# **Course Syllabus<sup>+</sup>**, Fall 2018

# SECTION INFORMATION

Section	Days	Time	Classroom	Instructor	Office hours
MGEC 611-001	T/Th	9-10:30	JMHH 255	Benjamin Lockwood	Wednesdays,
MGEC 611-002	T/Th	10:30-12	JMHH 255	Benjamin Lockwood	3:00–4:30pm
MGEC 611-003	T/Th	1:30-3	JMHH 255	Benjamin Lockwood	(SHDH 1409)
MGEC 611-004	T/Th	9-10:30	JMHH 245	Clayton Featherstone	Tuesdays,
MGEC 611-005	T/Th	10:30-12	JMHH 245	Clayton Featherstone	3:30–5:00pm (SHDH 1352)
MGEC 611-006	T/Th	1:30-3	JMHH 245	Clayton Featherstone	
MGEC 611-007	T/Th	9-10:30	JMHH 250	Daniel Grodzicki	Wednesdays,
MGEC 611-008	T/Th	10:30-12	JMHH 250	Daniel Grodzicki	1:30–3:00pm (SHDH 1452)
MGEC 611-009	T/Th	1:30-3	JMHH 250	Juuso Toikka	Wednesdays,
MGEC 611-010	T/Th	9-10:30	JMHH 240	Juuso Toikka	(SHDH 1405)
MGEC 611-011	T/Th	10:30-12	JMHH 240	Gizem Saka	Fridays,
MGEC 611-012	T/Th	1:30-3	JMHH 240	Gizem Saka	(PCPSE 531)

## READINGS

The principal readings for the course will take the form of short popular press articles, posted on Canvas. Each class session will have one to three articles assigned for reading in advance of class. For students who wish to supplement the lectures, the primary textbook is "Microeconomics", B. Douglas Bernheim and Michael D. Whinston, 2<sup>nd</sup> Edition, McGraw-Hill [BW below]. It is not mandatory, but may be useful for students with no or little background in economics, or those who have not seen similar material in many years. The text is available at the bookstore.

Before each class, we expect all students to have read the assigned popular press articles for that class to facilitate a classroom discussion on the lecture's lesson. The assigned articles are linked from the home page on Canvas.

<sup>&</sup>lt;sup>+</sup> Updated August 27, 2018

## **TEACHING ASSISTANTS**

Name	Email	Grades for
Stephen Kozhimala	skoz@wharton.upenn.edu	Sections 001, 002
Nikhil Goyal	nikgoyal@wharton.upenn.edu	Sections 003, 004
Minwoo Choi	minwooc@wharton.upenn.edu	Sections 005, 006
Vasanth Subramanian	vasanths@wharton.upenn.edu	Sections 007, 008
Manan Agarwal	mananag@wharton.upenn.edu	Sections 009, 010
Julie McGibbon	Julie.m.mcgibbon@gmail.com	Sections 011, 012

TAs are responsible for holding office hours, teaching TA sessions, and performing grading. For the most part, we request that you not email TAs, and rather ask questions on the central Canvas site—this allows all students to benefit from your question, and prevents the TAs from having to answer the same thing several times.

Questions posted to Canvas on weekdays will be answered within 24 hours; questions posted on weekends will be answered by end of day on Monday. (Meaning, if you want an answer by 4pm on Wednesday so you can have time to finish your problem set due 4pm on Thursday, submit your question by 4pm on Tuesday. Questions posted about the problem set after 4pm the day before the due date may not be fully answered.)

#### TA office hour schedule:

TA office hours begin in the week of September 4 (in observance of Labor Day, no office hours will be held on September 3) and extend through the week of October 8.

	Monday	Tuesday	Wednesday
3:00-4:30 pm	Vasanth		Minwoo
-	Subramanian		Choi
	SHDH 213		SHDH 213
4:30-6:00 pm		Julie	Steve
-		McGibbon	Kozhimala
		SHDH 109	SHDH 209
6:00-7:30 pm	Manan		Nikhil
	Agarwal		Goyal
	SHDH 209		SHDH 209

TA office hours are a time to receive one-on-one help from TAs. This is essentially free "tutoring" time, when the TA can go through any concepts you might be struggling with. We do ask, however, that students not ask directly about the problem sets in office hours. Instead, please come prepared to ask for help with similar questions, or the general concept being covered by a certain problem. If you have clarifying questions on problem sets, please ask them on Canvas.

## **TA SESSIONS**

Lecture time is scarce, and will thus be targeted at conveying the core concepts, motivating the intuition behind the concepts and their usefulness, providing an outline of how to solve problems, and class discussion. If you have not taken economics before, do not have a quantitative background, or find yourself struggling to understand the slides, you can go to TA sessions (also called "recitations") for more details on how to solve problems and step-by-step description of the math involved. This combination of lecture plus TA recitation sessions allows us to target lecture to the "median student," with recitation to supplement for students who find the pace too fast. While going to recitation is not mandatory, it will be extremely helpful if you struggle to understand the lecture materials. The TA will go through the problems solved in lecture more slowly, in greater detail, as well as doing supplementary problems when time allows. There will also be fewer students in each TA session, which will allow you to ask questions and receive more customized assistance.

You do not need to register for TA recitation sessions, but should plan to choose the one that fits your schedule and attend it regularly.

The "TA session week" goes Tuesday through Monday. TA sessions Tuesday-Monday will all cover the same lectures, and then the following Tuesday's TA session will cover the next lectures.

The TAs will also hold reviews for the final exam, which will be announced closer to the end of the quarter.

#### TA session schedule:

TA sessions begin in the week of September 4 (in observance of Labor Day, no TA sessions will be held on September 3) and extend through the week of October 8. (No TA sessions will occur on October 4 due to fall break.) In a given week, all TA sessions will cover the material from the Tuesday and Thursday lectures of the previous week.

ТА	Day	Time	Room
Stephen Kozhimala	Wednesday	3-4:30 pm	SHDH 107
Nikhil Goyal	Monday	6-7:30 pm	SHDH 1203
Minwoo Choi	Wednesday	4:30-6 pm	JMHH G50
Vasanth Subramanian	Thursday	6-7:30 pm	VANC B11
Manan Agarwal	Monday	4:30-6 pm	JMHH G50
Julie McGibbon	Tuesday	3-4:30 pm	JMHH F65

## MATHEMATICAL REQUIREMENTS

In this class, you are required to be able to do algebra and calculus. If you struggle with these, you may consider investing in a graphing calculator (TI-89) that can take derivatives for you. To be successful in this class, you should:

- 1. Be able to graph an equation, especially a linear equation.
- 2. Be able to solve a system of two linear equations and two unknowns.
- 3. Be able to compute the derivative of a simple equation.
- 4. Know how to find the maximum or minimum of a function using derivatives.

## **GRADING POLICIES**

- 1. We encourage students to work together with their learning teams to solve the problem sets. However, each student must write up and submit an individually generated problem set. If you need to collaborate with someone outside your learning team, please write their name on your problem set, e.g., "Additionally consulted: Susan C. Wharton." Working together with your learning team is a great way to build a community that will be with you throughout your Wharton experience, and to learn from one another's strengths.
- 2. Problem sets should be submitted to the section-labeled hanging folders just inside **1041 Steinberg Hall-Dietrich Hall** (i.e. the smaller door to the left of the main entrance to the 1400 suite). Please submit your problem set to the correct folder associated with your section. The door will be closed at 4 pm on the day of the deadline. Please be mindful that this is a working office. **Submissions will not be accepted once the door is closed, and submissions will not be accepted through any other method, including email.**
- 3. The exam is closed book, but a one page formula/note sheet (front and back) is allowed along with a stand-alone (not a phone or a computer) calculator (details to be discussed in class).
- Each problem set is graded on a twenty-point scale across all problems in the problem set. Full points will be given for correct answers showing the derivations.
  Points will be subtracted for mathematical and logical errors. Zero points will be given for no answers OR correct answers without supporting derivation.
- 5. If you wish to dispute a grade on an assignment or an exam, you must do so by set deadlines. For problem sets, this deadline will be the Friday after the problem sets are handed back. For exams, the deadline will be announced, but will be no more than 1 week after the exams are available for pickup. In order to file a dispute, you must ante up 5% of the value of the assignment. If we conclude that your dispute is valid, you will receive the 5% back, but if not, we will keep it. We also reserve the right to re-grade all parts of a dispute assignment, not only the specific parts you wish to dispute. Finally, your dispute must be put into writing, attached to the original graded problem set or exam, and submitted to the same place that the homework assignments are submitted, by 4 pm on the dispute deadline. Again, disputes will not be accepted beyond the deadline, which will be no more than 1 week after graded materials are available for review, and disputes will not be accepted through any other method.

#### 6. Any evidence of cheating is sent immediately to the Dean.

7. Your score for the course will be calculated according to the following table. Course grades will be "curved" by individual instructors.

Assessment	Due Date	% Of Grade
Problem Set 1	Tuesday, Sept 18 (4pm)	13%
Problem Set 2	Tuesday, Oct 2 (4pm)	13%
Problem Set 3	Friday (!), Oct 12 (4pm)	13%
MGEC 611 Exam	Tuesday, Oct 16 (6pm)	50%
Attendance and Participation	-	11%

## **CLASSROOM POLICIES**

- 1. Each student must sit in his or her assigned seat with name-card displayed.
- 2. You are expected to have read the assigned articles before class. We suggest that you briefly discuss them with your learning teams as well.
- 3. We will cold-call people. If this is an issue for you, please discuss it with your instructor.
- 4. If you would like to take notes electronically, tablets but not laptops or smartphones can be used in the classroom.
- 5. Wharton "concert rules" apply: be seated when class is scheduled to start and don't leave the room unless absolutely necessary.

# **ATTENDANCE POLICIES**

We will rely on the attendance app developed by the MBA Program Office (MBAPO) in conjunction with the seating chart to record attendance. Arriving FIVE or more minutes late for class is treated as an absence and absences will be excused only for the specific reasons listed on the MBAPO website (personal illness, personal or family emergency, and religious holidays for observant students).

If you were marked absent for class erroneously, you can log into SPIKE and enter an explanation. Please note that absences due to late check-in or forgetfulness cannot be removed or excused, per the MBA Program Attendance Policy for fixed core classes. However, the explanation will be taken into account when evaluating attendance data. Please review the full attendance policy here:

https://mba-inside.wharton.upenn.edu/mba-program-attendance-policy/.

## HOW TO BE SUCCESSFUL IN THIS CLASS

This is a quantitative class, and the exams will test your ability to solve problems with the tools we learn, rather than your memorization of facts. Because of this, the best way to study is to go through the problems we do in class and redo the problem sets carefully on your own. Repetition, in particular of actually answering quantitative problems yourself, is very helpful.

We recommend going through the lecture notes between classes with a pen and paper, doing the example problems out long-form. Additionally, working through the problem sets is not merely busy-work for a grade — they are truly the best preparation for the exam!

If you are struggling, please go to office hours and TA sessions early in the term—do not wait until you are behind!

## LIST OF LECTURES AND TOPICS

#### Note: please refer your professor's course page in case of any changes to articles

#### **Unit 1: The Context In Which Firms Operate**

- 1. Aug 28: Course Introduction and Market Demand.
  - 1. Overview of the Course
  - 2. Reservation Prices and Demand
  - 3. Aggregating Demand Curves

Textbook: BW Chapters 2.1, 14.2 section on "Market Demand", 14.5

- 2. Aug 30: Equilibrium and Elasticity
  - 1. Supply and Market Equilibrium
  - 2. Welfare: Consumer and Producer Surplus
  - 3. Understanding Consumer Demand: Price elasticity and cross-price elasticity

Textbook: BW Chapters 2.3, 2.4

- 3. Sept 4: Government Interventions: Taxes and other Regulations
  - 1. How interventions affect a market equilibrium
  - 2. Incidence of interventions

Textbook: BW Chapter 15.1, 15.2

- 4. Sept 6: Externalities
  - 1. Externalities, and why governments intervene.

Textbook: BW Chapter 20.1, 20.3

#### **Unit 2: Production Decisions and Pricing**

- 5. Sept 11: Production and Supply Curves
  - 1. Types of costs firms face
  - 2. Production functions
  - 3. Solving for the optimal ratio of inputs

**Textbook**: BW Chapters 2.2, 7.2, 7.3 (through p. 223), 8.1-8.6

- 6. Sept 13: Producing in Perfectly Competitive Industries
  - 1. What do we mean by a "perfectly competitive" market?
  - 2. Profit maximization by perfectly competitive firms
  - 3. Market outcomes in perfectly competitive markets
  - 4. Short Run vs. Long Run decision-making

**Textbook**: BW Chapter 9 (in particular 9.3), 14.3, 14.4

#### **PROBLEM SET 1 DUE TUESDAY, SEPT 18**

- 7. Sept 18: Producing with Market Power: Monopoly
  - 1. What is market power?
  - 2. Marginal Revenue and choosing how much to produce ("setting price")
  - 3. Sources of Market Power: patents, licenses, etc.
  - 4. The Inverse-Elasticity Pricing Rule

Textbook: BW Chapter 17.1-17.3

- 8. Sept 20: Pricing in vertical markets
  - 1. How market structure at different levels affects the final goods market
  - 2. Double markups and how to avoid them
  - 3. Implications of forms of downstream/retail competition
  - 4. Optimal contracts to overcome vertical market distortions

**Textbook**: PR Appendix to Chapter 11, available on study.net.

#### **Unit 3: Game Theory Fundamentals**

- 9. Sept 25: Simultaneous-move games
  - 1. Game theory as a framework for thinking about strategy
  - 2. The elements of a game and different types of games.
  - 3. Simultaneous move games: drawing a game board, dominant strategies, dominated strategies, and Nash Equilibrium

**Textbook:** BW Chapter 12.1-12.2, 12.3 (through p. 406), 12.4 (through p. 417)

- 10. Sept 27: Sequential and Repeated Games
  - 1. Sequential games, the game tree, and backwards induction.
  - 2. Credible and non-credible threats.
  - 3. Changing the game structure to change the outcome.

Textbook: BW Chapter 12.4 (from p. 418), 12.5

## **PROBLEM SET 2 DUE TUESDAY, OCT. 2**

- 11. Oct 2: Repeated Games
  - 1. Finitely repeated simultaneous move games.
  - 2. Review of time-value and discounting principles
  - 3. Infinitely repeated games
  - 4. Application: Price Wars

Textbook: BW Chapter 19.5

12. Oct 9: Course Review and Optional Topics

## PROBLEM SET 3 DUE FRIDAY (!) OCT 12

## MGEC 611 EXAM – TUESDAY, OCTOBER 16, 2018, 6:00-8:00 p.m.