

# College of William and Mary

## ECO-461 Industrial Organization

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**Term:** Spring 2021  
**Sec 04:** Online, Asynchronous.  
**Office Hours:** By Appointment, on Zoom

### 1 Course Description

This course is an introduction to the economic analysis of industry. It focuses on the decisions and interactions of firms (and to some extent consumers and governments) within narrowly defined markets. We begin with the neoclassical model of perfectly competitive firms that treats firms as “black boxes” of production. From there we move on to more interesting and realistic structures of competition (differentiated product firms, oligopoly, cartel, and monopoly). In addition, we will look into business practices such as price discrimination, vertical integration, auction, and advertising; investigate interesting firm dynamics; and discuss anti-trust polices and industry regulations such as those relating to merger and predatory pricing. Along the way, we will visit many interesting models and equilibrium concepts, such as game theory and Nash Equilibrium.

### 2 Textbooks & Prerequisites

*Modern Industrial Organization. 4th Edition.* by Carlton & Perloff. Owning a text is strongly recommended but not required.

Students should have completed ECO 303 Intermediate Microeconomic Theory, or equivalent class. In addition, you must have basic calculus skills (differentiation, integration, chain rule, quotient rule, etc.) To succeed in this class, we will solve many economic models, which require algebraic and graphic analyses.

### 3 Lectures and Quizzes

This class is designated as a Remote, Asynchronous class, which means all lectures will be prerecorded and posted Blackboard. Please see the class calendar for a tentative schedule of the dates on which these lectures will be delivered. Each lecture will have four segments, each segment will be 10-20 minutes long. Smaller segments will give you the flexibility of viewing parts of the lecture at a time. The lecture videos will be posted in the early morning on the scheduled dates. It is *\*your responsibility\** to download/view them in a timely manner.

In each lecture video, you will see presentation slides with my voice over them. I will typically annotate and/or write down calculations by hand on these slides, so you can follow along

discussions on important concepts and derivation of model results. I will post the annotated slides with hand-written notes on-line after the class.

There are two ways for me to monitor your progress in studying the lectures. (1) Panopto on Blackboard allows the instructor to view \*individual\* students' "minutes delivered" and "percent completed" for each segment of the lecture. I will send you a warning Email if you have fallen behind in your lecture viewings. (2) There will be a weekly on-line quiz, consisting of multiple choice questions to see if you have grasped the materials learned in that week. These short quizzes will be concept oriented, and you should get all of them correct if you have studied the lecture videos on time. I will typically post the quizzes on Friday morning, and you will have until Sunday to complete the quiz. You must complete these quizzes on your own. You will \*not\* be allowed to take the quiz once the deadline is passed, and you will \*not\* be able to earn the quiz credit for that week.

## 4 Online Discussion Forum

If you find any parts of the lecture confusing or you need to ask a quick question regarding the class, you can use the lecture discussion forum I have created on Blackboard. You can create a new thread to ask questions on any class topics, and everyone can share their comments and discuss the same topic. I will get notification on any new threads/comments posted and join in the discussion as soon as I can. This forum is designed to mimic a classroom like environment, where everyone can raise a hand and ask professor questions and share the responses with everyone else.

I highly recommend this way of discussion. Due to the asynchronous nature of the class, this is a great way of fostering a sense of community and encourage class interaction and engagements. Also feel free to use the forum to share any economics related comments/discussions, for example, some news items that you can relate to the class.

## 5 Assignments

There will be 6 assignments. Each assignment \*must\* be submitted on Blackboard by a specified due date/time. Please see all the submission deadlines on the course calendar. No late assignments will be accepted, and you cannot drop a homework score.

Different from the quizzes, questions on these assignments can be time-consuming, and they are designed to deepen your knowledge and will all involve some calculations, derivations, or graphing with multiple steps. Homeworks in this course are designed as extensions to the lectures. In other words, they are meant to be slightly more difficult and more involved than the lecture examples, so you can learn how to apply the concepts from the lectures.

Due to the nature of electronic submissions, typed solutions are preferred. However, if you must hand-write your assignments, please make sure all the words and equations are neatly

written, and all the graphs are clearly labeled. In the case of hand-written assignments, please carefully scan or photograph your written assignments, and upload them online. Messy or low resolution homeworks will NOT be accepted and will be given zero points for that assignment.

You will need to submit each assignment twice on Blackboard. On the first submission, any reasonable effort will guarantee you a passing homework grade - 60%. “Reasonable” means you must have worked on every problem of a particular assignment. If you fail to submit the homework on the first submission date, you will receive zero point for that particular homework assignment, no exceptions. If you only submit a partial homework, you will be guaranteed 60% on the parts you have done.

Immediately after the first submission deadline, an answer sheet will be posted online. Then, you are tasked to go over your own homework. You must (1) identify any mistakes you have made; (2) comment or write down the correct answer. This is designed for you to relearn the course materials from your own mistakes. So please comment on your \*original\* homework. The corrected homework will be submitted on a second specified deadline, usually 3-5 days after the first submission. If you have corrected and commented on all your mistakes, then you will receive the additional 40% on your homework. This means that if you work diligently on homeworks, you should receive 100% on all your homework.

I will audit the corrected homeworks from the second submission. If I discover any mistakes not corrected or corrected wrong, the points of that part will be deducted from your homework. Your total loss of points is capped at 40%. In rare cases, if a student does not treat the grading assignments seriously or attempts to cheat, the grading would be rejected. He/she would receive zero points for the entire homework assignment.

You are permitted and even encouraged to work with other students on assignment. However, each student must write up his or her own version of a solution, and everyone who collaborated must be \*acknowledged\* in the homework. When you solve a problem jointly, I expect you to then be able to look away from the group notes and reproduce the solution on your own. If not, you have learned nothing from the exercise, and are giving yourself a false sense of security about your understanding of the material. Moreover, **identical assignments will receive a score of zero.**

## 6 On-line Data Tasks

You will complete 2-3 on-line data tasks. They are testing your ability gather and analyze data. I will post data sources and short instructions for those assignments. These instructions should be very straightforward in helping you access and navigate the necessary on-line data websites, so I will *not* go over them in class. However, if you need help with the data, please do not hesitate to contact me. You must complete these tasks individually.

## 7 Exams

There will be two midterms and one comprehensive final exam. The midterms are NOT cumulative, and they will be administered during a regular class day, please see the class calendar for the scheduled dates of the exams. The final is cumulative, and will be administered on the official College scheduled final exam date.

Before each midterm, you will be given a practice exam, and I will post a video showing you how to solve the questions on the practice exam on the scheduled dates (see class calendar).

All exams are \*open booked\*, and you may use your notes if you would like. However, you will have \*limited time\* to complete the exam, so studying on the fly will not be a viable option. Please download and print the exam booklet, and neatly hand write your answers in the booklet just like in an actual exam. Once you are done, please scan/photograph the exam and upload it to blackboard. Alternatively, if you do not have access to a printer, please write out your answers neatly using pieces of white paper or notebook paper, then scan and upload. In the alternative scenario, you do not need to copy down the questions, but please make sure you write down the question numbers so I can follow your answers.

Questions will be similar in format to those on homework assignments and practice exams. No cooperation is allowed during the tests, and any attempts of dishonesty will be punished with as much severity as the College permits.

There will be no make-up exams for midterm exams. If you are in a different time zone, and need to take the exam at a different time, you need to contact me in the beginning of the semester so necessary arrangements can be made. If you need to miss a midterm exam, you must notify me with a written/email request at least 24 hours before the exam. Any reason for missing a midterm is accepted, as long as the request is submitted to me before the deadline. Please note that I do NOT cancel or drop grades after the deadline. In the case of a dropped exam, the points from that exam will then be automatically moved to your final exam, so you don't lose the opportunity to gain those points.

The final exam will be held on the university scheduled Final Exam date. It will be open-booked and time-limited, just like the midterms. The only valid reasons for requesting a makeup final exam would be: (1) A documented College sponsored events; (2) A documented medical emergency; (3) Some other documented extraordinary events. If one of these apply to you and you need to reschedule the final exam, you must first submit a request to the office of the Dean of Undergraduate Studies, and then I will need to sign off on your request.

## 8 Grading

Your final class grade is based on your performance in assignments, data tasks and exams. A total of 100 points are possible for the course. They are distributed as follows: Homework

assignments (each 100 points) - 20%; Online quizzes - 5%; Data tasks - 5%; Midterm 1 - 15%; Midterm 2 - 15%; Final - 40%.

If you disagree with the grading of an exam, you may resubmit it for my review. I will expect you to have a written argument for why you should be awarded more points. Also, please submit these disputes within one week of the exam return date.

**Grading Scale:**

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
	92.9%	89.9%	86.9%	82.9%	79.9%	76.9%	72.9%	69.9%	66.9%	62.9%	
$\geq$	to	to	to	to	to	to	to	to	to	to	<
93%	90%	87%	83%	80%	77%	73%	70%	67%	63%	60%	59.9%

Please carefully note that I do *\*not\** curve grades, and the grade scales above are ABSOLUTELY firm. This means, for example, if you get a class score of 89.99, you will absolutely get a B+, not a A-.

## 9 Class Communication and Office Hours

E-mails will be the primary way of communicating with me. Emails will generally be answered within 24 hours. However, emailing me the evening before homework due date or an exam will not guarantee you a response. When emailing, please use your official WM email, emails from any other accounts will be disregarded! Also, please clearly state your name and your class (ECON 461 - Industrial Organization) in the subject line, or your email will generally be ignored.

There will not be any traditional face-to-face office hours. However, there will be ten 15-minute slots each week for me to join you in an individual live Zoom session to help you on class materials. Each student can sign up for *\*at most\** two slots per week (30 minutes). These slots are available on a first-come-first-serve basis. Please email me to sign up in the beginning of a week. In your sign up email, please let me know your name (or names if you have a group that would like to join in at the same time), and your preferred time slots for meeting. I will send you (or your group) a confirmation and a Zoom meeting link in the reply email.

## 10 Academic Honor Policy:

You are expected to follow the William & Mary Honor Code. If I discover any academic misconduct, I will initiate an Honor Council proceeding and recommend failure of the course. If you have any questions about how the Honor Code relates to this course, feel free to talk to me or refer to the Student Handbook and the William & Mary Honor Council’s website.