

Course Syllabus

ECON 1420 Industrial Organization

Course Syllabus

Brown University, Department of Economics

Fall 2021

Instructor: Manuel Lancastre

Course Logistics:

Lecture Times: Mondays, Wednesdays and Fridays 2:00 – 2:50pm

Lecture location: Kassir House FOX

Section times and locations: (see below)

i) Course Instructor: Manuel Lancastre

Office hours: Mondays: 3-5pm, Wednesdays 3-4pm & Fridays 3-4pm

Office location: Robinson Hall, Office 210

Email: manuel_lancastre@brown.edu (mailto:manuel_lancastre@brown.edu)

Zoom: <https://brown.zoom.us/j/7565762206> ↗ (https://brown.zoom.us/j/7565762206).

Linkedin: <https://www.linkedin.com/in/manuel-lancastre-88987919/>

Website: <https://sites.google.com/view/manuellancastre> ↗ (https://sites.google.com/view/manuellancastre)

ii) Teaching Assistants:

- **Luca Riva** Email: luca_riva@brown.edu (mailto:luca_riva@brown.edu)

Section time and location: Tuesdays: 10:00am - 11:00am, at Barus & Holley Room 157

Office hours and location: Mondays: 5:00pm - 6:00pm (Robinson Hall Basement and [Zoom](https://brown.zoom.us/my/lucariva) ↗ (https://brown.zoom.us/my/lucariva)). If door is locked send me an email and I'll come let you in.

- **Kushagra Agarwal** Email: kushagra_agarwal@brown.edu (mailto:kushagra_agarwal@brown.edu)

Section time and location: Tuesdays 12pm-1pm, at Friedman 201

Office hours and location: Mondays: 4:00pm - 5:00pm (Robinson Hall Basement and [Zoom](https://brown.zoom.us/j/98631126287) ↗ (https://brown.zoom.us/j/98631126287)).

- **Griffin McCauley** Email: griffin_mccauley@brown.edu (mailto:griffin_mccauley@brown.edu)

Section time and location: Tuesdays 1pm-2pm, at Smith-Buonanno Room 207

Office hours and location: Mondays: 1:00pm - 2:00pm (Robinson Hall Basement and [Zoom](https://www.google.com/url?q=https://brown.zoom.us/j/4641572935&sa=D&source=calendar&ust=1631503728728041&usg=AOvVaw3wS6lNvgqVFmOw2CiALdlz) ↗ (https://www.google.com/url?q=https://brown.zoom.us/j/4641572935&sa=D&source=calendar&ust=1631503728728041&usg=AOvVaw3wS6lNvgqVFmOw2CiALdlz)).

- **Kyle Dunn** Email: kyle_dunn@brown.edu (mailto:kyle_dunn@brown.edu)

Section time and location: Tuesdays 2-3pm, at Smith-Buonanno Room 207

Office hours and location: Fridays: 3:00pm - 4:00pm (Robinson Hall Basement and [Zoom](https://brown.zoom.us/my/kyledunn) ↗ (https://brown.zoom.us/my/kyledunn)).

Sections will meet a total of 10 times. Namely, the 8 weeks when the problem sets are due, and the 2 weeks **before** the midterms to go over past ones.

iii) Course Description and Objectives:

This course aims to study industry structure and firm behavior and its implications in settings where the assumptions of perfect competition do not hold. The primary tools of Industrial Organization (IO) are consumer and producer theory, optimization, and in particular game theory.

Students will delve into theoretical and empirical examinations of strategic firm interactions in oligopolistic markets, dominant firm behaviors, and entry deterrence by incumbents; pricing and marketing strategies firms may use to increase profits, and the design of marketplaces (for example Unicorns like eBay and Uber).

Importantly, students will study the interactions between firms in cooperative and non-cooperative environments; the economics of innovation like research and development activities and government patent policies; as well as network effects, and why market share critical mass matters for firm survival in certain markets (for example game consoles, and telecoms). Lastly, students will study public policy responses to firm behavior, including antitrust laws and regulation.

The course will be a balance between theoretical tools and empirical evidence using extensively real world examples to draw the relevant links between theory and applications.

iv) Course Organization and Time allocation

Over 13 weeks, students will spend 3 hours per week in class (39 hours), and 1 hour per week in discussion sections (13 hours). Homework, weekly reading, and midterm preparation will take approximately 9 hours per week (117 hours). In addition, there will be a 3 hours final exam for which approximately 10 hours of review is assumed. Total hours: 182.

v) Course Materials

- **Textbooks:** The primary text for this course is *Industrial Organization: Contemporary Theory and Empirical Applications*, Wiley, 5th Edition by Lynne Pepall, Dan Richards, and George Norman.
- **Power point slides:** used in the lecture, additional readings and problem sets will be available through Canvas: <https://canvas.brown.edu/> ahead each class.

vi) Class exams, Assessment, and Grading

Assessment is based on 8 problem sets, 2 midterm exams, one final exam, and class participation.

- **Problem Sets (25%):** Problem Sets must be legible, and turned in on time. Late problem sets will receive no credit unless a previously arranged extension is granted.
- **Exams:** Two midterm exams (**Midterm I: 20%, Midterm II: 20%**) and a **final (25%)** will be held. Midterms will last 50 minutes. If you are excused from taking either midterm, the percentage value of each exam will be carried over to the final exam. Absences from the final exam will be granted for family and medical emergencies, *if and only if* the request is accompanied by a letter from the Dean. No alternate arrangements will be made.
- **Class participation (10%):** Class participation during lectures and sections is optional but highly recommended and will benefit significantly the entire class. Class participation may only affect positively the final grade (the final grade will not be affected negatively by low participation).

vii) Rules, advice, and class etiquette

1. Lecture attendance is not compulsory. That said, do not interrupt class by leaving unless it is an emergency. And please silence cell phones during lecture time.
2. Although lecture attendance is not compulsory, slides are not a substitute for attendance, and you are responsible for all the material covered in lectures, whether it is on the slides or not.
3. If you disagree with the grading of an assignment/exam, you may request a review within 7 days after the assignment/exam. The request for re-grade **MUST** be done in writing, and must include a description of what the problem is and why you think the exam should be graded differently. In such cases, the whole exam may be re-graded – not just the question you identified.
4. **ALL EXAMS ARE CLOSED NOTES, CLOSED BOOKS.** Simple calculators are allowed.
5. By taking this course, you explicitly pledge that you will not cheat (or help others to cheat) in any way on the exams. Any violations will result in an NC, and a report will be sent to the Dean.

viii) Accessibility and Accommodations

- Brown University is committed to full inclusion of all students. Please inform me early in the term if you may require accommodations or modification of any of course procedures. You may speak with me after class, during office hours, or by appointment.
- If you need accommodations around online learning or in classroom accommodations, please be sure to reach out to Student Accessibility Services (SAS) for their assistance (seas@brown.edu (<mailto:seas@brown.edu>), 401-863-9588). Students in need of short-term academic advice or support can contact one of the academic deans in the College.

ix) Health and Safety Statement for Hybrid Course Meetings: For students meeting in-person in a hybrid course, please remember that you signed an attestation that you will follow required public health practices. These practices include wearing a face mask at all times in university facilities, maintaining social distancing from others, and refraining from eating or drinking during class. If you do not have a mask, I will ask you to leave so that you can retrieve one before rejoining class. Disregard of these practices is a Student Code of

Conduct violation that could result in removal from campus. Please note that instructors are required to abide by the same guidelines, and I look forward to working with you together this term to keep our community safe and healthy.

x) Class Recording and Distribution of Materials: Lectures and other course materials are copyrighted. Students are prohibited from reproducing, making copies, publicly displaying, selling, or otherwise distributing the recordings or transcripts of the materials. The only exception is that students with disabilities may have the right to record for their private use if that method is determined to be a reasonable accommodation by Student Accessibility Services. Disregard of the University's copyright policy and federal copyright law is a Student Code of Conduct violation.

xi) Key Dates:

- Problem Sets are due on: 9/20 (PS 1); 9/27 (PS 2); 10/4 (PS 3); 10/18 (PS 4); 10/25 (PS 5); 11/01 (PS 6); 11/22(PS 7); 12/04 (PS 8).

A PDF copy of each problem set must be uploaded on CANVAS in its respective assignment folder until 11:59pm of the due date.

After the deadline the solutions are posted online.

- Preparation for midterms during sections: week 10/12 (Midterm I), 11/09 (Midterm II)
- Midterm I: Wednesday, October 13th 2021, during class time
- Midterm II: Wednesday, November 10th 2021, during class time
- Final Exam: December 18th 2021, 2-5pm (Check CAB@BROWN (mailto:CAB@BROWN).)

Tentative Course Outline

1) Foundations (classes 1-7; Weeks 1-3):

Week 1- W.09/08:	Course Logistics & Syllabus exposition & Math Refresher	
Week 1- W.09/10:	Microeconomics Foundations	Ch1&2
Week 2- M.09/13:	Microeconomics Foundations (Efficiency and Present Value)	Ch 2
Week 2- W.09/15:	Market Structure and Market Power	Ch 3
Week 2- F.09/17:	Technology and Cost	Ch 4
Week 3- M.09/20:	Technology and Cost (cont.)	Ch 4

2) Monopoly Power in Theory and Practice (classes 8-14; Weeks 3-6):

Week 3- W.09/22:	Price Discrimination and Monopoly: Linear Pricing	Ch 5
Week 3- F.09/24:	Price Discrimination and Monopoly: Linear Pricing (cont.)	Ch 5
Week 4- M.09/27:	Product Variety and Quality under Monopoly	Ch 7
Week 4- W. 09/29:	Product Variety and Quality under Monopoly (cont.)	Ch 7
Week 4- F.10/01:	Product Variety and Quality under Monopoly (cont.)	Ch 7
Week 5- M.10/04:	Commodity Bundling and Tie-In Sales	Ch 8
Week 5- W.10/06:	Commodity Bundling and Tie-In Sales (cont.)	Ch 8

Week 5- F.10/08: **Review for Midterm I**

Week 6- M.10/11: NO CLASS – Indigenous Peoples' Day

Week 6- W.10/13: Midterm I (during class time) (Chapters 1- 7)

3) Three Strategic Interaction and Basic Monopoly Models (classes 20-23; Weeks 6-8):

Week 6- F.10/15:	Static Games and Cournot Competition	Ch 9
Week 7- M.10/18:	Static Games and Cournot Competition (cont.)	Ch 9

Week 7- W.10/20:	Oligopolistic Price Competition	Ch 10
Week 7- F.10/22:	Oligopolistic Price Competition (cont.) & Dynamic Games	Ch 10 & 11
Week 8- M.10/25:	Dynamic Games and First and Second Movers	Ch 11

4) Anti-competitive Behavior and Antitrust Policy (classes 24-27; Weeks 8-9):

Week 8- W.10/27:	Price Fixing, Repeated Games, and Anti-trust Policy	Ch 14
Week 8- F.10/29:	Collusion: Detection and Public Policy	Ch 14

5) Contractual Relations between Firms (classes 28-31; Weeks 10-11):

Week 9- M.11/01:	Horizontal Mergers	Ch 15
Week 9- W.11/03:	Horizontal Mergers (cont.)	Ch 15
Week 9- F.11/05:	Vertical Mergers	Ch 16

Week 10- M.11/08: Review for Midterm II

Week 10- W.11/10: Midterm II (during class time) (Chapters 8-11)

Week 10- F.11/12:	Vertical Mergers (cont.)	Ch 16
Week 11- M.11/15:	Seminar: Fighting Cartels, a Corporate Perspective	

6) Non-Price Competition (classes 32-34; Weeks 11-12):

Week 11- W.11/17:	Advertising, Market Power, and Information	Ch 19
Week 11- F.11/19:	Patents and Patent Policy	Ch 21
Week 12- M.11/22:	Patents and Patent Policy (cont.)	Ch 21

Week 12- 11/24-26: NO CLASS – Thanksgiving

7) Networks (classes 35-36; Week 13):




Week 13- M.11/29:	Networks and Critical Mass	Ch 22
Week 13- W.12/01:	Networks and Critical Mass (cont.)	Ch 22
Week 13- F.12/03:	Course Wrap-up	













Week 14- M.12/06: Review for the Final Exam

12/08 to 12/12: Reading Period

12/18 - 2-5pm: Final Exam (Check CAB@BROWN (mailto:CAB@BROWN))

Course Summary:

Date	Details	Due
Mon Sep 20, 2021	 Problem Set 1 (https://canvas.brown.edu/courses/1085618/assignments/7829927)	due by 11:59pm
Mon Sep 27, 2021	 Problem Set 2 (https://canvas.brown.edu/courses/1085618/assignments/7829928)	due by 11:59pm
Mon Oct 4, 2021	 Problem Set 3 (https://canvas.brown.edu/courses/1085618/assignments/7829929)	due by 11:59pm

Date	Details	Due
Tue Oct 12, 2021	 PRACTICE Midterm 1 - IO Fall 2021 (https://canvas.brown.edu/courses/1085618/assignments/7850704)	due by 11:59pm
Wed Oct 13, 2021	 Midterm 1 (https://canvas.brown.edu/courses/1085618/assignments/7829925)	due by 2:50pm
Mon Oct 18, 2021	 Problem Set 4 (https://canvas.brown.edu/courses/1085618/assignments/7829930)	due by 11:59pm
Mon Oct 25, 2021	 Problem Set 5 (https://canvas.brown.edu/courses/1085618/assignments/7829931)	due by 11:59pm
Mon Nov 1, 2021	 Problem Set 6 (https://canvas.brown.edu/courses/1085618/assignments/7829932)	due by 11:59pm
Tue Nov 9, 2021	 PRACTICE Midterm 2 - IO Fall 2021 (https://canvas.brown.edu/courses/1085618/assignments/7854209)	due by 11:59pm
Wed Nov 10, 2021	 Midterm 2 (https://canvas.brown.edu/courses/1085618/assignments/7829926)	due by 2:50pm
Mon Nov 22, 2021	 Problem Set 7 (https://canvas.brown.edu/courses/1085618/assignments/7829933)	due by 11:59pm
Sat Dec 4, 2021	 Problem Set 8 (https://canvas.brown.edu/courses/1085618/assignments/7829934)	due by 11:59pm
	 PRACTICE FINAL EXAM - IO Fall 2021 (https://canvas.brown.edu/courses/1085618/assignments/7829920)	due by 1pm
Sat Dec 18, 2021	 Attendance (https://canvas.brown.edu/courses/1085618/assignments/7829923)	due by 5pm
	 Final Exam (https://canvas.brown.edu/courses/1085618/assignments/7829924)	due by 5pm