

**University of Waterloo**  
**Department of Economics**  
**ECON 290**  
**Models of Choice in Competitive Markets**  
**Fall 2020**

### Instructor Information

Instructor: Alain-Desire Nimubona

Office Hours: via Bongo Virtual Classroom by appointment

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TA: TBA

TA Office Hours: via Bongo Virtual Classroom by appointment

### General Course Objective

Choice lies at the heart of all economic models. This course focuses on choice by consumers and firms. It explains the notion and use of utility functions and budgets, and shows how their interaction allows economists to make predictions about behaviour. The constrained maximization techniques from ECON 211 are used extensively, and extended to situations covering uncertainty (risk) and time. Profit maximization by firms is explored.

### Learning Outcomes

- Identify the consumer's and producer's problems
- Compare different models of the consumer theory
- Explain the optimal choice of economic agents
- Demonstrate the solutions via graphical tools
- Modify the models by changing the parameters
- Question other microeconomic problems by using the model we investigate.

### Course Materials

#### **Recommended Text:**

This course will be loosely based on ***'Intermediate Microeconomics: a Modern Approach' (9<sup>th</sup> edition) by Hal Varian, Norton 2014*** (previous editions should work too).

However, the topics are all covered by standard intermediate microeconomics textbooks (that use calculus). You may want to read through the relevant sections of some such textbooks because (a) it can provide a different perspective on material presented, (b) it has a more space devoted to discussions and examples, and (c) it serves as a source of exercises and practice problems. Here is a list of such textbooks:

- Osborne, M.J., and Rubinstein A., Models in Microeconomic Theory (open source).
- Eaton, B.C., Eaton, D.F. and D.W. Allen, Microeconomics: Theory with Applications.
- Perloff, J.M., Microeconomics: Theory and Applications with Calculus.

- Mochrie, R., Intermediate Microeconomics.
- Serrano, R., and Feldman A.M., A Short Course in Intermediate Microeconomics with Calculus.
- Goolsbee A., Levitt, S., and Syverson, C., Microeconomics.

The course should also be self-contained. Everything you need will be available on Learn.

**Readings Available on LEARN:**

Lecture slides, lecture videos, YouTube links to the lecture videos, exercises and their solutions and/or answers, chapter highlights, and assignment questions will be posted on LEARN. Although lecture slides are posted on LEARN, watching videos and note taking are of more importance than usual.

Course Requirements and Assessment

<b>Assessment</b>	<b>Weighting</b>
<i>Weekly Quizzes</i>	24%
<i>Assignments</i>	21%
<i>Midterm 1</i>	14%
<i>Midterm 2</i>	14%
<i>Final Exam</i>	27%
<b>Total</b>	<b>100%</b>

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

**For any assessment, please remember that:**

The University of Waterloo subscribes to the strictest interpretation of academic integrity. Faculty members and students bear joint responsibility in assuring that cheating on assignments or any examination is not tolerated.

**Students who engage in academic dishonesty will be subject to disciplinary action under Policy 71.**

**All assessments are protected by copyright. Reproduction or dissemination of any assessment or the contents or format of the assessment in any manner whatsoever (e.g., sharing the content with other students), without the express permission of the instructor, is strictly prohibited.**

By taking this course, every student affirms his/her/their agreement to the following statements:

- **I confirm that I will keep the content of any assessment confidential.**
- **I confirm that I have not received any unauthorized assistance in preparing for or writing of any assessment.**

- I confirm that I will not access the Internet or any other unauthorized resource in the writing of any assessment.
- I confirm that I will use only my own lecture notes, textbooks, and any other document provided by the instructor in the writing of any assessment.

**Weekly Quizzes:**

**Eight weekly quizzes** to be completed during the whole term through LEARN. Each quiz is 4% of the final grade. The best 6 quizzes will be chosen. You will have access to the quizzes for 48 hours (from 12:01 am on Monday to 11:59 pm on Tuesday) and once you start, you will have only one attempt and limited time.

	<i>Date</i>		<i>Date</i>	
<i>Quiz 1</i>	Sep 14, Mon – Sep 15, Tue	<i>Quiz 5</i>	Oct 26, Mon – Oct 27, Tue	
<i>Quiz 2</i>	Sep 21, Mon – Sep 22, Tue	<i>Quiz 6</i>	Nov 2, Mon – Nov 3, Tue	
<i>Quiz 3</i>	Sep 28, Mon – Sep 29, Tue	<i>Quiz 7</i>	Nov 23, Mon – Nov 24, Tue	
<i>Quiz 4</i>	Oct 19, Mon – Oct 20, Tue	<i>Quiz 8</i>	Nov 30, Mon – Dec 1, Tue	

**Assignments:**

**Three assignments** to be submitted through Dropbox on LEARN. You will have a problem set to solve. Each assignment is worth 7% of the final grade. **Late assignments will not be accepted.**

Assignments will be handed out one week in advance of the due date, while the material is covered in lectures.

	<i>Due date</i>
<i>Assignment 1</i>	Oct 23, Friday, 11:59 pm
<i>Assignment 2</i>	Nov 20, Friday, 11:59 pm
<i>Assignment 3</i>	Dec 4, Friday, 11:59 pm

**Midterms:**

**Two midterms** to be administered through LEARN. You will have access to the midterm for 48 hours (from 12:01 am on Thursday to 11:59pm on Friday) and once you start, you will have only one attempt and limited time. Details about the coverage of the midterms will be announced on LEARN.

	<i>Due date</i>
<i>Midterm 1</i>	Oct 8, Thursday, 12:01 am – Oct 9, Friday, 11:59 pm
<i>Midterm 2</i>	Nov 12, Thursday, 12:01 am – Nov 13, Friday, 11:59 pm

**Final Exam:**

The final exam will be cumulative and will test all of the material in the course. You will have access to the final exam for 48 hours and once you start, you will have only one attempt and limited time. Note that the final will not be rescheduled under any circumstances if both midterms have been missed. You should by now be familiar with the deferred final exam policy of the department.

	<b>Due date</b>
<i>Final Exam</i>	TBA

**Missing an Assessment:**

Due to the extended time for completion of the assessments, only medical notes that cover the entire period of the assessment will be accepted: for Quizzes, Midterms and Final: 2 days; and for Assignments: 7 days.

The weight of a quiz for which a VIF is accepted will be moved to the final exam, the weight of an assignment for which a VIF is accepted will be moved to the other assignments, and the weight of a midterm for which a VIF is accepted will be moved to the other midterm and the final exam in equal parts. If you happen to be sick for both midterms you should consider dropping the course.

[Office Hours and Contacting the Instructor/TA](#)

When sending an email to the instructor/TA, please use your official UWaterloo account and have ECON 290 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. Before sending an e-mail, please check the Discussions on LEARN.

If you need a virtual meeting, please ask for an appointment. The instructor and/or the TA will give you an appointment (approximately 20 min per student). Please send your questions with your e-mail while booking an appointment. This will reduce the unnecessary time lost during the virtual meeting.

Please be clear about your questions. The instructor/TA cannot re-explain the whole topic; however, they can help you to understand the unclear points of the topic.

[Weekly Course Schedule](#)

<b>Date</b>	<b>Topic</b>	<b>Readings</b>	<b>Activities and Assignments (Due Date)</b>	<b>Weight (%)</b>
<i>Week 1</i>	Introduction		<b>Quiz 0</b>	
Sep 8-11	1.1. The budget constraint and the budget set 1.2. How the budget line changes	Varian, H. Ch2. p. 20-26	Exercises Ch1 Workouts Ch1	0%
<i>Week 2</i>	1.3. Taxes, subsidies, and rationing	Varian, H. Ch2. p. 26-31	<b>Quiz 1 (Sep 15)</b>	
Sep 14-18	2.1 Consumer preference and assumptions about preferences	Varian, H. Ch3. p. 33-36	Exercises Ch1&2 Workouts Ch1&2	4%
<i>Week 3</i>	2.2. Indifference curves and examples of preferences	Varian, H. Ch3. p. 36-48	<b>Quiz 2 (Sep 22)</b>	
Sep 21-25	2.3. Well-behaved preference assumptions		Exercises Ch2 Workouts Ch2	4%

<i>Week 4</i> Sep 28- Oct 2	3.1. Utility function 3.2. Examples of utility functions 3.3. Marginal utility and marginal rate of substitution	Varian, H. Ch4. p. 48-67	<b>Quiz 3 (Sep 29)</b> Exercises Ch3 Workouts Ch3	4%
<i>Week 5</i> Oct 5-9	4.1. Optimal choice 4.2. Consumer demand	Varian, H. Ch5. p. 73-83	<b>Midterm 1 (Oct 9)</b> Exercises Ch4 Workouts Ch4	14%
<b>READING WEEK (Oct 10 – Oct 18)</b>				
<i>Week 6</i> Oct 19-23	4.3. Lagrangian method in utility maximization 5.1. Net and gross demands and budget constraint 5.2. Changing the endowment and prices	Varian, H. Ch5. p. 90-94 Varian, H. Ch9. p. 160-167	<b>Quiz 4 (Oct 20)</b> <b>Ass. 1 (Oct 23)</b> Exercises Ch5 Workouts Ch5	11%
<i>Week 7</i> Oct 26-30	6.1. Budget constraint, present and future value 6.2. Preferences for consumption and optimal choice	Varian, H. Ch10. p. 182-187	<b>Quiz 5 (Oct 27)</b> Exercises Ch6 Workouts Ch6	4%
<i>Week 8</i> Nov 2-6	7.1. Insurance problem and budget constraint 7.2. Utility functions and probabilities 7.3. Expected utility and attitude toward risk	Varian, H. Ch12. p. 217-229	<b>Quiz 6 (Nov 3)</b> Exercises Ch7 Workouts Ch7	4%
<i>Week 9</i> Nov 9-13	7.4. Choice under uncertainty 8.1. Technological constraints and examples of technology 8.2. Marginal product, TRS, and returns to scale	Varian, H. Ch19. p. 350-361	<b>Midterm 2 (Nov 13)</b> Exercises Ch7&8 Workouts Ch7&8	14%
<i>Week 10</i> Nov 16-20	9.1. Profits and short-run profit maximization 9.2. Long-run profit maximization 9.3. Lagrangian method in profit maximization	Varian, H. Ch20. p. 365-374 (except 366 and 367)	<b>Ass. 2 (Nov 20)</b> Exercises Ch9 Workouts Ch9	7%
<i>Week 11</i> Nov 23-27	10.1. Cost minimization and tangent solution 10.2. Cost functions 10.3. Lagrangian method in cost minimization	Varian, Ch21. H. p. 382-395	<b>Quiz 7 (Nov 24)</b> Exercises Ch10 Workouts Ch10	4%
<i>Week 12</i> Nov 30- Dec 4	10.4. Cost Curves	Varian, H. Ch22. p. 396-409	<b>Quiz 8 (Dec 1)</b> <b>Ass. 3 (Dec 4)</b> Exercises Ch10 Workouts Ch10	11%
Dec 9 – 23, Final Exam Period				27%

### Economics Department Deferred Final Exam Policy

Deferred Final Exam Policy found at <https://uwaterloo.ca/economics/undergraduate/resources-and-policies/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

**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 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](#).

## Accommodation for Students with Disabilities

**Note for students with disabilities:** [The AccessAbility Services 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.

## Territorial Acknowledgement

*We acknowledge that we are living and working on the traditional territory of the Attawandaron (also known as Neutral), Anishinaabeg and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land promised to the Six Nations that includes six miles on each side of the Grand River.*