ECO351: Special Topics in Economics
Principles of Fair Decisions
University of Toronto, Winter 2022
`https://q.utoronto.ca/courses/250902`

Syllabus version: February 11, 2022

Lectures: Wed 10 AM – 12 PM, VC 115
Instructor: Gabriel Carroll, `gabriel.carroll@utoronto.ca`
Office hours: Tue 4–6 PM, GE 306

Tutorials: Fri 11 AM – 12 PM, VC 115
TA: Jeremy Rubinoff, `jeremy.rubinoff@mail.utoronto.ca`
Office hours: Thu 11 AM – 12 PM, location TBA

1 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 lectures and tutorials. Initially, like everything else, these will be conducted on Zoom (the meeting information will be listed on the course website). It is currently expected that the university will return to in-person operations after a few weeks; if and when that happens, this class will shift accordingly.

Although there will not be graded activities in lectures, you are strongly urged to attend every class, and you will be responsible for material that is covered in lecture.

The essential content of the course will be covered in lectures. 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: There is no perfect textbook for this course—which is why coming to lecture is important! You will be held responsible for content covered in lectures and in problem

sets. I will post notes on the Quercus site before each lecture. These notes will be reasonably detailed but not exhaustive.

All that said, you will almost certainly want to follow a textbook for more detailed coverage. The main official text is

- Hervé Moulin, *Fair Division and Collective Welfare*, MIT Press, 2003 (FDCW).

There are two other suggested textbooks:

- 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 the "required" textbook and the others are "optional." In practice, what this means is that the lectures will be geared toward someone who is following along in FDCW. That said, you are welcome to use one of the other books in addition (or instead), depending on your style preferences. 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. To the extent that any of the books cover material that is not discussed in lecture, you will not be held responsible for this content.

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.

2 Policies and procedures

Recordings: Class sessions conducted online will typically be recorded. These recordings are property of the University of Toronto and may not be shared without the explicit permission of the instructor. Do not make your own recordings of the class.

Health and safety: Assuming that the public health situation eventually allows a return to in-person classes, we will do so. When this occurs, it is essential to continue to make efforts to protect the health of your fellow students and instructors. Everyone will be expected to abide by the University's policies on vaccination, mask-wearing in indoor spaces, and other relevant requirements. More information is available at `http://utoronto.ca/utogether` .

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 Jan 26. 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 develop an approach for thinking about it. You do not have to come to firm conclusions. A short, informal proposal (worth 2% out of the 32%) will be due on Mar 9, and the paper itself will be due on Apr 8. More detailed instructions will be given later.

- **Final exam: 40%.** The default plan is that this exam will be held in-person, but if in-person activities do not resume then it will be held as an online assessment instead. In either case, the exam will be open-book. Content will be similar to the problem set questions. A practice exam will be posted near the end of term.

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 be marked down by 25 percentage points if submitted within 24 hours of the original due time, and otherwise will receive a mark of zero. (The drop-one problem set policy should also help protect you against unexpected difficulties.)

For the term paper, by default the same policy will apply. However, 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 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.

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.

We will have a class discussion forum on Piazza. Sign up at:

> `http://piazza.com/utoronto.ca/winter2022/eco351h1slec0101`

You are encouraged to post questions, either about content or about procedure, on the discussion forum; 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 textbooks or lecture notes—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 either by asking privately on Piazza or by email. I will typically respond to time-sensitive concerns within one business day. If emailing, 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` .

3 Week-by-week schedule

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

For each topic, this schedule lists the relevant sections from each of the three textbooks (see under "Readings" above). Note that FDCW has a final chapter that concisely summarizes the mathematical definitions and results for each of the other chapters; you may find it useful to refer to throughout the course.

For the topics not covered in the books, the articles mentioned will be linked from the Quercus website.

Lectures will not assume that you have done the 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.

- Jan 12: Course intro; rationing / 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)

- Jan 19: Claims problems; cost-sharing problems

    - FDCW: 5 (entire chapter)
    - ETP: 5.1–7, A.6
    - ACDM: 4.1, 5.1–3

- Jan 26: Cost-sharing problems (continued)

    - (Continue readings from previous week)

- Feb 2: Cost-sharing, surplus-sharing; fair division

    - FDCW: 7.4–6
    - ETP: 9.1–8, A.8

- Feb 9: Fair division (continued)

    - (Continue from previous week)

- Feb 16: Fair division (continued)

    - (Continue from previous week)

- [Feb 23: Reading week; no classes]

- Mar 2: 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

- Mar 9: Cardinal welfare: utilitarianism, egalitarianism

    - FDCW: 3.1–5
    - ACDM: 1 (entire chapter), 2.1–5

- Mar 16: Inequality; 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

- Mar 23: Population ethics; intergenerational equity

  - Articles TBA

- Mar 30: 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: 855–833 (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)

- Apr 6: 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 Fainess: A Critical Review of Fair Machine Learning," 2018, arXiv preprint

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