

**RES EC 452**  
**INDUSTRIAL ORGANIZATION: REAL MARKETS IN IMPERFECT COMPETITION**  
(3 credits)

Spring 2020  
TuTh 1:00 to 2:15 pm  
Holdsworth Hall 305

Professor: Dr. Christoph Bauner (please call me Christoph)  
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Office hours: Wednesday, 1:00 pm – 2:00 pm and by appointment.  
Please come prepared with a list of specific topics you would like to discuss.

Teaching Assistants: Jing Gan ([jinggan@umass.edu](mailto:jinggan@umass.edu))  
Office hours: Monday, 4:00 pm – 5:15 pm, Flint 210  
Wednesday, 9:05 am – 9:55 am, Flint 210

**Course Web Page:** Most information relevant for this course will be posted on *Moodle*, please check regularly. Not everything will be posted on the course page and it is your responsibility to find out what has been said in class if you are absent. I will use the News Forum to post significant news about the class. Updates will be automatically sent from Moodle to your official UMass email. You are responsible for reading these announcements.

**Course Description:**

This course examines markets: their structure, the strategies used by firms involved in the markets, and the overall economic performance of markets. Markets in the real world depart from the economist's simplified setting of perfect competition and these differences vary from minor to major factors affecting a market's performance. Although all markets can be analyzed with the methods learned in this course, our primary emphasis will be on consumer goods markets. The analysis is from an industrial organization perspective and assumes knowledge of intermediate microeconomics. Topics included are: competition, market power, product differentiation, advertising, barriers to entry and exit, mergers, firm rivalry, competitive strategies including pricing and nonprice strategies, and market performance including prices, costs, and consumer welfare.

*Students typically take RES EC 453 in the following semester, where the attention turns to public policy's role in market performance, covering such issues as competition policies (e.g., the antitrust laws) and industry regulations (e.g., nutrition labeling).*

**Learning Objectives:**

- To express yourself in written and spoken form using appropriate economic and industrial organization (IO) terminology.
- To know, understand and use correctly the Structure-Conduct-Performance (SCP) paradigm to analyze market/industry events and situations.
- To understand and apply IO models and theories verbally, graphically and algebraically.

### **Integrative Experience:**

This course will satisfy the General Education Integrative Experience requirement for Resource Economics majors when taken with ResEcon 394.

“The integrative Experience (IE) requirement at UMass Amherst addresses the challenges associated with educational fragmentation. Positioned in the upper-division, the IE provides students with a structured opportunity to look back on their early college learning experiences, reflect upon and make connections between those earlier experiences and the more advanced work in their major, and use their integrated learning to prepare for the demands of the world beyond the University.”

In this course, you will have the opportunity to reflect on prior GenEd and Resource Economics courses by engaging with current issues presented in Wall Street Journal articles in class and in the context of two course assignments (I.O. in the WSJ and the Industry Study). Rely on your past courses and experiences as well as the analytical framework in this course to analyze the articles.

In this class, you will practice the following two criteria of IE:

- The group project “I.O. in the WSJ” will offer you a shared learning experience with your project teammates for applying your prior learning here at UMass Amherst to a real-world issue related to the structure-conduct-performance of markets and presenting your analysis to class to stimulate discussion.
- You will have the opportunity to practice GenEd learning objectives of critical thinking, collaboration, and interdisciplinary perspective-taking by completing research on an industry of your choice.

### **Required Material:**

- 1- Book: *Industrial Organization: Theory and Practice*, Waldman and Jensen, 5<sup>th</sup> edition, Addison-Wesley, 2019. (The 4<sup>th</sup> edition is also fine as is the 3<sup>rd</sup> edition, but you will have to find page numbers yourself if you use the 3<sup>rd</sup> edition.)
- 2- *The Wall Street Journal*: Daily reading of relevant articles is required and, hence, may be referenced on exams. The WSJ will also be used for *I.O. in the WSJ*, *Industry Study*, homeworks, clicker questions, and exams. Reading the *WSJ* allows us to use, apply, and challenge the economic theory we are learning. Student rate = \$4 per month: <https://r.wsj.com/PROFfyb5>

### **Course Work:**

Homework: There will be approximately twelve assignments focusing on application of concepts. They will be assigned weekly and will alternate between written homework submitted in class, and OWL homework completed and submitted in OWL. Late homework will be assessed a 20% penalty per day. Homeworks are worth 18% of your grade. I will drop the lowest score of each set (written and OWL). Important notes: Important notes:

- 1) **Late written homeworks must be dated and signed** by a member of the department (faculty or staff) if I am absent when it is dropped off. Otherwise, it will get dated at the time it is found.
- 2) You can do the *written homework* jointly with one other student (**maximum two students per team**). If you do make use of this option just put both names on your submission. Both partners will receive the same score. Working in teams is allowed as a means to foster discussions of problems and solutions among students, not as a way to reduce workload. I do not believe that splitting work among students is conducive to the goal of the assignments, namely to give you an opportunity to practice and think about materials covered in class and the book. While I have no way of enforcing you handle your homework this way, it is **your personal responsibility to make sure your team submits a complete homework on time**. Hence, under no circumstances will you receive a better grade or even the opportunity to turn in parts of the homework late because “your partner did not do their share of the work.” Late or incomplete submissions will penalize the entire team.
- 3) OWL is an online learning system that allows you to do problems and immediately receive feedback on your work. OWL homework has to be done individually and questions will vary

slightly across students. To access OWL, go to [owl.umass.edu](http://owl.umass.edu), click on Resource Economics, and log in with your UMass NetID. Click on My Courses on the left and select Res-Econ 452: Spring 2020 (Bauner). There is a button on the top right that allows you to go to the Assignment List, where the assignments will appear when they are ready.

Reflections: As part of the Integrative Experience component of the course, you will be asked to reflect on your learning experience. The goal is to help you think about what you know, what you need to learn, how you learn it, and then reflect on what you have learned and how this is applicable beyond this course. The three to four reflections are worth 2% of your grade.

I.O. in the WSJ: We will have *Industrial Organization (I.O.) in the Wall Street Journal (WSJ)* on Thursdays. We will spend part of these Thursdays discussing recent articles in the context of the Structure-Conduct-Performance (SCP) Paradigm. More details will follow. Most of your work on this will be done **in a team** and this is worth 10% of your grade.

Industry Case Study: Pick an industry you are interested in studying this semester. Over the course of the semester, you will study its Structure, Conduct, and Market Performance. More details will follow. This study is done **in a team** and is worth 20% of your grade.

Exams: A midterm exam is given in class and is worth 20% of your course grade. The comprehensive final exam is worth 30% of your course grade. No make-up exam will be given without prior arrangement. Be prepared to document the reason of your absence and advise me ahead of let me know ahead of time.

Both exams likely will be hard and will include questions you have not seen before, though you should be able to answer all questions correctly if you *know and understand* the materials covered in class.

Practice Problems:

For students who want extra practice, there are two options besides the mandatory homeworks. The textbook has problems at the end of each chapter and provides solutions for the odd ones. Additionally, I will post practice problems throughout the semester. These are voluntary and not graded (though of course you are welcome to discuss them with me or the TA if you have questions about them), but provide an opportunity to get yourselves more comfortable with the course material and I expect they will be helpful when studying for the exams.

**Grades:**

Grades will be calculated according to the following percentages:

	<i>Percentage</i>
Homework	18%
Reflections	2%
I.O. in the <i>WSJ</i>	10%
Industry Study	20%
Midterm Exam	20%
Final Exam	30%

No extra credit under any circumstances!

The *minimum* percentages needed for course grades are as follows:

	F	D	D+	C-	C	C+	B-	B	B+	A-	A
Course grade	-	60	63	67	70	73	77	80	83	87	90
Grade points	-	1	1.3	1.7	2	2.3	2.7	3	3.3	3.7	4

**Students with Special Needs:**

The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. If you have a documented physical, psychological, or learning disability on file with Disability Services (DS), you may be eligible for reasonable academic accommodations to help you succeed in this course. If you have a documented disability that requires an accommodation, please notify me within the first two weeks of the semester so that we may make appropriate arrangements.

**Academic Honesty:**

Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent ([http://www.umass.edu/dean\\_students/codeofconduct/acadhonesty/](http://www.umass.edu/dean_students/codeofconduct/acadhonesty/)).

**Sharing of Material**

As a student in this class you will have access to relevant materials including, but not limited to, homework and exam questions and solutions, lecture slides, the instructions and examples for IO in the WSJ and the Case Study, and this syllabus. Those materials as well as your notes taken off them are for your personal use only. You are welcome to share them with other students in this class, but any sharing with outside entities without prior permission would be a violation of copyright law.

## **Important Dates – RESEC 452-02 (Industry Case Study and Homework deadlines are tentative)**

January 29	Teams due by 5 pm. Sign up through Moodle.
January 30	Homework (HW) #1 – written – due in class.
February 3	Last day to Add or Drop with no record. Case Study installment 1 due by 9 pm.
February 6	HW #2 – completed and submitted in OWL – due.
February 12	Case Study (CS) installment 2 due.
February 13	HW #3 – written – due in class.
February 18	No class (Monday class schedule is followed.)
February 20	HW #4 – completed and submitted in OWL – due.
February 27	HW #5 – written – due in class.
February 28	CS installment 3 due.
March 5	HW #6 – completed and submitted in OWL – due.
March 6	CS installment 4 due.
March 10	Midterm exam (in class)
March 24	Last day to drop with “W.”
March 25	CS installment 5 due.
March 26	HW #7 – written – due in class.
April 2	HW #8 – completed and submitted in OWL – due.
April 9	HW #9 – written – due in class.
April 16	HW #10 – completed and submitted in OWL – due.
April 22	CS installment 6 due.
April 28	HW #11 – written – due in class, <b>and</b> HW #12 - and submitted in OWL – due.
May 7	Final Exam, 10:30 am to 12:30 pm, Holdsworth 305.

## **Tentative Course Outline**

### **I. The Basics of Industrial Organization**

- A) Introduction (W&J, Chapter 1, 4<sup>th</sup> edition: same)
- B) Basic Theory
  - 1. Costs (W&J, Chapter 2, 4<sup>th</sup> edition: same)
  - 2. Relevant Market (W&J, p. 81-84, 4<sup>th</sup> edition: p. 93-95)
  - 3. Perfect Competition and Monopoly (W&J, Sections 3.1-3.4, 4<sup>th</sup> edition: same)
  - 4. Monopolistic Competition (W&J, p. 266-267, 4<sup>th</sup> edition: p. 430-431)
- C) Market Concentration (W&J, Section 4.1 & Chapter 5, 4<sup>th</sup> edition: Sections 4.1 & 4.3)
- D) Entry and Exit (W&J, Section 4.2, 4<sup>th</sup> edition: same)

### **II. Modern Industrial Organization: Game Theory and Strategic Behavior**

- A) Game Theory: A Framework for Understanding Oligopolistic Behavior (W&J, Chapter 6 except 6.5, 4<sup>th</sup> edition: Chapter 7 except 7.5)
- B) Oligopoly Theories of How Firms Compete (W&J, Chapter 7, except 7.1.3 and 7.3.1, 4<sup>th</sup> edition: Chapter 8, except 8.2)
- C) Collusion: The Great Prisoner’s Dilemma (W&J, Sections 13.1, 13.2, 13.4, 4<sup>th</sup> edition: Sections 9.1, 9.2, 9.4)
- D) Oligopoly Behavior: Entry and Pricing to Deter Entry (W&J, Section 14.1, 4<sup>th</sup> edition: Sections 11.1, 3.5)
- E) Oligopoly Behavior: Entry and Nonpricing Strategies to Deter Entry (W&J, Chapter 15, 4<sup>th</sup> edition: Chapter 12)

### **III. Business Practices (time permitting)**

- A) Product Differentiation and Advertising (W&J, Chapters 10 & 11, 4<sup>th</sup> edition: Chapters 13 & 14)
- B) Price Discrimination (W&J, Chapter 9, 4<sup>th</sup> edition: Chapter 16)