

# ECON 400 A01 Advanced Microeconomic theory Course Outline – Fall 2025 (CRN 11127)

## **UVic Land Acknowledgement**

We acknowledge and respect the L $\partial \dot{k}^w$  $\partial \eta \partial n$  (Songhees and Esquimalt) Peoples on whose territory the university stands, and the L $\partial \dot{k}^w \partial \eta \partial n$  and WSÁNEĆ Peoples whose historical relationships with the land continue to this day.

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**Lectures:** MT 11:30-12-50 CLE A330

Office Hours: Wednesdays 1:30 – 3:00 or by appointment

#### **Course Content**

This course presents an advanced treatment of consumer theory, from its fundamental axioms all the way through its foundations for cost benefit analysis; choice under uncertainty and, game theory. The content of lectures will reflect the need to develop theoretical methods and a formalization (modeling) of individual preferences and choices. This will allow us to restate the main results of consumer theory (previously seen in lower level courses), pointing out their formal theoretical origins and empirical implications.

The primary objective of the course is to expose students to the process of formal economic theory development, principally by working through the complete development of consumer demand theory, from basic axioms on preferences to the statement of empirically testable empirical predictions. We will explore the origins of concepts introduced in lower level microeconomics courses and pursue a deeper understanding of their implications for consumer behavior and demand systems. Although the main topic of the course is consumer demand and behavior, it is important to keep in mind that our principal objective is primarily methodological, proceeding through the formal process of developing a consistent economic theory. As such, the course is arguably more about the methodological *process* of developing and using economic theory than the models studied in the course.

It is important to emphasize that this is a course on theory, and that the level of discussion will be advanced (hence the name of the course!). Students should be prepared for an exhaustive mathematical treatment and analysis. Pre-requisites are essential and are not normally waived.

### **Lecture Topics**

- 1. Mathematical preliminaries: Sets, Functions and Optimization
  - G&R Mathematical Appendices
- 2. Consumer Theory (G&R Ch. 1,2,3, and possibly 4)
  - 2.1 Basic Axioms of Preferences and Choices
  - 2.2 Preferences and Existence of Utility Functions
  - 2.3 The Consumer's Utility Maximization Problem
  - 2.4 Indirect Utility and Marshallian Demand
  - 2.5 The Consumer's Expenditure Minimization Problem
  - 2.6 Expenditure Functions and Hicksian Demand
  - 2.7 Duality and Equilibrium Equivalence
  - 2.8 Consumer Surplus Measures the Foundation of Benefit Cost Analysis
  - 2.9 Slutsky Matrix and Theoretical Predictions
- 3. Choice under uncertainty (G&R Ch. 17 and 19)
  - 3.1 Axioms of Choice under Uncertainty
  - 3.2 Expected Utility Functions
  - 3.3 Risk Preferences
  - 3.4 Risk and Insurance
- 4. Game theory and mechanism design (as time allows)

## **Learning Outcomes**

At the end of the course, successful students will be able to

- Derive the entire classical consumer theory problem
- Identify the role that each axiom of consumer theory plays in the resulting properties of consumer choices and resulting demand system
- Critique the theory
- State how the theory can be empirically tested
- Explain the formal links between consumer theory and the foundation of Benefit Cost Analysis
- Perform basic calculations of welfare changes resulting from policies in all four Hicksian dimensions
- State the axioms of choice under uncertainty
- Identify the limitations of expected utility theory
- Compute optimal choices under uncertainty under a variety of scenarios (insurance, investment, etc)

### Course prerequisites

ECON 313; ECON 350. Pre-requisites are not normally waved.

## Notes and Textbook and Brightspace

The course Brightspace site will be populated with extensive lecture notes that will form the core of the course. In the past, I have not asked students to purchase a standard text, mainly because this course covers a small portion of the material typically presented in a book at this level and it seemed wasteful to ask students to purchase an entire textbook. However, my preferred texts for this course are:

Osborne MJ and A. Rubenstein, 2020. Models in Microeconomic Theory. OpenBook Publisher. Toronto. It is available as an open source book at https://books.openbookpublishers.com/10.11647/obp.0211.pdf

Hugh Gravelle and Ray Rees. <u>Microeconomics, Third Edition</u>. Pearson Education, Harlow, England, 2004.

Gravelle and Rees is one of the more accessible advanced micro textbooks. It will also be a long lasting reference book if you go on to do graduate work in economics. It is recommended that you obtain a copy (note, it is easy to find but it is not open source, so I can't post a link here!).

This material is also covered in all advanced microeconomics texts and students will find it useful to consult any of the references below for a different presentation of the course material.

- Jehle, G.A. and P. Reny, Advanced Microeconomic Theory 2nd Edition. (2000)
- Silverberg, E., the Structure of Economics: a Mathematical Analysis. (1990)
- Varian, H.R., Microeconomic Analysis, 3<sup>rd</sup> edition. (1992)
- Kreps, D., Microeconomics (1990)

## **Brightspace**

The lecture notes, assignments, practice exams and other course material will all be posted in *Brightspace*. Students are expected to be fully functional with the system.

All announcements will be posted in *Brightspace*. Students are advised to check it frequently.

## Grading

•	FOUR or FIVE homework assignments for a total of	20%
•	ONE in-class midterm exam Thursday October 23	30%
•	Final Exam (Date to be set by registrar)	50%

#### Mandatory/Essential Course Components

All exams are essential course requirements, meaning, they must be attempted in order to pass the course. Note that essential course requirements are deferrable, the final exam is considered essential and thus deferrable by definition.

Assignments are not considered essential course components. This means that failure to complete an assignment will only result in a grade of zero on the assignment and not trigger a N (incomplete) grade. Assignments are not deferrable and must therefore be completed by the required date.

#### **Grading Scale**

A+	Α	A-	B+	В	B-	C+	С	D	F or N
90-100	85-89	80-84	77-79	73-76	70-72	65-69	60-64	50-59	0-49

Students should review the University's more detailed summary of grading.

### Missing Assessments

Should students encounter a situation where they miss an exam or cannot submit an assignment at its due date, they may qualify for an academic concession. Students are required to indicate the specific grounds on which they are requesting an academic concession and to provide a justification outlining the impact of the circumstances on their ability to complete course requirements. For in-course extensions, please fill in the form and follow the instructions on the form [or specify alternative means of communicating a request such as filling in a request on Brightspace]. I will not respond to informal requests of academic concessions. [Note any automatic academic concessions such as putting the weight of a missed midterm for a legitimate reason on the final, dropping the two worst grades of quizzes etc.] In case you miss the final exam, fill in a request for a deferral.

Students are advised not to make work or travel plans until after the examination timetable has been finalized. Students who wish to finalize their travel plans at an earlier date should book flights that depart after the end of the examination period. Students do not qualify for an academic concession if travel plans conflict with the examination.

#### **Course Policies**

This course adheres to the <u>Undergraduate Course Policies</u> of the Department of Economics that deal with the following issues:

- Academic concessions
- · Academic integrity (plagiarism and cheating)
- Attendance
- Grading
- Inclusivity and diversity
- Late adds
- Late assignments
- Repeating courses

- Review of an assigned grade
- Sexualized violence prevention and response
- Students with a disability
- Term assignments and debarment from examinations
- Travel plans
- Waitlists

The following policies are explicitly included because of their importance:

#### **Waitlist Policies**

- Instructors have no discretion to admit waitlisted students or raise the cap on the course.
- Students on the waitlist should discuss with the instructor how to ensure they are not behind with coursework in the event they are admitted.
- Registered students who do not participate as specified in this outline during the first 7 calendar days from the start of the course may be dropped from the course.
- Registered students who decide not to take the course are responsible for dropping the course and are urged to do so promptly out of courtesy toward waitlisted students.
- Waitlist offers cease after the last date for adding courses irrespective of published waitlists.

### **Academic Integrity**

Academic integrity requires commitment to the values of honesty, trust, fairness, respect, and responsibility. Students are expected to observe the same standards of scholarly integrity as their academic and professional counterparts. A student who is found to have engaged in unethical academic behaviour, including the practices described in the <u>Policy on Academic Integrity</u> in the University Calendar, is subject to penalty by the University.

Review What is Plagiarism for the definition of plagiarism. Note: Submitted work may be checked using plagiarism detection software.

#### Student Code of Conduct

The Humanities, Science, and Social Sciences Faculties have adopted this <u>Student code of conduct</u>. Please, review.

## **University Policies**

- University Calendar Section "<u>Information for all students</u>"
- Creating a respectful, inclusive and productive learning environment
- Accommodation of Religious Observance
- Student Conduct
- Non-academic Student Misconduct
- Accessibility
- <u>Diversity / EDI</u>

- Equity statement
- Discrimination and Harassment Policy
- <u>Policy on Human Rights, Equity and Fairness -</u> The University is committed to promoting, providing and protecting a positive, supportive and safe learning and working environment for all its members.

## Sexualized Violence Prevention & Response

UVic takes sexualized violence seriously, and has raised the bar for what is considered acceptable behaviour. Students are encouraged to learn more about how the university defines sexualized violence and its overall approach by visiting <a href="www.uvic.ca/svp">www.uvic.ca/svp</a>. If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Contact <a href="www.uvic.ca">svpcoordinator@uvic.ca</a>.

#### **Resources for Students**

<u>UVic Learn Anywhere</u> - UVic Learn Anywhere is the primary learning resource for students that offers many learning workshops and resources to help students with academics and learning strategies.

<u>Centre for Accessible Learning</u> - Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, you are free to approach me; however, you must register with the <u>Centre for Accessible Learning</u> (CAL) for formal arrangements to be made. The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

<u>Centre for Academic Communication</u> - Offers coaching on <u>academic integrity</u>, including preventing accidental plagiarism. Provides support to students with time management, reading, writing, speaking, understanding academic expectations, and other aspects of academic communication as well as creating academic posters, blogposts, PowerPoint slides, and e-portfolios.

<u>Health Services</u> - University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives.

<u>Support Connect</u> - a 24/7 mental health support service for students

- •Toll-free (calls from North America): 1-844-773-1427
- •International collect calls: 1-250-999-7621

<u>Counselling Services</u> - Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.

<u>Indigenous Student Services</u> - Indigenous UVic students have access to many sources of support on campus. Before, during and after your time at UVic, you are encouraged to explore programs and services available to you, such as <u>Indigenous counselling services</u> and the <u>Elders in Residence</u>, as well as non-academic programs that may be of interest to you.

<u>International Student Support</u> - The University of Victoria offers a number of resources to support international students as they pursue their studies. UVic's <u>International Centre for Students</u> is the primary office supporting international students on campus at the university-wide level and provides

various supportive program through the <u>UVic Global Community Initiative</u>, including a Mentorship Program and Conversation Partner Program.

For academic advising-related questions, students in the Economics Department are also encouraged to meet with the Economics Undergraduate Advisor (Brooklynn Comish-Trimble, <a href="mailto:ecadvice@uvic.ca">ecadvice@uvic.ca</a>) as well as an academic advisor in the <a href="mailto:Academic Advising Centre">Academic Advising Centre</a> early in their studies to help map out a plan to declare a major and complete university program requirements. Other resources include the <a href="mailto:Centre for Academic Communication">Centre for Academic Communication</a> and the <a href="Math and Stats Assistance Centre">Math and Stats Assistance Centre</a>.

The International Student Liason in the Economics Department is Dr. Paul Schure who can help you connect with other international and domestic students in the Department. His email address is <a href="mailto:schure@uvic.ca">schure@uvic.ca</a>. Please, reach out if you are interested.

## Course Experience Survey (CES)

I value your feedback on this course. Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future.

When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to the <u>CES log-in</u>. You will use your UVic NetLink ID to access the survey, which can be completed on your laptop, tablet or mobile device. I will remind you nearer the time, but please be thinking about this important activity, especially the following three questions, during the course.

What strengths did your instructor demonstrate that helped you learn in this course?

Please provide specific suggestions as to how the **instructor** could have helped you learn more effectively.

Please provide specific suggestions as to how this **course** could be improved.

## E-mail Correspondence

Emails should be limited to critical matters, such as inability to attend class, an exam, or prolonged illness, and should include the course name and number in the subject line. Questions on course material are most easily answered during office hours or in class. The standard format for writing a letter must be used. This means it should begin with a salutation (e.g. Dear....), include full sentences and it must conclude with a signature that includes your **full name and V#** .Text message lingo should not be used.

### **Electronic Devices**

No electronic device other than a basic non programmable calculator can be used during examinations.