



UNIVERSITY OF
SASKATCHEWAN

Department of Economics

ECON 898.3 (04)

CONTRACT THEORY

T2: 2021/22

Course Details

Time: Tuesday and Thursday, 10:00-11:20
Location: THORV 205A
Website: Some materials will be available on Canvas.

Description and Expected Learning Outcomes

Contract theory is the field of economics concerns itself with finding and understanding mechanisms that allow for mutually beneficial trade in situations of information asymmetry. Contract theory addresses a large number of practically important questions, such as: What types of contracts do insurers offer to their clients? Who can get insurance? What salary patterns and career paths should firms offer their employees? What auction mechanism yields the highest return? Who should own a firm?

This course introduces the central concepts and methods used in contract theory. It presents a number of classic results, and equips students with the analytical tools to find efficient solutions for problems under asymmetric information.

Instructor

Andreas Pollak Phone: 966-5221
Arts 812 E-mail: a.pollak@usask.ca (preface subject with "ECON898")
Office Hours: Tuesday and Thursday, 14:30-15:15, or by appointment

Textbooks

Required Textbook:

Patrick Bolton and Mathias Dewatripont: *Contract Theory*, MIT Press, Cambridge (MA) and London, 2005. [referred to as **BD**]

Other relevant books:

Chiappori, P.-A. and B. Salanié (2003), "Testing Contract Theory: a Survey of Some Recent Work" in *Advances in Economics and Econometrics*, vol 1, M. Dewatripont, L. Hansen and S. Turnovsky (eds.), Cambridge University Press.

Fudenberg, and J. Tirole, (1992), *Game Theory*, MIT Press.

Hart, O. (1995), *Firms, Contracts and Financial Structures*, Clarendon Press (chap. 1-4).

Laffont, J.J. and D. Martimort (2002), *The Theory of Incentives: The Principal-Agent Model*, Princeton University Press.

Salanié, B. (1997), *Contract Theory: A Primer*, MIT Press

Tentative Course Outline and Readings

1. Introduction (week 1)
BD, Chapter 1
2. Moral Hazard (weeks 2-4)
BD, Chapters 4 and 6
Holmstrom, B. (1979). "Moral Hazard and Observability." *Bell Journal of Economics*: 10:74-91.
Holmstrom, B. and P. Milgrom (1990), "Multi-Task Principal-Agent Analyses," *Journal of Law, Economics and Organization*, 7, Special Issue.
Mirrlees, J. (1999), "The Theory of Moral Hazard and Unobservable Behavior", *Review of Economic Studies* 66: 3-21.
3. Adverse Selection: Signalling and Screening (weeks 5-7)
BD, Chapters 2 and 3
Adams, W. and J. Yellen (1976), "Commodity bundling and the burden of monopoly," *Quarterly Journal of Economics* 90: 475-498.
Baron, D. and R. Myerson (1982), "Regulating a Monopolist with Unknown Costs," *Econometrica*, 50(4): 911-30.
Laffont, J-J and J. Tirole (1986), "Using Cost Observation to Regulate Firms," *Journal of Political Economy*, 94(3).
Maskin, E. and J. Riley (1984), "Monopoly with Incomplete Information," *Rand Journal of Economics*, 15: 171-96.
Mirrlees, J. (1971), "An exploration in the theory of optimum income taxation," *Review of Economic Studies* 38: 175-208.
4. Multilateral Contracting: Auctions and Mechanism Design (weeks 8-10)
BD, Chapter 7
Cremer, J. and R. McLean (1988), "Full Extraction of the Surplus in Bayesian and Dominant Strategy Auctions," *Econometrica* 56, 1247-1258.
d'Aspremont, C. and L. Gerard-Varet (1979), "Incentives and Incomplete Information," *Journal of Public Economics*, 11: 24-45.
Maskin, E. and J. Riley (1984), "Optimal Auctions with Risk-Averse Buyers," *Econometrica* 52(6): 1473-1518.
Milgrom, P. and R. Weber (1982), "A Theory of Auctions and Competitive Bidding," *Econometrica* 50(5):1089-1122.
Myerson, R. (1981), "Optimal Auction Design," *Mathematics of Operations Research*, 6: 58-73.
Myerson, R. and M. Satterthwaite (1983), "Efficient Mechanisms for Bilateral Trading," *Journal of Economic Theory*, 29: 265-281.

5. Dynamic Adverse Selection: Renegotiation (weeks 11-13)

BD, Chapter 9

Dewatripont, M. (1989), "Renegotiation and Information Revelation over Time: The Case of Optimal Labor Contracts," Quarterly Journal of Economics, 104: 589-619.

Diamond, D. (1989), "Reputation Acquisition in Debt Markets," Journal of Political Economy, 97(4), 828-62.

Hart, O. and J. Tirole (1988), "Contract Renegotiation and Coasian Dynamics," Review of Economic Studies, 55: 509-540.

Laffont, J.-J. and J. Tirole (1988), "The Dynamics of Incentive Contracts," Econometrica, 56(5): 1153-1175.

Townsend, R. (1982), "Optimal Multiperiod Contracts and the Gain from Enduring Relationships under Private Information," Journal of Political Economy, 90, 1166-86.

Required readings for each topic are printed in **bold** font.

Please note that this is a tentative list of topics, and that both the course outline and the list of readings may be updated during the term.

Evaluation

There will be three components to your grade:

Component	Date	Weight
Assignments	TBA	15%
Midterm Exam	March 3	20%
Final Exam	TBA	65%

The weight of the midterm will be shifted to the final if this results in a better overall grade.

Assignments:

There will be several assignments, covering all major topics of the course. If you receive help from any source (book, another person, website) you must cite it on your assignment. Failure to cite could be construed as academic dishonesty. You will have at least one week to complete each assignment. While you are encouraged to cooperate solving the assignments, I expect the answers that are handed in to reflect students' individual contributions. Late assignments will not be accepted. The assignment with the lowest mark will not be used in the calculation of your overall grade. Some answer keys may be posted on Canvas, and the assignments will be discussed in class.

Exams:

There will be an 80-minute midterm exam and a 180-minute final. Exams will be cumulative and test your understanding of the subject material and your ability to analyse and formulate solutions to specific problems. The assignments are intended to assist you in the preparation for the exams, but note that exam questions are typically different from assignment questions. The exams are closed book. No electronic devices will be permitted during the exams, with the exception of simple calculators.

Missed Components:	If assignments or the midterm exam cannot be completed for a justifiable reason, it may be possible to make alternative arrangements <i>prior to</i> the due date at the instructor's discretion. If no such arrangements are made and the component is missed, a grade of 0 will be assigned, unless the student provides written documentation of circumstances beyond his or her control that prevented him or her from completing the assignment on time. (This documentation typically takes the form of a doctor's note.)
Attendance:	University policies apply. Regular attendance is recommended.
Grading System:	See https://students.usask.ca/academics/grading/grading-system.php for a description of the percentage grading system used in this course.

Other Information

Recording of the Course

Students will be allowed to record lectures if they provide a reasonable rationale and if there are no objections by other students.

Copyright

Course materials are provided to you based on your registration in a class, and anything created by your professors and instructors is their intellectual property and cannot be shared without written permission. If materials are designated as open education resources (with a creative commons license) you can share and/or use in alignment with the CC license. This includes exams, PowerPoint/PDF slides and other course notes. Additionally, other copyright-protected materials created by textbook publishers and authors may be provided to you based on license terms and educational exceptions in the Canadian Copyright Act (see <http://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>).

Before you copy or distribute others' copyright-protected materials, please ensure that your use of the materials is covered under the University's Fair Dealing Copyright Guidelines available at <https://library.usask.ca/copyright/general-information/fair-dealing-guidelines.php>. For example, posting others' copyright-protected materials on the open web is not covered under the University's Fair Dealing Copyright Guidelines, and doing so requires permission from the copyright holder. For more information about copyright, please visit <https://library.usask.ca/copyright/index.php> where there is information for students available at <https://library.usask.ca/copyright/students/rights.php>, or contact the University's Copyright Coordinator at <mailto:copyright.coordinator@usask.ca> or 306-966-8817.

Integrity Defined (from the Office of the University Secretary)

The University of Saskatchewan is committed to the highest standards of academic integrity (<https://academic-integrity.usask.ca/>). Academic misconduct is a serious matter and can result in grade penalties, suspension, and expulsion.

Prepare for Integrity

Students are expected to act with academic integrity.

- Students are encouraged to complete the Academic Integrity Tutorial to understand the fundamental values of academic integrity and how to be a responsible scholar and member of the USask community (tutorial link: <https://libguides.usask.ca/AcademicIntegrityTutorial>).
- Students can access campus resources that support development of study skills, time and stress management, and ethical writing practices important for maintaining academic integrity and avoiding academic misconduct.

Responses to Misconduct

Students are expected to be familiar with the academic misconduct regulations (<https://governance.usask.ca/student-conduct-appeals/academic-misconduct.php#About>).

- Definitions appear in Section II of the academic misconduct regulations.
- The academic misconduct regulations apply regardless of type of assessment or presence of supervision during assessment completion.
- Students are advised to ask for clarification as to the specific expectations and rules for assessments in all of their courses.
- Students are urged to avoid any behaviour that could result in suspicions of cheating, plagiarism, misrepresentation of facts. Students should note that posting copyrighted course materials (e.g., notes, questions, assignments or exams) to third party websites or services or other forum or media without permission is an academic or non-academic misconduct offense.

Non-academic offenses are dealt with under the Standard of Student Conduct in NonAcademic Matters and Regulations and Procedures for Resolution of Complaints and Appeals.

Examinations with Access and Equity Services (AES)

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Access and Equity Services (AES) if they have not already done so. Students who suspect they may have disabilities should contact AES for advice and referrals at any time. Those students who are registered with AES with mental health disabilities and who anticipate that they may have responses to certain course materials or topics, should discuss course content with their instructors prior to course add / drop dates. In order to access AES programs and supports, students must follow AES policy and procedures. For more information or advice, visit <https://students.usask.ca/health/centres/access-equity-services.php>, or contact AES at 306-966-7273 or aes@usask.ca.

Students registered with AES may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through AES by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by AES.

For information on AES services for Fall 2021 please visit:

<https://students.usask.ca/health/centres/access-equity-services.php#Fall2021Information>

Student Supports

Academic Help for Students

The University Library offers a range of learning and academic support to assist USask undergrad and graduate students. For information on specific services, please see the Learning page on the Library web site <https://library.usask.ca/support/learning.php>.

Remote learning support information <https://students.usask.ca/remote-learning/index.php>

Class and study tips <https://students.usask.ca/remote-learning/class-and-study-tips.php>

Remote learning tutorial https://libguides.usask.ca/remote_learning

Study skills materials for online learning <https://libguides.usask.ca/studyskills>

A guide on netiquette, principles to guide respectful online learning interactions
<https://teaching.usask.ca/remote-teaching/netiquette.php>

Teaching, Learning and Student Experience

Teaching, Learning and Student Experience (TLSE) provides developmental and support services and programs to students and the university community. For more information, see the students' web site <http://students.usask.ca>.

Financial Support

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact Student Central (<https://students.usask.ca/student-central.php>).

Aboriginal Students' Centre

The Aboriginal Students' Centre (ASC) is dedicated to supporting Aboriginal student academic and personal success. The centre offers personal, social, cultural and some academic supports to Métis, First Nations, and Inuit students. The centre is also dedicated to intercultural education, bringing Aboriginal and non-Aboriginal students together to learn from, with and about one another in a respectful, inclusive and safe environment. Students are encouraged to visit the ASC's Facebook page (<https://www.facebook.com/aboriginalstudentscentre/>) to learn more.

International Student and Study Abroad Centre

The International Student and Study Abroad Centre (ISSAC) supports student success and facilitates international education experiences at USask and abroad. ISSAC is here to assist all international undergraduate, graduate, exchange and English as a Second Language students in their transition to the University of Saskatchewan and to life in Canada. ISSAC offers advising and support on matters that affect international students and their families and on matters related to studying abroad as University of Saskatchewan students. Please visit students.usask.ca for more information.