economic problems, especially problems of moral hazard, adverse selection and signalling.

### Academic Integrity Policy:

The usual rules about integrity and conduct apply to our class. Violations include: cheating, fabrication, plagiarism, denying others access to information or material, and facilitating violations of academic integrity. You are strongly advised to familiarize yourself with the following document:

[http://academicintegrity.rutgers.edu/files/documents/AI\\_Policy\\_9\\_01\\_2011.pdf](http://academicintegrity.rutgers.edu/files/documents/AI_Policy_9_01_2011.pdf)

**Student-Wellness Services:** Just In Case Web App for a mental health crisis: <http://codu.co/cee05e>. Counseling, ADAP & Psychiatric Services (CAPS), for non-emergency psychological health issues: (848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901 [www.rhscaps.rutgers.edu/](http://www.rhscaps.rutgers.edu/). Violence Prevention & Victim Assistance (VPVA) (848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 [www.vpva.rutgers.edu/](http://www.vpva.rutgers.edu/). Disability Services (848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>. Scarlet Listeners, for confidential peer counseling and referral hotline: <http://www.scarletlisteners.com/> or call (732) 247-5555.

## Course Outline

### Part I: Games with Incomplete Information

- Sep 7 Simultaneous and Sequential Move Games I (R:1, 4.1, 4.2)
- Sep 11 Simultaneous and Sequential Move Games II (R:1, 4.1, 4.2)
- Sep 14 Simultaneous and Sequential Move Games III (R:1, 4.1, 4.2)
- Sep 18 Information I (R:2)
- Sep 21 Information II (R:2) *Hand in homework 1*
- Sep 25 Mixed Strategies (R:3.1)
- Sep 28 Dynamic Games with Incomplete Information I (R:6.1, 6.2, 6.3)
- Oct 2 Dynamic Games with Incomplete Information II (R:6.1, 6.2, 6.3) *Hand in homework 2*
- Oct 5 Dynamic Games with Incomplete Information III (R:6.1, 6.2, 6.3)
- Oct 9 TBA
- Oct 12 *Midterm 1* (R:1, 2, 3.1, 4.1, 4.2)

### Part II: Moral Hazard

- Oct 16 Moral Hazard I (R:7.1, 7.2, 7.3)
- Oct 19 Moral Hazard II (R:7.1, 7.2, 7.3)
- Oct 23 Moral Hazard III (R:7.1, 7.2, 7.3) *Hand in homework 3*
- Oct 26 Further Topics in Moral Hazard I (R:8.1, 8.4)
- Oct 30 Further Topics in Moral Hazard II (R:8.1, 8.4)

### Part III: Adverse Selection

- Nov 2 Adverse Selection I (R:9.1-9.4, 9.7) *Hand in homework 4*
- Nov 6 Adverse Selection II (R:9.1-9.4, 9.7)
- Nov 9 Adverse Selection III (R:9.1-9.4, 9.7)
- Nov 13 *Midterm 2* (R:6.1, 6.2, 6.3, 7.1, 7.2, 7.3, 8.1, 8.4)
- Nov 16 Adverse Selection IV (R:9.1-9.4, 9.7)

**Part IV: Signalling**

Nov 20 Signalling I (R: 11.1, 11.2) *Hand in homework 5*

Nov 21 (Tuesday) Signalling II (R: 11.1, 11.2)

Nov 23 *Thanksgiving*

Nov 27 Signalling III (R:11.1, 11.2)

Nov 30 More Signalling I (R:11.3, 11.4) *Hand in homework 6*

Dec 4 TBA

Dec 7 *Midterm 3* (R: 9.1-9.4, 9.7, 11.1, 11.2)

Dec 11 More Signalling II (R:11.3, 11.4) *Hand in homework 7*

Dec 19. (Tuesday) **Final Exam** 12pm in our regular classroom  
(<http://finalexams.rutgers.edu/>)