

Industrial Organization
ECONOMICS EC3364G-001
Department of Economics
Western University

January 2021

General Information:

Instructor: Tai-Yeong Chung
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E-mail: tchung@uwo.ca (Please put "EC3364" in the subject line)
Office hours: Tuesday and Thursday 10:00 am – 11:00 am
Sign up via OWL message or email for online Zoom appointments and
Extra drop-in Zoom group sessions will be available before exams
Delivery mode: Online asynchronous
Course website: <https://owl.uwo.ca/portal>
Undergraduate inquiries: 519-661-3507 SSC Room 4075 or econugrd@uwo.ca

Registration

You are responsible for ensuring you are registered in the correct courses. If you are not registered in a course, the Department will not release any of your marks until your registration is corrected. You may check your timetable by using the Login on the Student Services website at <https://student.uwo.ca>. If you notice a problem, please contact your Faculty Academic Counsellor immediately.

Prerequisite Note

The prerequisite for this course is **Economics 2261A/B** (Intermediate Microeconomic Theory II)
Prerequisite(s) for your course found at:
http://www.westerncalendar.uwo.ca/Courses.cfm?CourseAcadCalendarID=MAIN_004496_1&S_electedCalendar=Live&ArchiveID=

You are responsible for ensuring that you have successfully completed all course prerequisites, and that you have not taken an anti-requisite course. Lack of pre-requisites may not be used as a basis for appeal. If you are found to be ineligible for a course, you may be removed from it at any time and you will receive no adjustment to your fees. This decision cannot be appealed.

If you find that you do not have the course prerequisites, it is in your best interest to drop the course well before the end of the add/drop period. Your prompt attention to this matter will not only help protect your academic record, but will ensure that spaces become available for students who

require the course in question for graduation.

Course description:

This course takes a formal approach to analyzing the way firms make production and sales decisions and interact strategically with each other in the marketplace. As this course is for upper-year undergraduate honor-level students, it will try to conduct rigorous analyses that are commensurate with such a level.

We begin with a study of optimal pricing policies, including versioning, bundling, and related market segmentation strategies. In the second part of the course, we apply game theory to the study of oligopoly interaction, focusing on pricing and output strategies in a dynamic setting. Finally, we analyze strategies for firm dominance, especially through the deterrence of potential competition. The list of such strategies includes capacity expansion, product proliferation, and exclusive dealing contracts.

The main goal of the course is to develop the basic intuition for pricing and other forms of strategic behavior on the part of firms, both when faced with complex patterns of consumer demand and when faced with strategic competitors. Readings in the textbook will provide background and introduction to a variety of topics, many of which will be covered in class in greater depth. Problem sets will focus on formal analysis. Occasional supplemental readings will provide additional motivation and opportunities to develop intuition.

Course Objectives:

Industrial organization studies firms and markets. It examines strategies of firms and their interactions in imperfectly competitive markets. Firms' price strategies include price discrimination and dynamic pricing. Non-price strategies include product differentiation, advertising, contracts, merger, and entry deterrence. We will also learn competition policies.

Course Learning Outcomes:

At the end of the course and having completed the essential reading and activities, students should be able to:

- examine pricing/non-pricing strategies by firms and their welfare implications
- apply analytical models of firm behavior and strategic interaction to evaluate various business practices, including collusion, entry deterrence, product differentiation, price discrimination and merger
- explain the basic determinants of market structure and understand key issues in competition policy and regulation.

Text:

Luis Cabral, Introduction to Industrial Organization, 2nd edition, MIT Press, 2017 (required)

Assessments and Grading:

1. Assignments (15%)

Three problem sets will be given. Each problem set is worth 5%.

Assignment due dates: 1) **Feb. 4** (by midnight)
 2) **Mar. 18** (by midnight)
 3) **April 1** (by midnight)

Time used for due date is Eastern time.

Late assignments will not be accepted (zero point).

2. First report (5%)

Choose a particular firm. Identify the market structure and discuss features of the industry.

Discuss the firm's pricing strategies and non-pricing strategies.

Are competition policy and regulation relevant in understanding the industry?

Are there any interesting issues you would want to explore?

Please inform the instructor your choice of a firm via e-mail by **January 15**.

Submit two-page report by **January 22**.

The report should be typewritten, double-spaced, 12 point font, with top, bottom and side margins of 2.5 cm, and be about 2 pages (maximum 3 pages) in length, excluding the title page, figures, tables, and a list of references.

3. Main Essay Project (20%)

The essay project requires a student to identify an IO related topic/issue and apply economics to analyze it. It is important to correctly apply relevant economic concepts and tools to the topic.

The topic can be an analysis of a firm or industry as done in the first essay. I suggest you analyze a specific issue in detail instead of a broad survey. A topic can also be based on a current event from news article (check Economist, Globe and Mail, Wall Street Journal, Financial Times, end so on.) Third option is to analyze a legal case on competition (check Competition Bureau and US Department of Justice).

- A detailed proposal (2 pages) is due on **March 23, 2021**. A detailed proposal is a proposal detailed enough so that a reader can understand which topic you plan to analyze and how. It typically has two parts. The first part is to identify an issue or news and provide some background information. The second part is to outline your analysis, and methodology. What economic concepts and tools do you plan to use?
- Final essay is due on **April 6, 2021**.

<Essay Grading>

Detailed proposal – 5 points (late penalty is one-point deduction per day)

Final Essay – 15 points (late penalty is four-point deduction per day)

The grade on this component will be based on both content and on quality of the student's writing (organization, grammar, and style).

4. Midterm Examination (25%) – Tentative date: Mar. 2, 10 a.m. - noon

A midterm exam may be comprised of calculations, short answer, true/false, essay questions, or a combination thereof, on material covered up to and including the last class prior to the exam. The structure of the exam will be announced at OWL as the date approaches. All Department and University policies regarding missed exams and necessary documentation apply. Please see attached **Policy Regarding Makeup Tests and Final Examinations**.

5. Final Examination (35%)

The final examination will occur during the regular final exam period and will be scheduled by the registrar. This exam will assess students' ability to meet the learning outcomes of the course and will be based on all concepts learned during the course with more weight being assigned to material covered after the midterm examination. All Department and University policies regarding missed exams and necessary documentation apply. Please see attached **Policy Regarding Makeup Tests and Final Examinations**.

- Students are responsible for material covered in the lectures **as well as** the assigned material in the text. Exams will not be returned to students but may be reviewed in the instructor's office.
- Missed midterm exam without illness self-reports or approved, documented official accommodation will be given a mark of zero
- If there has been an illness self-report or approved, documented official accommodation, the weight of a missed midterm will be transferred to the final exam.

Topics:

- 1 What Is Industrial Organization?

PART ONE: Microeconomics Foundations

- 2 Consumers
- 3 Firms
- 4 Competition, Equilibrium, and Efficiency
- 5 Market Failure and Public Policy
- 6 Price Discrimination

PART TWO: Oligopoly

- 7 Games and Strategies
- 8 Oligopoly
- 9 Collusion and Price Wars

PART THREE: Entry and Market Structure

- 10 Market Structure
- 11 Horizontal Mergers
- 12 Market Foreclosure

PART FOUR: Non-price Strategies

- 13 Vertical Relations
- 14 Product Differentiation

Professionalism, Privacy and Copyright:

- Students are expected to follow the [Student Code of Conduct](#).
- All lectures and course materials, including slides, presentations, outlines, and similar materials, are protected by **copyright**. Students may take notes and make copies of course materials for their own educational purposes only.
- Students may not record lectures, reproduce (or allow others to reproduce), post or distribute lecture notes, assessments, or any other course materials publicly and/or for commercial purposes without written consent of the instructor.
- Recordings (audio or video) are not permitted without explicit, written permission of the instructor. Permitted recordings may not be distributed or shared.

Please Note
Department & University Policies for 2020-2021

The University expects all students to take responsibility for their own Academic Programs. Students should check their registration to ensure they are enrolled in the correct courses.

Academic Rights and Responsibilities: Students should be familiar with their “Academic Rights and Responsibilities” as outlined [here](#) in the Western Academic Calendar. Claiming that “you didn’t know what to do” is not an acceptable excuse for not following the stated procedures.

Guidelines and Policies for Students are posted online in the current Western Academic Calendar at <http://westerncalendar.uwo.ca>. Undergraduate information for the Faculty of Social Science can be found at: <https://www.ssc.uwo.ca/undergraduate/index.html> and for the Department of Economics at: <https://economics.uwo.ca/undergraduate/index.html>.

Rules of Conduct for Examinations: Students are expected to know the university’s Rules of Conduct for Examinations, available [here](#).

Cheating and Academic Offences: Students are responsible for understanding what it means to “cheat.” The Department of Economics treats cheating and other academic offences very seriously and will investigate any suspect behavior. Students found guilty will incur penalties that could include a failing grade or being barred from future registration in Economics courses or programs. The University may impose further penalties such as suspension or expulsion.

Plagiarism: Plagiarism is an academic offence. Students must write their essays and assignments in their own words. Ideas/passages taken from another author must be referenced with footnotes or citations and acknowledged with quotation marks where appropriate. Western University uses software to check for plagiarism and students may be required to electronically submit their work. Those found guilty will be penalized as noted in point 3. See Scholastic Discipline for Undergraduate Students [here](#) in the Western Academic Calendar.

Academic Appeals: Students should refer to the Student Academic Appeals section [here](#) in the Western Academic Calendar. Please note the relevant deadlines.

Department Appeals Procedures: The Department will not consider an appeal unless an attempt has been made to settle the matter with the instructor first. Students who remain dissatisfied with the outcome may submit a written appeal to the Undergraduate Director in Economics, stating the reasons for their appeal. Information on the Department of Economics’ appeals procedure and the appeals form are available [here](#).

Systematic Adjustments: Systematic adjustments of class grade distributions (either up or down) can occur in Economics courses. The systematic adjustment of a class grade distribution is **not** grounds for an appeal.

Add/drop deadlines:

Deadline to add a second term half course:

Tuesday January 19, 2021

Deadline to drop a second term half course:

Sunday March 14, 2021

Oversleeping or Misreading the Exam Schedule: Faculty of Social Science policy states that oversleeping or misreading the exam schedule is NOT grounds for a makeup. This rule applies to all exams in the Department of Economics.

End of Term Travel: Students must book travel arrangements AFTER final exam dates have been posted; travel is not an acceptable excuse for absence from a final exam.

Rewriting Exams and Retroactive Reweighting are NOT Permitted: Students who proceed to write a test or examination must be prepared to accept the mark. Rewriting tests or examinations, or retroactive reweighting of marks, is **not** permitted.

Accommodation Policies: Students with disabilities should work with Accessible Education (formerly SSD), which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The accommodation policy can be found here: [Academic Accommodation for Students with Disabilities](#).

Academic Consideration for Missed Assessments/Exams due to Student Absence: Students will have up to two (2) opportunities during the regular academic year to receive academic consideration if they self-report a missed assessment using the online portal, provided the following conditions are met: the assessment is missed due to an absence of no more than 48 hours in duration, and the assessment for which consideration is being sought is worth 30% or less of the student's final grade. Students are expected to contact their instructors within 24 hours of the end of the period of the self-reported absence, unless noted otherwise on the syllabus. Students are not able to use the self-reporting option in the following circumstances:

- for exams scheduled by the Office of the Registrar (e.g., December and April exams)
- absence of a duration greater than 48 hours
- assessments worth more than 30% of the student's final grade
- if a student has already used the self-reporting portal twice during the academic year

If the conditions for a Self-Reported Absence are *not* met, students will need to provide a Student Medical Certificate (SMC) if the absence is medical or provide appropriate documentation if there are compassionate grounds for the absence in question. Students are encouraged to contact their Faculty academic counselling office for more information about the relevant documentation. It is strongly recommended that students notify the instructor as soon as possible, ideally before the assessment, when they become aware of an absence. University policy is that students must communicate with their instructors no later than 24 hours after the end of the period covered by the SMC or immediately upon their return from their documented absence. Failure to follow University policy and procedures may result in denial of academic accommodation and a grade of zero.

Individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds or for other reasons. **All required documentation for absences that are not covered by the Self-Reported Absence Policy must be submitted to the Academic Counselling office of a student's Home Faculty.**

For Western University policy on Consideration for Student Absence, see:
[Policy on Academic Consideration for Student Absences - Undergraduate Students in First Entry Programs.](#)

For the Student Medical Certificate (SMC), see:
http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

Religious Accommodation: Students should consult the University's list of recognized religious holidays and should give reasonable notice in writing, prior to the holiday, to the Instructor and an Academic Counsellor if their course requirements will be affected by a religious observance. Additional information is given in the [Western Multicultural Calendar](#).

Policy Regarding Class Attendance and Engagement: If the instructor deems a student's attendance or engagement in the class to be unsatisfactory, that student may be prohibited from writing the final examination. Examples of unsatisfactory class engagement include frequent absences from an in-person or synchronous online class, lack of assignment submissions, and inadequate use of online course materials. Instructors who intend to make use of this policy will notify the student in advance.

Statement on Mental Health and Support Services: Students under emotional/mental distress should visit http://uwo.ca/health/mental_wellbeing/ for more information and a complete list of resources on how to obtain help.

Guidelines for Essay Courses

Essay Courses¹

An essay course is a course in which the cumulative amount of written work, excluding written work in examinations, is at least 2,500 words (for a half course).

To pass an essay course, students must exhibit a minimal level of competence in essay writing in addition to comprehension of the course content.

English Language Proficiency for Assignment of Grades²

Written work that demonstrates a lack of English proficiency will be failed or, at the discretion of the instructor, returned to the student for revision to an acceptable level.

To foster competence in the English language, *all instructors will take English proficiency into account when marking*. This policy applies to all courses, not only essay courses.

Recycling of Assignments

Students are prohibited from handing in the same paper for two different courses. Doing so is considered a scholastic offence and will be subjected to academic penalties.

Plagiarism

Plagiarism is defined as “the act or an instance of copying or stealing another’s words or ideas and attributing them as one’s own.”³

Plagiarism applies to ALL assignments including essays, reports, diagrams, statistical tables, and computer projects. Examples of plagiarism include:⁴

- Submitting someone else’s work as your own
- Buying a paper from a mill, website or other source and submitting it as your own
- Copying sentences, phrases, paragraphs, or ideas from someone else’s work, published or unpublished, without citing them
- Replacing selected words from a passage from someone else’s work and using it as your own without citing them
- Copying multimedia (graphics, audio, video, internet streams), computer programs, music compositions, graphs, or charts from someone else’s work without citing them
- Piecing together phrases and ideas from a variety of sources without citing them
- Building on someone else’s ideas or phrases without citing them

¹From the UWO Academic Handbook. See http://www.uwo.ca/univsec/pdf/academic_policies/registration_progression_grad/coursenumbering.pdf

² From the UWO Academic Handbook. See http://www.uwo.ca/univsec/pdf/academic_policies/exam/english.pdf

³Excerpted from HC Black, *Black’s Law Dictionary*, West Publishing Co., 1999, 7th ed., p. 1170.

⁴ Adapted from the San José State University Plagiarism Tutorial <https://libguides.sjsu.edu/plagiarism>

Plagiarism is a serious scholastic offence. Possible consequences of plagiarism include a mark of 0% on the assignment, a mark of 0% for the course, and expulsion from the university.

Instructors may require students to submit written work electronically to <http://www.turnitin.com>. This is a service that assists instructors in detecting plagiarism.

Students seeking further guidance on avoiding plagiarism should consult their instructor. ***Claiming ignorance is not an acceptable excuse.***

The key to avoiding plagiarism is to correctly cite reference sources.

Referencing and Citation Guidelines

The Economics Department has adopted the citation guidelines used in *The Chicago Manual of Style*, 16th edition. Chicago: University of Chicago Press, 2010. You can find an online version on the Western Libraries website. Go to <https://www.lib.uwo.ca/essayhelp/index.html> and click on 'style guides'. For off-campus access, use the *OffCampus Access* sign-in on the Library's homepage.

Economics papers often use the in-text **author-date** style of citations and references. Details and examples of this style are shown in chapter 15 of the *Chicago Manual of Style Online*. See also the handy "Chicago-Style Citation Quick Guide" under Tools on the homepage.

In the body of an essay, in-text citations list the last names of the authors of the piece that are referenced, the year of publication, and, where relevant, page numbers. In-text citations refer the reader to a complete list of bibliographic references at the end of the essay. Papers that cite multiple works by the same author(s) with the same publication year should add a lower case letter after the date in both the in-text citation and References (e.g., 1993a and 1993b). In doing so, the in-text citation points the reader to the relevant work.

Examples of in-text citations:

Diamond (1981, 1982) and Mortensen (1982a, 1982b) find these externalities can cause an inefficient level of search activity...

The "new view of unemployment" which emerged during the 1970s emphasized the importance of turnover in the labour force and the brief duration of many employments spells (Hall 1970, 1972; Perry 1972; Marston 1976).

The primary objectives of the LMAS are "1. To provide measures of the dynamic...the Labour Force Survey" (Statistics Canada 1990, 5).

The list of references at the end of the essay should be titled References or Works Cited. It should provide complete bibliographic information about each source cited. In addition, students should also provide adequate referencing of any data sources. This can be done in a data appendix following the text of the paper and before the References.

Examples of the format and content of references can be found here: <https://www.lib.uwo.ca/files/styleguides/ChicagoStyleAuthorDate.pdf>.

Writing an Economics Essay: Starting Points

To start a written assignment, review your professor's instructions. Read published work written by economists, which will give you examples of the structure and content of economics writing. Examples are readings in the course outline, journals, working papers, etc.

Two helpful sources that give information about how to write for economics are:

McCloskey, Dierdre N. 2000. *Economical Writing*, 2nd edition. Prospect Heights, Illinois: Waveland Press.

Greenlaw, Steven A. 2006. *Doing Economics: A Guide to Understanding and Doing Economic Research*. New York: Houghton Mifflin Co.

Writing an Economics Essay: Resources

The **Resources Link** on Western University's Department of Economics website (<http://economics.uwo.ca/resources/index.html>) provides a link to a list of sources for published and unpublished economic papers, articles, books, theses, government publications, data, etc. Western Libraries has a very useful economics resource page <https://guides.lib.uwo.ca/economics>.

DB Weldon Library has a collection of bibliographies, indexes, handbooks, and periodicals in economics. Library holdings, the online library catalogue, and other resources are available electronically from the Western Libraries Homepage <http://www.lib.uwo.ca/>. These can be accessed off-campus with the OffCampus Proxy Server on the Library main page.

Students are encouraged to take a library orientation tour to learn about where sources of information are located both physically and online. Consult library staff for questions

The New Palgrave Dictionary of Economics is the most comprehensive dictionary of economics in existence today. It is available online through the library catalogue, or in print in the Weldon's Reference section (call # HB 61.N49 2008 v. 1-8).

EconLit (Economic Literature) is an electronic bibliography of literature from 1969 to the present. It covers journals, collected articles, books, book reviews, dissertations, and working papers. It also provides citations, selected abstracts, and links to Western's full-text resources. Students can also print records by downloading marked records to a text file, sending marked records by email, or exporting them to a citation manager such as *Zotaro*. For a list of citation software, see <https://www.lib.uwo.ca/essayhelp/citationmanagementsoftware.html>.

CANSIM (Canadian Socio-economic Information Management System) is Statistics Canada's database of time series data covering a variety of economic aspects of Canadian society. Access the database by a Title Search on the Western Library's Catalogue, or from the Library's list of Databases under "Research Tools" on the Library's homepage.

Western Undergraduate Economics Review (WUER)

The Department of Economics encourages students to consider submitting their essays to the *Western Undergraduate Economics Review*, a journal published annually by the Department that showcases student work in economics. For further information, please visit http://economics.uwo.ca/undergraduate/undergraduate_economics_review.html.

Essay Prize in Economics

Two prizes may be awarded at the end of the academic year. One prize is for a student registered in a 2100 level course, and one is for a student registered in a 2200 or higher level course. Each prize is valued at \$500.

Students can only win the Essay Prize in Economics once. Economics 4400E is not eligible for this prize as it has its own essay award.

Instructors will nominate student essays for the prize. The essay should be submitted to the Undergraduate Coordinator for consideration by the Essay Prize Committee, which will decide the winner. The Essay Prize Committee will consist of the Undergraduate Program Director, WUER Faculty Advisor and one other faculty member. The decision of the Committee is final and cannot be appeal.

Papers will be judged on content, originality, use of references, spelling and grammar.

The grade given to the paper will not influence the decision of the Essay Prize Committee as all comments by the original marker will be removed.

The deadlines for instructor submissions are:

Fall courses: January 1st

Winter courses: May 1st

The winner of the essay prize is encouraged to submit their paper to the Western Undergraduate Economics Review. Other appropriate papers may also be submitted.