

ECON 1420 Industrial Organization

Course Syllabus

Brown University, Department of Economics

Fall 2022

Instructor: Manuel Lancaster

Course Logistics:

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

Lecture location: Friedman Hall 102

Section times and locations: (see below)

i) Course Instructor: Manuel Lancaster

Office hours: Mondays 3:00-4:00pm & Wednesdays 3:00 - 3:45pm

Office location: Robinson Hall office 210

Email: manuel_lancastre@brown.edu

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

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

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

ii) Teaching Assistants

• **Aditi Singh:**

Email & Zoom: aditi_singh@brown.edu (<https://brown.zoom.us/j/97485078025>)

Section time and location: Tuesdays 11am in Sayles 205

Office hours and location: Mondays 11am in Lobby of 70 Waterman

• **Emma Jackett:**

Email & Zoom: emma_jackett@brown.edu (<https://brown.zoom.us/j/93472021997>)

Section time and location: Tuesdays 3pm in Smith Buonanno G01

Office hours and location: Mondays 4pm in Robinson Hall basement

• **Dimitrios Papadimitriou:**

Email & Zoom: dimitrios_papadimitriou@brown.edu (<https://brown.zoom.us/j/TBA>)

Section time and location: Tuesdays 4pm in Page Robinson 202

Office hours and location: Mondays 3pm in Robinson Hall basement

• **Teddy Hara:**

Email & Zoom: teddy_hara@brown.edu (<https://brown.zoom.us/j/94171044541>)

Section time and location: Tuesdays 12pm in Friedman Hall 003

Office hours and location: Mondays 12pm in Robinson Hall basement

Sections will meet weekly on Tuesdays: in particular during the days homeworks are due, and before midterms and final exam to go over past/practice exams.

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

- **Textbook:** The 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) Evaluation:

- **Overview: Final grades will be based on performance of:**
 - **8 Homework assignments** 20%
 - **Midterm Exam #1, in class** 24%
 - **Midterm Exam #2, in class** 24%
 - **Final exam** 27%
 - **Class participation** 5%
- **Homework assignments:** Homeworks must be legible, and turned in on time. Late homeworks will receive no credit unless a previously arranged extension is granted.
- **Midterm exams** will be held during class with duration of 50 minutes.
- **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:** Class participation during lectures and sections is highly recommended and will benefit significantly the entire class. The class participation grade will be determined primarily based on class and sections attendance. Participation in class and sections discussions, evidence of accessing course materials, and attendance at instructor and/or TA office hours may also be taken into consideration.
- **Final grades** will be based on the percent of the total points earned by each student with cutoffs:
 - 90% or higher A
 - 80% to <90% B
 - 70% to <80% C
 - Less than 70% NC

These cutoffs are the guaranteed levels - if you hit an overall average of 90%, you are guaranteed an "A". On the other hand, you must obtain an overall average of 70% in order to be guaranteed to pass this class. I may move the cutoffs downwards (to your benefit) at my discretion.

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, 401-863-9588). Students in need of short-term academic advice or support can contact one of the academic deans in the College.

ix) Class Recording and Distribution of Materials:

- **THIS IS AN IN-PERSON COURSE:** Residential and commuter students are expected to attend class in person. Recordings of lectures will be made available to students with designated remote status.
- 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.

x) 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); 12/06 (PS 8).

A PDF copy of homework must be uploaded on CANVAS in its respective assignment folder until 5:00pm of the due date. After the deadline the solutions are posted online.

- Preparation for midtermsduring sections: week 10/11 (Midterm I), 11/08 (Midterm II)
- Midterm I: Wednesday, October 12th2022, during class time.
- Midterm II: Wednesday, November 9th2022, during class time.
- Final Exam: December 17th2022, 2-5pm - Check CAB@BROWN

Tentative Course Outline

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

Week 1- W.09/07:	Course Logistics & Syllabus exposition & Math Refresher	
Week 1- F.09/9:	Microeconomics Foundations	Ch1&2
Week 2- M.09/12:	Microeconomics Foundations (Efficiency and Present Value)	Ch 2
Week 2- W.09/14:	Market Structure and Market Power	Ch 3
Week 2- F.09/16:	Technology and Cost	Ch 4
Week 3- M.09/19:	Technology and Cost (cont.)	Ch 4

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

Week 3- W.09/21:	Price Discrimination and Monopoly: Linear Pricing	Ch 5
Week 3- F.09/23:	Price Discrimination and Monopoly: Linear Pricing (cont.)	Ch 5
Week 4- M.09/26:	Product Variety and Quality under Monopoly	Ch 7
Week 4- W. 09/28:	Product Variety and Quality under Monopoly (cont.)	Ch 7
Week 4- F.09/30:	Product Variety and Quality under Monopoly (cont.)	Ch 7
Week 5- M.10/03:	Commodity Bundling and Tie-In Sales	Ch 8
Week 5- W.10/05:	Commodity Bundling and Tie-In Sales (cont.)	Ch 8

Week 5- F.10/07: Revision for Midterm I

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

Week 6- W.10/12: Midterm I (during class time). (Chapters 1- 5, and 7)

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

Week 6- F.10/14:	Static Games and Cournot Competition	Ch 9
Week 7- M.10/17:	Static Games and Cournot Competition (cont.)	Ch 9
Week 7- W.10/19:	Oligopolistic Price Competition	Ch 10

Week 7- F.10/21: Oligopolistic Price Competition (cont.) Ch 10

Week 8- M.10/24: Dynamic Games and First and Second Movers Ch 11

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

Week 8- W.10/26: Price Fixing, Repeated Games, and Anti-trust Policy Ch 14

Week 8- F.10/28: Collusion: Detection and Public Policy Ch 14

Week 9- M.10/31: Seminar: Fighting Cartels, a Corporate Perspective Ch 14

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

Week 9- W.11/02: Horizontal Mergers Ch 15

Week 9- F.11/04: Horizontal Mergers (cont.) Ch 15

Week 10- M.11/07: **Revision for Midterm II**

Week 10- W.11/09: Midterm II (during class time). (Chapters 8-11)

Week 10- F.11/11: Vertical Mergers Ch 16

Week 11- M.11/14: Vertical Mergers (cont.) Ch 16

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

Week 11- W.11/16: Advertising, Market Power, and Information Ch 19

Week 11- F.11/18: Advertising, Market Power, and Information (cont.) Ch 19

Week 12- M.11/21: Patents and Patent Policy (cont.) Ch 21

Week 12- 11/23-27: NO CLASS – Thanksgiving

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

Week 13- M.11/28: Patents and Patent Policy (cont.) Ch 21

Week 13- W.11/30: Networks and Critical Mass (cont.) Ch 22

Week 13- F.12/02: Networks and Critical Mass (cont.) Ch 22

Week 14- M.12/05: Course wrap-up

Week 14-W.12/07: Revision for the Final Exam

12/08 to 12/12: Reading Period

12/17, 2-5pm: Final Exam (Check CAB@BROWN)