

**University of Waterloo  
Department of Economics  
ECON 290, Section 001  
Models of Choice in Competitive Markets  
Winter 2022**

***Instructor Information***

Instructor: Margaret Insley  
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***Course Objectives and Learning Outcomes***

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:

By the end of the course a student should be able to:

- Describe and explain key economic models of consumer and producer choice
- Demonstrate the implications of these economic models for predictions about consumer and producer behaviour
- Analyze consumer and producer decision problems using graphs
- Use calculus to solve optimization problems faced by consumers and producers
- Explain how economic models of consumer and producer decisions help us make predictions about economic outcomes.

***Course Materials***

**Recommended Texts:**

The topics of this course are covered in standard intermediate microeconomics textbooks (that use calculus). The main reference will be:

H. Varian, *Intermediate Microeconomics: a Modern Approach*, 2020, (previous editions are acceptable)

Two other useful references are:

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

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

**Readings Available on LEARN:**

Lecture slides, lecture videos, readings etc will be posted on LEARN.

Extra practice problems called Workouts are from the book “Workouts in Microeconomics” by T. Bergstrom and H. Varian. A pdf version of this book is available on Bergstrom’s webpage:

<https://econ.ucsb.edu/~tedb/Courses/GraduateTheoryUCSB/TheoryF12.html>.

***Course Assessments***

Assessment	Percent of final grade	Date
Assignment 1	10%	Jan. 31
Midterm 1	15%	Feb. 9
Assignment 2	10%	Mar. 14
Midterm 2	15%	Mar. 23
Assignment 3	10%	Ap. 4
Final Exam	40%	Scheduled by registrar

***Required Background***

- Prerequisites are Econ101, 211, and 221, or other equivalent courses as listed in the academic calendar.

***Midterms***

- The midterm exams will be administered through LEARN.
- Students will be able to start the midterm during a specified window of time. Once started, only one attempt is permitted and the midterm must be completed within a specified time limit. More details about the midterms will be announced on LEARN.
- Students with a concern about the marking of a midterm must consult with me **within two weeks** of the date that it is returned to the class. After two weeks, I will not make any adjustments to a midterm mark.

### ***Policy on missed midterms***

- A student who misses a midterm due to illness or other extenuating circumstances may seek my approval for accommodation as detailed below. Approval will be granted only if appropriate documentation is submitted. If the student does not receive my approval, then a mark of zero will be assigned for the missed midterm. **Students must submit their documentation within one week of the missed midterm.**
- The accommodation for a missed midterm is as follows:
  - Missed Midterm 1: Upon approval by the instructor, the weight of Midterm 1 will be transferred to Midterm 2.
  - Missed midterm 2 (but wrote Midterm 1): Upon approval by the instructor, the weight of Midterm 2 will be transferred to the final exam.
  - Missed both Midterm 1 and Midterm 2: Upon approval by the instructor, the student will write a deferred midterm worth 30% of the final grade.

### ***Assignments***

- It is permitted to consult with other students regarding the assignment questions. However the final work submitted must be your own. Students who submit identical (or nearly identical) assignments will receive a grade of zero.
- Assignments are to be submitted to the designated Dropbox on LEARN. Assignments may be handwritten or typewritten.
- Students with a concern about the marking of an assignment must consult with me **within two weeks** of the date that it is returned to the class. After two weeks, I will not make any adjustments to an assignment mark.

### ***Policy on late or missed assignments***

- A deduction of 5% per day will be applied to an assignment handed in late.
- Assignments cannot be handed in after assignment solutions have been posted.
- A student who misses handing in an assignment due to illness or other extenuating circumstances may seek my approval to transfer the weight of the assignment to the

final exam. Approval will be granted only if appropriate documentation is submitted. If the student does not receive my approval, then a mark of zero will be assigned for the missed assignment. **Students must submit their documentation within one week of the missed assignment.**

### ***Final Exam***

- The final exam date is scheduled by the registrar.

### ***Economics Department Deferred Final Exam Policy***

- The deferred Final Exam Policy found at <https://uwaterloo.ca/economics/undergraduate/resources-and-policies/deferred-final-exam-policy>

### ***Live sessions, office hours and contacting the instructor***

I will hold a once a week live session during which I will review lecture materials, answer student questions and/or go over a problem or other course material. The scheduled time is Wednesday from 10:00 to 11:30 am EST. The material covered in the live sessions will be posted on LEARN for those who are unable to attend.

When sending me email, please use your official UWaterloo account with ECON 290 in the subject line. Also, include a signature line with your full name. I am available for virtual office hours by appointment. Contact me via email for an appointment.

### ***Weekly Course Schedule***

#### ***1. Introduction***

##### ***Week 1 (Jan. 5-7)***

- 1.1 Review of basic concepts
- 1.2 Tools for economic analysis

Readings: Varian Chapter 1

#### ***2. The Fundamental Model of Economic Choice***

##### ***Week 1 (continued) (Jan 5 -7) and Week 2 (Jan. 10-14)***

- 2.1 Alternatives and budgets

2.2 Preferences and utility functions

**3. *Consumer Choice: Budgets and Preferences***

**Week 3 (Jan. 17-21)**

3.1 Consumer alternatives

3.2 Consumer budgets

**Reading:** Varian, Chapter 2

**Week 4 (Jan. 24-28)**

3.3 Consumer preferences

**Reading:** Varian, Chapters 3

**4. *The Consumer's Optimal Choice***

**Week 5 (Jan. 31 - Feb. 4)**

4.1 Utility functions

**Reading:** Varian, Chapter 4

**Week 6 (Feb. 7 - 11)**

4.2 Optimal consumption bundles

**Reading:** Varian, Chapter 5

**Week 7 (Feb. 14-18)**

4.3 Application re consumer choice

**Reading:** Varian, Chapter 6

**Reading Week (Feb 21 – 25)**

**5. *Intertemporal Choice***

**Week 8 (Feb. 28 – Mar. 4)**

5.1 Intertemporal alternatives

5.2 Intertemporal budgets

5.3 Intertemporal consumer preferences

5.4 Optimal consumption paths

**Reading:** Varian, Chapter 10

**Week 9 (Mar. 7-11)**

5.5 Application re intertemporal choice (i)

5.6 Application re intertemporal choice (ii)

## 6. *Producer Choice*

### Week 10 (Mar. 14 – 18)

- 6.1 Production technology
- 6.2 Profit maximization
- 6.3 Application: Returns to scale and firm size
- Reading:** Varian, Chapters 19 and 20

### Week 11 (March 21 - 25)

- 6.4 Cost minimization
- 6.5 Application: Costs and profits
- Reading:** Varian, Chapter 21

## 7. *Choice under Uncertainty*

### Week 12 (Mar. 28 – Ap. 1, Ap. 4 - 5)

- 7.1 Expected utility maximization
- 7.2 Application re choice under uncertainty (i)
- 7.3 Application re choice under uncertainty (ii)
- Reading:** Varian Chapter 12

### ***Statements from the University included on all 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. [Check [the Office of Academic Integrity](#) for more information.]

**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.

**Discipline:** A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for his/her actions. [Check [the Office of Academic Integrity](#) for more information.] 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 instructor, academic advisor, or the undergraduate associate dean. For information on categories of offences and types of penalties, students should refer to [Policy 71, Student Discipline](#). For typical penalties, check [Guidelines for the Assessment of Penalties](#).

**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:** [AccessAbility Services](#), located in Needles Hall, Room 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 AccessAbility Services 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), Anishinaabe and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land promised to the Six Nations that includes ten kilometres on each side of the Grand River.

For more information about the purpose of territorial acknowledgements, please see the [CAUT Guide to Acknowledging Traditional Territory](#).

### ***Other Information***

#### *Intellectual Property*

Students should be aware that this course contains the intellectual property of their instructor, TA, and/or the University of Waterloo.

Intellectual property includes items such as:

- Lecture content, spoken and written (and any audio/video recording thereof);
- Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides);
- Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and
- Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials and the intellectual property contained therein, are used to enhance a student's educational experience. However, sharing this intellectual property without the intellectual property owner's permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor, TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar

courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

### *Chosen/Preferred First Name*

Do you want professors and interviewers to call you by a different first name? Take a minute now to verify or tell us your chosen/preferred first name by logging into [WatIAM](#).

Why? Starting in winter 2020, your chosen/preferred first name listed in WatIAM will be used broadly across campus (e.g., LEARN, Quest, WaterlooWorks, WatCard, etc). Note: Your legal first name will always be used on certain official documents. For more details, visit [Updating Personal Information](#).

Important notes

- If you included a preferred name on your OUAC application, it will be used as your chosen/preferred name unless you make a change now.
- If you don't provide a chosen/preferred name, your legal first name will continue to be used.

### *Mental Health Support*

All of us need a support system. The faculty and staff in Arts encourage students to seek out mental health support if they are needed.

On Campus

Due to COVID-19 and campus closures, services are available only online or by phone.

- Counselling Services: [counselling.services@uwaterloo.ca](mailto:counselling.services@uwaterloo.ca) / 519-888-4567 ext. 32655
- [MATES](#): one-to-one peer support program offered by the Waterloo Undergraduate Student Association (WUSA) and Counselling Services

Off campus, 24/7

- [Good2Talk](#): Free confidential help line for post-secondary students. Phone: 1-866-925-5454
- Grand River Hospital: Emergency care for mental health crisis. Phone: 519-749-4300 ext. 6880
- [Here 24/7](#): Mental Health and Crisis Service Team. Phone: 1-844-437-3247
- [OK2BME](#): set of support services for lesbian, gay, bisexual, transgender or questioning teens in Waterloo. Phone: 519-884-0000 extension 213

Full details can be found online on the Faculty of Arts [website](#)

Download [UWaterloo and regional mental health resources \(PDF\)](#)

Download the [WatSafe app](#) to your phone to quickly access mental health support information.

Academic freedom at the University of Waterloo

[Policy 33, Ethical Behaviour](#) states, as one of its general principles (Section 1), "The University supports academic freedom for all members of the University community. Academic freedom carries with it the duty to use that freedom in a manner consistent with the scholarly obligation to base teaching and research on an honest and ethical quest for knowledge. In the context of



this policy, 'academic freedom' refers to academic activities, including teaching and scholarship, as is articulated in the principles set out in the Memorandum of Agreement between the FAUW and the University of Waterloo, 1998 (Article 6). The academic environment which fosters free debate may from time to time include the presentation or discussion of unpopular opinions or controversial material. Such material shall be dealt with as openly, respectfully and sensitively as possible." This definition is repeated in Policies 70 and 71, and in the Memorandum of Agreement, Section 6