

# ECO351: Special Topics in Economics Principles of Fair Decisions

University of Toronto, Fall 2022

<https://q.utoronto.ca/courses/280074>

Syllabus version: September 6, 2022

Lectures: Thu 10 AM – 12 PM, OI 5170

Instructor: Gabriel Carroll, [gabriel.carroll@utoronto.ca](mailto:gabriel.carroll@utoronto.ca)

Office hours: Tue 4 – 6 PM, GE 306

Tutorials: Fri 1 – 2 PM, OI 5170

TA: Alimohammad Faraji, [alim.faraji@mail.utoronto.ca](mailto:alim.faraji@mail.utoronto.ca)

Office hours: TBA

## Overview

**What the class is about:** This is a class on *distributive justice*: how to fairly balance conflicting interests.

This topic broadly encompasses two kinds of questions. There are questions of “micro” fairness, or fair decision-making in specific, everyday situations:

- A group of friends are sharing an apartment with unequal-sized rooms. How should they divide the rent?
- A pharmacy doesn’t have enough of a drug to fill all its patients’ prescriptions. How should it decide how much each patient gets?

And there are questions of “macro” fairness—what constitutes a fair society or world:

- In measuring the overall well-being of a society, how do we weigh the luxury of the rich—or the affluence of the middle—compared to a small improvement in well-being for the poor?
- How should we trade off the enjoyment of people currently living against the harms that our environmental damage imposes on future generations?

Much of this subject matter lies at the intersection of economic theory and moral philosophy. This class will take the economic perspective, which focuses on developing

mathematically precise criteria to capture our notions of fairness. A central tool is the *axiomatic approach*: the idea of writing down principles to ensure judgments are made consistently across similar scenarios, and then understanding the logical implications of those principles.

For many of the questions we study—especially the more macro-scale questions—there will often be no prescribed answers. But we will learn to think about the questions in a systematic way and to recognize inevitable tradeoffs between different principles.

**Course objectives:** Students will:

- Recognize various kinds of situations that require judgments about distributive justice.
- Be acquainted with classic dilemmas in which different principles of distributive justice conflict.
- Develop the habit of approaching fairness questions by seeking to formulate principles to apply across a class of situations.
- Be familiar with the mathematical expression of fairness principles via the axiomatic approach.
- Be familiar with some of the classic solutions that economic theory has proposed for problems of distributive justice, and the arguments that justify them.

**Format:** This class will take place through both lectures and tutorials.

The essential content of the course will be covered in lectures. Although there will not be graded activities in lecture, you are strongly urged to attend consistently; past students have reported that attending lectures is valuable.

Tutorials will be used for more in-depth discussions, for background material, and for review of homework problems; you are highly encouraged to come to them to strengthen your understanding.

**Reading:** The main written resource for this class is the lecture notes. These will be posted on the Quercus site before each lecture. Currently the notes exist in bullet-point summary form, and I am planning to rewrite them in a more independently readable, book-like form, but it is possible I won't get through rewriting all of them. The lecture

notes are meant to correspond closely to the content of the lectures. Reading them will be helpful to solidify your understanding and to fill in details that may be glossed over in lecture.

You will be held responsible for content covered in lectures and in problem sets. There may be some sections of the written lecture notes that we don't end up covering in lecture; if so, you will not be responsible for these.

In addition to the lecture notes, you will likely find it useful to have other sources to follow for alternative perspective. There are three suggested textbooks:

- Hervé Moulin, *Fair Division and Collective Welfare*, MIT Press, 2003 (FDCW).
- H. Peyton Young, *Equity in Theory and Practice*, Princeton University Press, 1994 (ETP).
- Hervé Moulin, *Axioms of Cooperative Decision Making*, Cambridge University Press, 1988 (ACDM).

Officially, FDCW is “recommended” and the others are “optional.” In practice, what this means is that I have tried to roughly follow the notation and vocabulary of FDCW, so that you can follow along in it without too much adjustment back and forth. That said, you may prefer one or another book depending on your taste. FDCW addresses the largest share of the subject matter of the course. ETP offers numerous engaging real-world examples, and you may find the organization clearer. ACDM is more advanced and goes into much more mathematical detail.

Several of the topics treated in the class are not covered in FDCW (nor in the other books), and for these, we will have articles linked from the Quercus site.

## Policies and procedures

**Health and safety:** As of this writing, classes are in-person, but we are still living in a pandemic. You are strongly encouraged to make efforts to protect the health of your fellow students and instructors. Continued mask-wearing is encouraged. If you are feeling unwell or have recently tested positive, please stay home; lectures will be recorded so that you can do so without completely missing material.

As the public health situation continues to evolve, relevant University policies, such as vaccine and masking rules, may also change. Everyone will be expected to stay informed

and abide by current policies. The site <http://utoronto.ca/utogether> provides up-to-date information. Even if some new restrictions become necessary, it is not expected that the University will go all the way back to canceling in-person classes, but if that does happen, we will switch to Zoom accordingly.

**Recordings:** Class sessions, including students' participation, will be recorded (see "Health and safety" above). These recordings are property of the University of Toronto and may not be copied or shared without the explicit permission of the instructor. Do not make your own recordings of the class. For questions about recording and use of videos that contain your image or voice, please contact the instructor.

**Prerequisites:** The formal prerequisite for this course is ECO200 (minimum mark 63%), ECO204 (63%), or ECO206 (50%). The Department of Economics firmly enforces prerequisites and removes students who do not meet them.

**Assignments and grading:** There will be three kinds of assignments:

- **Problem sets: 28%.** There will be 8 of these, assigned weekly, with the first one distributed on Sep 22. These will be a mix of mathematical problems and open-ended verbal questions. They will be coarsely graded. The lowest problem set grade will be dropped, and the other 7 counted for 4% each.
- **Term paper: 32%.** You will pick a problem in distributive justice that is not already covered in this course, and make inroads on thinking about it. You do not have to reach a definite solution to the problem you study. A short, informal proposal (worth 2% out of the 32%) will be due on Oct 27, and the paper itself will be due on Dec 7. More detailed instructions will be given later.
- **Final exam: 40%.** The exam will be open-book. Content will be similar to the problem set questions. Last semester's exam will be made available for practice.

You are encouraged to collaborate with other students to solve the homework problems, but you must write up your solutions independently.

**Late work and extensions:** Late problem sets will receive a mark of zero. You are advised to submit problem sets early to avoid unexpected setbacks. (The drop-one problem set policy will also provide some protection.)

For the term paper, late submissions will be accepted, but they will be penalized by 25 percentage points for each day or part-day of lateness. (Thus, if your submission is more than three days late, it will receive a score of zero.)

If you foresee a reason why a deadline extension will help you write a significantly better paper, you can request such an extension. The request should be made at least a week before the original deadline, and there should be no presumption that your request will be granted.

If you miss a deadline due to a genuine emergency that calls for exceptional consideration under University policy, then you should email the instructor and TA by the deadline and also use the Absence Declaration tool in ACORN.

**Regrade policy:** Requests for regrades on problem sets and papers will be honored if (a) made in writing, with a clear and plausible reason specified, and (b) made within two weeks after the assignment has been returned. The relevant assignment will be regraded in its entirety, so the grade may go either up or down. Submitting a regrade request entails an agreement to accept the new grade, whatever it turns out to be. Final exam regrades follow specific procedures that are set by the Office of the Faculty Registrar, including an initial step to schedule a viewing or request a copy of the graded exam.

**Academic conduct:** Don't plagiarize, and don't cheat. (Duh, right?)

These seemingly simple rules can be complex in practice. The University's Academic Integrity website at <http://academicintegrity.utoronto.ca> contains many helpful resources. These include the *Code of Behaviour on Academic Matters* which lays out standards for proper academic conduct and describes the procedures to handle cases of suspected misconduct, as well as practical strategies to avoid running into trouble.

This course uses the University's plagiarism detection tool, Ouriginal, for term papers. The standard disclaimer for this tool applies:

Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (<https://uoft.me/pdt-faq>).

**Communication policy:** Announcements, either concerning course content or administration, will be made via Quercus.

You are encouraged to post questions, either about content or about procedure, on the discussion forum, also on Quercus. This way, other students who might be interested can see the answers, and everyone can contribute to answering questions. Your feedback—such as suggestions for new topics, or mistakes you find in the lectures notes or textbooks—will be very valuable for future semesters.

If you have an issue that is specific to you and does not warrant public discussion, you can raise it by email. I will typically respond to time-sensitive concerns within one business day. Please use your UofT email address. Include the course number ECO351 in the subject line, and your name and student number somewhere in the message.

**Diversity:** The University of Toronto brings together people from a wide range of backgrounds and cultures. This diversity enriches and strengthens us. Accordingly, it is important for this course—as elsewhere at the University—to maintain an atmosphere that is respectful and welcoming to the participation of all members of the community. Be sensitive to how comments in class discussion might be perceived by others. The University does not condone discrimination or harassment based on personal characteristics. Positive suggestions for how to make the class more inclusive are appreciated.

**Accommodation:** Students with diverse learning styles and needs are welcome in this course. If you need accommodation for an ongoing health issue or disability, you should register with Accessibility Services, <http://studentlife.utoronto.ca/as> .

## Week-by-week schedule

The content of the lectures will aim to follow the schedule below. In practice, there will probably be minor adjustments.

As noted above (see under “Readings”), the main reading source will be lecture notes. However, this schedule also lists, for each topic, the relevant sections from the suggested textbooks, if any. Note that FDCW also has a short final chapter that concisely summarizes the mathematical definitions and results for each of the other chapters. For the topics not covered in the books, the schedule lists relevant articles, which will be linked from the Quercus website.

Lectures will not assume that you have done the relevant reading beforehand; some students find it more efficient to read on a topic after lecture rather than before. However, you would be wise not to fall behind by multiple weeks.

- Sep 8: Course intro; claims problems
  - FDCW: 2.1–3, 2.5
  - ETP: 4.1–3, 4.5–7, 4.10, A.5
  - ACDM: 6.1–5 (may be easier to understand after doing the next week’s reading first)
- Sep 15: Claims problems (continued); cost-sharing problems
  - FDCW: 5 (entire chapter)
  - ETP: 5.1–7, A.6
  - ACDM: 4.1, 5.1–3
- Sep 22: Cost-sharing problems (continued)
- Sep 29: Fair division
  - FDCW: 7.4–6
  - ETP: 9.1–8, A.8
- Oct 6: Fair division (continued)
- Oct 13: Discrimination and algorithmic fairness
  - Jon Kleinberg, Sendhil Mullainathan, and Manish Raghavan, “Inherent Trade-offs in the Fair Determination of Risk Scores,” *Innovations in Theoretical Computer Science*, 2017  
(read section 1; later sections are not so important)
  - Optional additional reading: Sam Corbett-Davies and Sharad Goel, “The Measure and Mismeasure of Fairness: A Critical Review of Fair Machine Learning,” 2018, arXiv preprint
- Oct 20: Voting, social choice
  - FDCW: 4.1–2, 4.4, 4.6

- ETP: 2.6, A.3
- ACDM: 9.1, 9.3, 10.2, 11.1–2, 11.6
- Oct 27: Cardinal welfare: utilitarianism, egalitarianism
  - FDCW: 3.1–5
  - ACDM: 1 (entire chapter), 2.1–5
- Nov 3: Cardinal welfare (continued): inequality
- [Nov 10: Reading week; no classes]
- Nov 17: Population ethics
  - Hilary Greaves, “Population Axiology,” *Philosophy Compass*, 2017 (can skip section 5)
  - Yew-Kwang Ng, “What Should We Do about Future Generations?” *Economics and Philosophy* 5, 1989: 235–253 (can read up through Section II; later sections are inessential)
  - Optional additional reading: Charles Blackorby, Walter Bossert, and David Donaldson, “Critical-Level Utilitarianism and the Population-Ethics Dilemma,” *Economics and Philosophy* 13, 1997: 197–230
- Nov 24: Intergenerational equity
  - Hilary Greaves, “Discounting for Public Policy: A Survey,” *Economics and Philosophy* 33, 2017: 391–439 (can skip sections 8–9 and 11–12; key ideas are in sections 6, 7, 10)
  - Optional additional reading: Martin Weitzman, “Why the Far-Distant Future Should Be Discounted at Its Lowest Possible Rate,” *Journal of Environmental Economics and Management* 36, 1998: 201–208
- Dec 1: Compensation and responsibility
  - John E. Roemer and Alain Trannoy, “Equality of Opportunity: Theory and Measurement,” *Journal of Economic Literature* 54(4), 2016: 1288–1332 (read sections 1–4)

- Xavier Ramos and Dirk Van de gaer, “Approaches to Inequality of Opportunity: Principles, Measures, and Evidence,” *Journal of Economic Surveys* 30(5), 2016: 855–883 (read sections 1–2)
- Optional additional reading: Marc Fleurbaey, “Three Solutions for the Compensation Problem,” *Journal of Economic Theory* 65, 1995: 505–521 (can focus on sections 1–3; later sections are increasingly technical)

The final exam will be scheduled later. The Office of the Faculty Registrar is in charge of scheduling for all in-person final exams.