

# ECON 391, Equilibrium in Market Economies

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Winter 2021, Waterloo

- **Course Materials on LEARN:** I will post class announcements, assignments and other relevant material on the [Desire2Learn](#) network. Students are responsible for staying updated with the material posted on LEARN.
- **Textbook:** There is no textbook for this class. I have put together my own notes, which are posted on LEARN. If you want additional material, the topics from class are typically covered by standard intermediate microeconomics textbooks (that use calculus). You may want to read other sources than my notes because (a) they can provide a different perspective on the material, (b) they may devote more space to discussions and examples, whereas my notes are more focused on the theoretical models that my problem set questions ask you to work with, and (c) they offer additional exercises and practice problems. Here is a non-exhaustive list of standard microeconomics textbooks.

– Varian, H., *Intermediate Microeconomics*.

– Eaton, B.C., Eaton, D.F. and D.W. Allen, *Microeconomics: Theory with Applications*.

– Perloff, J.M., *Microeconomics: Theory and Applications with Calculus*.

- **Video Lectures:** I will post video lectures on LEARN. My lecture notes are what I would have written on the board and talked about if we were able to meet in person. Therefore, because I am giving you direct access to these notes, I will not be recording lectures just to read them back to you on video.

Other than some “big picture” lectures that I will record to introduce the material, **the topics for the video lectures will have to come from you**. One of the discussion boards on LEARN is dedicated to this. On this board you can ask me questions, which I will collect and record answers to (at least as many of them as I can). **If you keep your**

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**questions until the last minute, say the day before an exam, then it will be impossible for me to record answers to help you in a timely fashion.**

For the video lectures, you can ask me specific questions about the lecture notes (e.g., “on p.X I do not understand step Y or definition Z”), or broad questions about *why* we are doing something (e.g., “what is the theoretical point of concept X, or how would this concept be useful to study social science problem Y?”), or questions about specific exercises in the problem sets.

I usually learn a lot about how students in my class are progressing from the questions and discussions that arise during lectures, and in turn those conversations make the course more responsive to students’ needs and interests. In the absence of face-to-face meetings, the point of this interactive way of producing video lectures is to replicate some of the back-and-forth that makes courses more interesting for all of us.

- **Office Hours:** I will be holding office hours **every Monday 10-11h30** and **every Thursday 10-11h30**. These will be in my Webex room, and the link will be on LEARN. There may be some adjustments to these times around exams, and these will be announced on LEARN.
- **Topics:** From the university calendar: Central to the study of economics is the concept of an equilibrium in which the actions of individuals are not only individually optimal, but are also consistent with each other; such as when the total amount of a good that individuals wish to purchase equals the total amount available. This course introduces students to the notion of equilibrium for a market and market economy. The properties of such equilibria are explored, both in terms of model logic (existence, uniqueness) as well as in terms of the desirability of the equilibrium outcomes (efficiency, welfare). Partial equilibrium (in a single market) as well as general equilibrium (in all markets at once) are covered for models with endowments, production, uncertainty, and time.

The topics I will cover are as follows.

- i. Exchange economies
  - (a) Endowments
  - (b) Competitive equilibrium
  - (c) Application: intertemporal consumption and interest rates
- ii. Welfare
  - (a) Pareto efficiency
  - (b) First Welfare Theorem
  - (c) Second Welfare Theorem

- (d) Application: taxes and inefficiency
- iii. Production economies
  - (a) Competitive equilibrium
  - (b) Pareto efficiency and welfare theorems
  - (c) Application: “general” versus “partial” equilibrium
- iv. Markets under uncertainty
  - (a) Competitive equilibrium
  - (b) Pareto efficiency and welfare theorems
  - (c) Application: insuring against aggregate and idiosyncratic risk

• **Evaluation:** There will be nine assignments, two midterms and a final exam.

- i. Assignments are worth 15% of the final grade, and their aim is to make sure you know how to answer the types of questions that will be on the exams. There will be one assignment per week, except for the weeks before exams, because I want you to have about two weeks with access to the solutions to the problems that are subject to examination. Each exam will have a problem set attached to it. For your assignments, you will need to choose one question from the problem set to answer, then submit your solution to the relevant dropbox on LEARN. Assignments are graded on a 0-1 basis. I will only count your best eight assignments, and your total points on all assignments, expressed out of 15 (instead of 8), will be the mark that goes into your final grade.
- ii. Each midterm is worth 25% of the final grade. These are take-home exams: they will be posted on LEARN and you will have 24 hours to complete the exam and upload your solutions to the relevant dropbox on LEARN.
- iii. The final exam is worth 35% of the final grade. It is also a take-home exam which you will have 24 hours to complete. The exam will be held during the exam period and it will be scheduled by the Registrar’s Office.

Here is a detailed schedule of due dates.

- Assignment 1: Answer one question from the Problem Set for Midterm 1. Due date: Friday Jan. 15, 17h00 (all times in Eastern Time).
- Assignment 2: Answer one question from the Problem Set for Midterm 1. Due date: Friday Jan. 22, 17h00.
- Assignment 3: Answer one question from the Problem Set for Midterm 1. Due date: Friday Jan. 29, 17h00. Solutions for the Problem Set for Midterm 1 will be distributed now.

- Midterm 1: exam posted on LEARN at 9h00 on Thursday Feb. 11 and your copy is due before 9h00 on Friday Feb. 12. Midterm 1 will cover the material from part i of the Topics listed above.
  - Assignment 4: Answer one question from the Problem Set for Midterm 2. Due date: Friday Feb. 26, 17h00.
  - Assignment 5: Answer one question from the Problem Set for Midterm 2. Due date: Friday Mar. 5, 17h00.
  - Assignment 6: Answer one question from the Problem Set for Midterm 2. Due date: Friday Mar. 12, 17h00. Solutions for the Problem Set for Midterm 2 will be distributed now.
  - Midterm 2: exam posted on LEARN at 9h00 on Monday Mar. 22 and your copy is due before 9h00 on Tuesday Mar. 23. Midterm 2 will cover the material from part ii of the Topics listed above.
  - Assignment 7: Answer one question from the Problem Set for Final. Due date: Friday Mar. 26, 17h00.
  - Assignment 8: Answer one question from the Problem Set for Final. Due date: Thursday Apr. 1, 17h00.
  - Assignment 9: Answer one question from the Problem Set for Final. Due date: Friday Apr. 9, 17h00. Solutions for the Problem Set for Final will be distributed now.
- **Policy on Missed/Late Assignments and Tests:** Late assignments will not be marked and will receive a grade of zero. No make-up tests will be provided for the midterms. Students who miss a midterm and do not have a relevant medical certificate will receive a mark of zero. Students with a valid medical certificate will have the weight of the relevant midterm added to their final exam. If a student misses the final exam, the resulting procedure is outlined in the Economics department's [Deferred Final Exam Policy](#).
  - **Cross-listed course:** Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSCI cross-list will count in a Philosophy major average, even if the course was taken under the Political Science rubric.
  - **Academic Integrity:** In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. See the [UWaterloo Academic Integrity](#) webpage and the [Arts Academic Integrity](#) webpage for more information.
  - **Discipline:** A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student

who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 - Student Discipline. For information on categories of offenses and types of penalties, students should refer to [Policy 71 - Student Discipline](#). For typical penalties check [Guidelines for the Assessment of Penalties](#).

- **Grievance:** A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70 - Student Petitions and Grievances](#), Section 4. When in doubt, please be certain to contact the department’s administrative assistant who will provide further assistance.
- **Appeals:** : A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 - Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to [Policy 72 - Student Appeals](#).
- **Note for students with disabilities:** The [AccessAbility Services \(AS\) Office](#), located on the first floor of the Needles Hall extension (1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.