

**University of Waterloo**  
**Department of Economics**  
**Econ 391**  
**Equilibrium in Market Economies**  
**Fall 2019**  
**16:00-17:20 MW, AL 113**

**Instructor Information**

Instructor: Lutz-Alexander Busch  
Office: HH 216  
Office Hours: M 13:00-14:00; W 14:00-15:00  
Email: lbusch@uwaterloo.ca

**NOTE: There is NO CLASS on October 28**

**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 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 two weeks and 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.

**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 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.

## Readings Available on LEARN

- Assignments and assignment solutions will be posted on LEARN.
- A 'Topic Guide' is posted on Learn - which is a very condensed presentation of key items. It is not meant to replace lecture attendance and the notes taken during lectures.
- Lecture notes ARE NOT posted, and are not available from the instructor. Class attendance and note taking are therefore of higher importance than usual. If you think you need to miss a class, be sure to arrange for a colleague to be willing to share notes with you.

## Course Requirements and Assessment

Assessment	Date of Evaluation (if known)	Weighting
Assignments (approx. 5)	TBA	10
In class quiz : Best 4 out of 5	Sep 11, 25; Oct 9, 30; Nov 11, 25	20
Midterm	October 30	30
Final Exam	TBA (December exam period)	40
Total		100%

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

## Assignments

Assignments will be due at the beginning of class on the due date. Late assignments are not accepted. Due to the extended time for completion, medical notes will usually not be accepted. Assignments are marked on a 0-1-2 scale (missing, partially attempted, completed). Detailed answers are posted.

## Quiz

These are very short (10 minutes) test of the material of the last couple of classes. A VIF will only be accepted for a long term illness leading to multiple quizzes being missed – in which case it is likely best to withdraw from the course, given the heavy reliance on class/lecture material.

## Midterm

The midterm is held in class, closed book, no aids of any kind. IF a VIF is accepted for the midterm, the weight will be moved to the Quiz (+10%) and Final exam (+20%).

## Final Exam

The final exam is cumulative and will test all of the material in the course. It is closed book, no aids. The final exam is scheduled by the Registrar's office during the final examination period (December 6 to 21 inclusive.) Travel plans are not an acceptable reason to reschedule a final exam. You should by now be familiar with the deferred final exam policy of the department.

## Course Outline

Part	Topic	Topic Title
<b>I</b>		<b>From Individual demand/supply to Market demand/supply</b>
	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
<b>II</b>		<b>Partial Equilibrium</b>
	1	Definition
	2	Existence and Uniqueness
	3	Welfare – Pareto Optimality
<b>III</b>		<b>General Equilibrium</b>
	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. However, assignments must be individually written and submitted. Obvious cases of “copying” will result in a zero grade.

## Electronic Device Policy

University policy prohibits a prohibition of laptop use in class, and some students are using tablets for notes. However: cell phones and other electronic devices are not welcome. **The recording of lectures (audio or video) is prohibited by University policy unless explicit permission has been given. The use**

**of photography is prohibited. This includes pictures taken with a cell phone.**  
**Please ensure your phones are set to silent (ideally to airplane mode) and are off your desk.**

### **Attendance Policy**

There is no attendance policy. It is your time and money, after all. However, missing a class does not excuse you from knowing what went on, nor does it imply that you might obtain a private catch up lesson. If you have to miss a class, please arrange access to the class notes with another student.

### **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.