

University of Waterloo
Department of Economics
Econ 391
Equilibrium in Market Economies
Fall 2020
remote delivery

Instructor Information

Instructor: Lutz-Alexander Busch
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Notes on contacting the instructor

When sending email, please use your official uwaterloo account and have ECON 391 in the subject line. It is generally a good idea to also have a signature line for your email that includes your full name and student ID. Please treat email correspondence as a somewhat formal venue of communication. Email is not a SMS.

Course Description

Central to the study of economics is the concept of equilibrium. This is a situation in which the actions of individuals are not only individually optimal, but are also consistent with each other. This course introduces students to the notion of equilibrium for a single market and for a 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) is covered for models with endowments, production, uncertainty, and time.

Prerequisite: ECON 290 Please note that Econ 290 material is an essential background for this course and is **assumed**. If you had struggles in 290 you may want to review that course material during the first week while doing assignment 1.

Course Goals and Learning Outcomes

The main objective of the course is for students to gain an understanding and appreciation of what an equilibrium in economic models entails. Students will be able to derive equilibria for simple example economies in the standard settings. Students will gain awareness of questions of uniqueness and existence of equilibria. Students will be able to explain welfare properties of equilibria and verify them.

Required Text

- No formal text.

Most books with “Microeconomic Theory” in the title will cover many if not all of the topics discussed. However, many undergraduate texts do not employ mathematical techniques consistent with Econ 290 in the treatment of these topics, and they usually do not cover all of the topics we cover either – some being relegated to more advanced texts, others to texts in macro-economics. Nevertheless, any micro economics book can be a valuable alternate and supplementary view into the material we will cover.

Material Available on LEARN

- Lecture notes. Given the online/remote format of the course, lecture notes will be posted on LEARN. These will be updated/expanded as the course develops. As additional sections are completed I will announce new versions and indicate the current date when posting so you can keep track of changes. I will point out major revisions should there be any. Spelling corrections, etc will not be listed separately.
- Assignments and detailed assignment solutions.
- Video office hours/mini-lectures: I will post recordings of scheduled office hour/tutorial sessions. As the need arises (based on feedback and demand) I can also post short videos explaining material that seems to generate particular questions/confusion.

Course Requirements and Assessment

Assessment	Date of Evaluation (if known)	Weighting
Assignments: 7	Roughly every two weeks	21
LEARN quiz : best 5 of 6	Sep 16,30; Oct 21; Nov 4,18; Dec 2	25
Midterm; 24 hr window take home	October 28	25
Final Exam; 24 hr window take home	December exam period	29
Total		100%

There will be no adjustments to the above grading scheme. Especially not for an individual student.

Assignments

Assignments will be due as announced on Learn, submitted to a dropbox. Late assignments are not accepted. Due to the extended time for completion, medical notes will usually not be accepted. Assignments will be marked on a 0-1-2-3 scale (missing, partially attempted, complete attempt, well done). Assignments will not be marked with detailed comments. Detailed answers to assignments are posted. Please work through the answers and then ask for further explanations as required.

Quiz

These are short timed tests of the material of the last couple of classes. Precise format to be determined and may vary depending on topics. Administered on LEARN as a time-limited one attempt Quiz. A VIF will only be accepted for a long term illness leading to multiple quizzes being missed – in which case it may be best to withdraw from the course.

Midterm and Final Exam

Open book, no other aids, type of exams with a 24 hour turn-around time. The final will be scheduled by the Registrar's office during the final examination period (December 9 to 23 inclusive.) You should by now be familiar with the deferred final exam policy of the department.

Course Outline

Part	Topic	Topic Title
I		From Individual demand/supply to Market demand/supply
	1.	Properties of consumer demand/supply
	1.a	Price Effects
	1.b	Income Effects
	1.c	The Slutsky equation
	1.d	Welfare: Compensating and Equilibrating variation
	2.	Demand aggregation
	2.a	Market Demand
	2.b	Properties wrt price and income
	2.c	Welfare interpretation
	2.d	The representative consumer
	3	Firm Supply properties
	4	Firm Supply aggregation
II		Partial Equilibrium
	1	Definition
	2	Existence and Uniqueness
	3	Welfare – Pareto Optimality
III		General Equilibrium
	1.	Walrasian Equilibrium
	1.a	Definition; Implications of Walras' Law for solving
	1.b	Edgeworth Box
	1.c	2 states or 2 periods in an Edgeworth Box
	1.d	Robinson Crusoe economy
	1.e	Economies with many periods
	2.	Positive Properties
	2.a	Existence
	2.b	Uniqueness
	3.	Normative Properties – Welfare
	3.a	Pareto Optimality
	3.b	Fairness

Information on Plagiarism Detection

Assignments are meant as a learning opportunity. It is acceptable and sensible practice to work in study groups, and to discuss solution approaches. You can learn a lot from others – or by teaching others. However, assignments must be individually written and submitted. Obvious cases of “copying” will result in a zero grade. Assignments have to be handwritten in pen and scanned to a pdf file for submission.

Quiz, Midterm and Final exams are open book – you may consult the course notes and any study notes you have made. You may not consult other students or attempt to find solutions on the internet. Exams have to be handwritten, in pen, and scanned to a pdf file.

Institutional-required statements for undergraduate course outlines

Academic Integrity

In order to maintain a culture of academic integrity, members of the University of Waterloo community 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 offence, or who needs help in learning how to avoid offences (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](#) office, located on the first floor of the Needles Hall extension (NH 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.