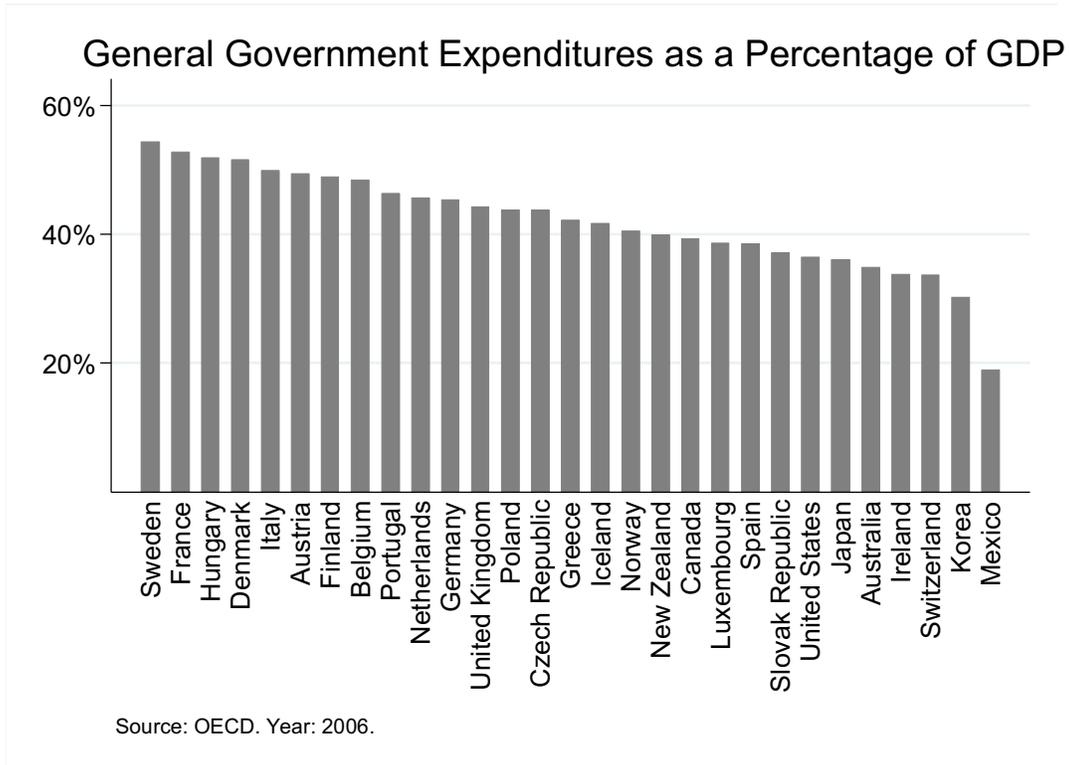


**ECON 101(004): Introduction to Microeconomics**



**Course Introduction:** Governments of industrialized countries take part in a wide range of economic activities. Much of economics seeks to uncover whether this extensive government involvement benefits or hurts these countries' citizens. In this introductory microeconomics course, we study the key concepts and tools of economics through the lens of the question: How big should the government be? Economic rationales for government involvement in economic activity motivate our study of consumer choice, competitive and strategic interaction, markets, taxation, production, trade, and welfare measurement.

**Instructor:** Mikko Packalen, Associate Professor

**Overview of Course Schedule:**

- In week 1 we learn about how economists model behavior. The focus is the rational behavior assumption and marginal analysis.
- By week 4 we will learn why economists favor allocation of resources through markets over allocation by command and control. The concepts covered during weeks 2-4 include indifference curves, budget constraint, the Edgeworth's box, competitive equilibrium, Pareto efficiency, and the first welfare theorem.
- By week 8 we will learn that externalities are an important economic rationale for imposing taxes and subsidies. The concepts covered during weeks 5-8 include the utility function, game theory, payoff matrix, best response, Nash equilibrium, extensive-form game-tree, subgame-perfect Nash equilibrium, backward induction, externalities, taxes, and subsidies.

- By week 11 we will learn why economists believe that generally more competition is good for society. The concepts covered during weeks 9-11 include production, production possibilities frontier, trade, absolute and comparative advantage, supply and demand model, consumer surplus, imperfect competition, monopoly, and oligopoly.
- In week 12 we will return to the study economic rationales for government intervention in economic activity, focusing on departures from rationality, asymmetric information, and inequality.

**Office Hours:** Usually on Thursdays 1am-3pm in HH 205, but please check the course website for possible changes (learn.uwaterloo.ca); and by appointment (please email/talk after class to make one).

**Email:** packalen@uwaterloo.ca; subject line must state “ECON 101” and must include your full name and ID number and the email must come from your .uwaterloo account (this way I know that it’s really you and that it’s an important email).

## 1. Course Materials

The core course materials are: Problem Sets, Lectures, Class Notes, Slides, and Kahoot (website). These are all complementary to one another; none of them is a substitute to another.

## 2. Lectures

Tuesdays, 6.30-9.20pm, RCH 101.

## 3. Problem Sets

Problem sets are distributed weekly through learn.uwaterloo.ca. **Students do not submit answers to the problem sets**; it is assumed that students make the best choices for themselves regarding the timely completion (or untimely completion or non-completion) of problem sets. Model answers to most problem set questions are distributed through learn.uwaterloo.ca.

## 4. Class Notes and Slides

Class notes and slides are distributed through learn.uwaterloo.ca. The distributed slides do not include all slides shown in class. The notes are not a substitute to attending lectures.

## 5. Tentative Class Schedule and List of Main Topics

### INTRODUCTION

- Scarcity of Resources, Tradeoffs
- Economists: “Everyone Optimizes”
- What we need to learn to examine the question “How Big Should the Government Be?”

### WEEK 1: A Model of Consumer Choice with One Good

- Total Willingness to Pay
- Marginal Analysis, application 1: Price vs. Marginal Willingness to Pay
- Marginal Cost, Marginal Benefit

- Demand Curve
- Sunk Cost

#### PROBLEM SET 1 DUE

#### **WEEK 2: A Model of Consumer Choice with Multiple Goods**

- Indifference Curves, Marginal Rate of Substitution
- Budget Constraint, Opportunity Cost
- Marginal Analysis, application 2: The Marginal Rate of Substitution Condition

#### PROBLEM SET 2 DUE

#### **WEEK 3: The Competitive Model of Interaction (as a Depiction of the Market Economy)**

- Budget Constraint with an Endowment
- Exchange
- Competitive Equilibrium

#### PROBLEM SET 3 DUE

#### **WEEK 4: A Comparison of a Market Economy and a Command Economy**

- How to Compare Allocations, approach 1: Pareto Efficiency
- The First Welfare Theorem
- How good is the allocation with vs. without government intervention?

#### PROBLEM SET 4 DUE

#### **WEEK 5: The Utility Function (an Alternative Representation of Consumer Preferences)**

- Utility Function
- Marginal Utility
- Demand Function

#### PROBLEM SET 5 DUE

#### **WEEKS 6-7: Models of Strategic Interaction (Game Theory)**

- Strategy
- Payoffs, Payoff Matrix
- Best Response
- Nash Equilibrium
- Extensive Form Game Tree
- Subgame-Perfect Nash Equilibrium

#### PROBLEM SETS 6-7 DUE

#### **WEEK 8: External Effects as a Rationale for Government Intervention**

- Externalities
- Public Goods

- Taxes and Subsidies
- How good is the allocation with vs. without government intervention?

PROBLEM SET 8 DUE

**WEEK 9: Production and Competition**

- Production Possibilities Frontier
- Production and Trade, Absolute and Comparative Advantage
- Firm Objectives and Constraints
- Variable Costs; Fixed Costs; Revenue; Profit
- Monopoly
- Marginal Analysis, application 3: Marginal Cost, Marginal Revenue
- Cost Curves, Average Costs, Short-Run Costs vs. Long-Run Costs
- Perfect Competition

**WEEK 10: A Model of Interaction with Consumers and Production**

- Market Demand Curve, Supply, Supply Curve
- A Simple Model of Market Equilibrium
- How to Compare Allocations, approach 2: Consumer, Producer and Total Surplus
- How good is the allocation with vs. without government intervention?

PROBLEM SET 9 DUE

**WEEK 11: Imperfect Competition**

- Monopoly
- Oligopoly

PROBLEM SET 10 DUE

**WEEKS 12: Asymmetric Information, Redistribution, and Behavioral Economics as Rationales for Government Intervention**

- Asymmetric information
- Inequality
- Behavioral aspects of decision-making

**6. Textbook**

My lectures and problem sets do not follow a textbook. No textbook is required for the Midterm Exams. No textbook is required for the Final Exam. To the benefit of those who still would like to study using a textbook as well, I will mention some recommended textbooks in the first class.

**7. Assessments**

The mark breakdown (does not include bonus points from Kahoot):

Midterm Exam 1	Tuesday Jan 29 <sup>th</sup> , in class 6.30-7.45pm	20%
Midterm Exam 2	Tuesday Mar 5 <sup>th</sup> , in class 6.30-7.45pm	20%
Final Exam	TBA	60%

Notes:

- In-class participation and knowledge, as measured by Kahoot use, can increase a student's grade by up to 8 grade points. For example, if a student's grade is 85 based on exams, but student has answered all Kahoot questions perfectly, the final grade will be 93%. The grade point increase is given by the formula " $8 * (\text{number of questions answered correctly}) / (\text{total number of questions})$ ". Student who does not have access to Kahoot during class can hand in answers on paper right after any Kahoot session.
- Midterm Exams 1 and 2 and the Final Exam are based on material in Lectures, Problem Sets, Class Notes, and Slides.
- Exams are cumulative; the questions are based on any material studied in the course so far. For example, you should expect that some (perhaps even half) of the questions in midterm 2 are based on material covered in lectures before midterm 1.
- The date and time for the final exam will be set by the Registrar at a later time.
- Students are expected to be available during the exam period to write the final exam. Travel plans are not an acceptable reason for requesting an alternative final exam. See <http://www.registrar.uwaterloo.ca/exams/finalexams.html> for details.

## 8. Course Description (from Course Calendar)

This course provides an introduction to microeconomic analysis relevant for understanding the Canadian economy. The behaviour of individual consumers and producers, the determination of market prices for commodities and resources, and the role of government policy in the functioning of the market system are the main topics covered.

## 9. Course Objective (from Course Calendar)

The objectives of this course are for students to (a) understand the need for people to make choices and together work towards overcoming the universal problem of scarcity; (b) appreciate the relevance of economics in a changing world; and (c) develop the capacity to apply critical reasoning to economic issues.

## Additional Information

1. It is the responsibility of students to ensure that they write exams in the location, date, and time assigned to their section. Students writing exams in the wrong section will be assessed a 20% penalty on the final exam grade. There will be no accommodation for possible differences in exam material or content.
2. Missing the Final Exam Due to Illness
  - Missing the final exam is a very serious matter which automatically results in a zero mark for the exam itself and possibly a failing mark for the course. Read the department policy on deferred final exams <https://uwaterloo.ca/economics/undergraduate/resources-and-policies/deferred-final-exam-policy> for instructions.
3. Missing a Midterm Due to Illness During the Term
  - If a student misses a midterm due to illness and has valid documentation (approval required), the weight of the missed midterm will be shifted to the final exam. Without valid and timely submitted documentation, the student will receive zero for the missed midterm. Midterms will not be rescheduled *under any circumstances*.

#### 4. Fee-Arranged Issues

Students are responsible for administrative matters concerning their course registration including fee arrangements. No make-up work or remedies will be given for losses of access to LEARN and academic consequences arising from administrative issues with the Registrar's Office.

#### 5. Classroom Protocols

- No private conversations in class will be tolerated.
- Turn off all cell phone communication devices and put them away for the duration of the lecture.
- Photographic devices are not permitted in class; this is a University regulation.
- In order to maintain a learning environment in this classroom, I expect the highest level of courtesy and professional behaviour from every student.

## University Statements

### 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.

### **Mental Health Support**

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

#### **On Campus**

- Counselling Services: [counselling.services@uwaterloo.ca](mailto:counselling.services@uwaterloo.ca) / 519-888-4567 xt 32655
- [MATES](#): one-to-one peer support program offered by Federation of Students (FEDS) and Counselling Services
- Health Services Emergency service: located across the creek from Student Life Centre

#### **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: 519-749-433 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 at 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

### **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 six miles on each side of the Grand River.