

## ECON 482 Economics of Digital Economy

## Course Syllabus

**Credits:** 3 undergraduate hours, or 4 graduate hours

**Semester:** Fall 2021

**Meeting Times:** TR 9:30AM-10:50AM via Zoom. The Zoom meeting link is as follows.

<https://illinois.zoom.us/j/82513195366?pwd=UFdQM084Y1U1UFJWaG1tT2U3cCs2Zz09>

*Meeting ID: 825 1319 5366*

*Password: 223378*

**Instructor:** Professor Seung-Hyun Hong

**Email:** [hyunhong@illinois.edu](mailto:hyunhong@illinois.edu)

**Office Hours:** Tuesday 2-3:30 via Zoom. You need to email me in advance to make an appointment.

### Course Description

Understanding digital economy does not require brand new economic theories. Instead it needs a different emphasis on factors that are also present in the traditional economy: e.g. more information, lower search costs, lower marginal costs, etc. This course analyzes firm strategies and public policy issues surrounding digital economy and related industries. The analysis applies economic tools and principles, including game theory, industrial organization, and information economics. Topics include: differentiation of prices and products; search cost and price dispersion; network effects and system competition; economics of platforms; intellectual property; antitrust regulations.

### Prerequisites

Econ 302 (Intermediate Micro Theory).

### Learning Outcomes

- **Analytical Skills/Problem-Solving:** ECON students will effectively visualize, conceptualize, articulate, and solve complex problems or address problems that do not have a clear answer, with available information, through experimentation and observation, using microeconomic and macroeconomic theory, as well as calculus and statistical tools.
- **Critical Thinking:** ECON students will apply economic analysis to everyday problems helping them to understand events, evaluate specific policy proposals, compare arguments with different conclusions to a specific issue or problem, and assess the role played by assumptions in arguments that reach different conclusions to a specific economic or policy problem.
- **Specialized Knowledge and Practical Application:** ECON students will develop deeper analytical, critical, and quantitative skills in specialized areas by applying economic concepts to real world situations.

### Learning Resources

Mainly, class slides, and additionally some articles (see course outline). Course slides will be available on Compass. Note that slides posted on Compass are incomplete, which is intentional. Complete slides will be shown only during class, in a way to indirectly penalize those who miss a class.

The course does not have a required textbook. Some of chapters from the following textbook will be suggested to supplement class materials:

- Jeffrey R. Church and Roger Ware, Industrial Organization: A Strategic Approach  
Free download available: [http://works.bepress.com/jeffrey\\_church/23/](http://works.bepress.com/jeffrey_church/23/)
- R. Preston McAfee, Tracy R. Lewis, and Donald J. Dale, Introduction to Economic Analysis  
Free download available: <https://www.kellogg.northwestern.edu/faculty/dale/ieav21.pdf>

The following article by Hal Varian (formerly at UC Berkeley, and currently the chief economist at Google) provides broad frameworks to look at economics of digital economy, so you should read: "Economics of Information Technology", 2001, Mattioli Lectures. You can download it from <http://people.ischool.berkeley.edu/~hal/Papers/mattioli/mattioli.pdf>.

**Website:** Compass 2G

### Important Date/Time:

This course will include the following Exams:

Take-Home Quiz 1: From **3PM (CT) on Wed, Sep 15** until **3PM (CT) on Thu, Sep 16**

Take-Home Quiz 2: From **3PM (CT) on Wed, Oct 13** until **3PM (CT) on Thu, Oct 14**

Take-Home Exam 1: From **3PM (CT) on Sun, Nov 14** until **3PM (CT) on Tue, Nov 16**

Take-Home Exam 2: From **3PM (CT) on Sun, Dec 5** until **3PM (CT) on Wed, Dec 8**

### Student Assessment

#### Scoring

- |                     |                                              |
|---------------------|----------------------------------------------|
| • Assignments 1-5:  | 200 Total Points (50 points for each)        |
| • Take-Home Quiz 1: | 100 Total Points                             |
| • Take-Home Quiz 2: | 100 Total Points                             |
| • Take-Home Exam 1: | 150 Total Points                             |
| • Take-Home Exam 2: | 200 Total Points                             |
| • Zoom Attendance:  | 200 Total Points (= 20 X 10 points for each) |
| • Class Discussion: | 300 Total Points                             |

#### Grading

Your final score will be out of 1,250 points. Your final grade will be **curved**, based on the distribution of total scores.

### Course Policies

**Assignment Policy:** You have to **submit your assignment to Compass by 9:30am (CT) on the due date**. Late submission will receive no credit. Note that there will be 5 assignments: each accounts for 50 points, but the total scores of all 5 assignments cannot exceed 200 points, i.e. your total assignment scores = min(200, sum of all 5 assignments). E.g., if you already got 200 from 4 assignments, the last one will not count. But if your total from 4 assignments is less than 200, the score from the last one can make up for the difference. Most assignments are related to upcoming topics, so their due dates depend on how quickly or slowly we cover different topics. But you can expect 1-2 assignment(s) each month (Sep, Oct, Nov), and they will be posted about one week before the due date.

**Take-Home Quiz Policy:** There will be no make-up quiz. Each quiz will be based on numerical examples covered in the class. It will be available on Compass at the start time specified above. You are supposed to provide (mostly numerical) answers. You should **type your answers on a text file (e.g. MS Word) and submit it to Compass by the end of the quiz time**. Late submission will receive no credit.

**Take-Home Exam Policy:** I will post a case study or some topic, and related questions. They will be related to the topics covered in the course. Based on this, you have to basically write a short paper. Detailed instructions will be posted on Compass at the beginning of each exam time (see above). **You have to submit your paper to Compass by the end of the exam time**. Late submission will receive no point (so even if your paper is incomplete, it's better to submit it by the deadline, since submitting late will result in no point).

Note that because each paper is written by each student, it is impossible that two (or more) different papers are identical or very similar, unless two (or more) students copy their papers from the same source, or each other. All these cases indicate cheating. Hence, if two (or more) papers are found to be the same or very similar, they will not get any point.

**Class Discussion Policy:** Some classes (especially, right after each assignment) will mostly involve your discussion on case studies or specific topics. You can receive points for your participation (typically 10 points each). In addition, most lectures will involve your discussion on questions related to class topics. If you actively participate in this discussion, you can get similar points. How do you get each point? I will raise a question, or we may start discussing some topic. In Zoom, you can "Raise Hand", and if I allow you to speak, you can provide your answer or contribute to a particular discussion. As long as your contribution is sufficient (e.g. providing a reasonable answer), you will receive 10 points.

**Zoom Attendance Policy:** I will check your Zoom meeting attendance. Please make sure that you login Zoom using your Illinois NetID, and your name on the meeting screen is correct. Note that the Zoom provides me with your attendance info (when you join and leave, and how long you stay in the meeting).

**Graduate Students:** If you are taking the course with 4 credits (mostly, master students), you are required to submit one more paper. More instructions will be given later.

### Academic Assistance

Students are encouraged to utilize the many resources we have throughout campus to assist with academics. We recommend that you seek them out starting early in the semester, not just in times of academic need, in order to develop good study habits and submit work which represents your full academic potential.

Many resources are found on the Economics Website including details about the Economics Tutoring Center, Academic Advising, and other academic support options: <https://economics.illinois.edu/academics/undergraduate-program/academic-student-support>

### Academic Integrity

According to the Student Code, 'It is the responsibility of each student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions.'

Please know that it is my responsibility as an instructor to uphold the academic integrity policy of the University, which can be found here: <https://studentcode.illinois.edu/article1/part4/1-401/>

Academic dishonesty may result in a failing grade. Every student is expected to review and abide by the Academic Integrity Policies. It is your responsibility to read this policy to avoid any misunderstanding. Do not hesitate to ask the instructor(s) if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity. **Read the full Student Code at** <https://studentcode.illinois.edu/>

### Students with Disabilities

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES you may visit 1207 S. Oak St., Champaign, call 333-4603 (V/TTY), or e-mail a message to [disability@illinois.edu](mailto:disability@illinois.edu). DRES Website: [www.disability.illinois.edu/](http://www.disability.illinois.edu/)

### Community of Care

As members of the Illinois community, we each have a responsibility to express care and concern for one another. If you come across a classmate whose behavior concerns you, whether in regards to their well-being or yours, we encourage you to refer this behavior to the Student Assistance Center (217-333-0050 or <http://odos.illinois.edu/community-of-care/referral/>). Based on your report, the staff in the Student Assistance Center reaches out to students to make sure they have the support they need to be healthy and safe. Further, we understand the impact that struggles with mental health can have on your experience at Illinois. Significant stress, strained relationships, anxiety, excessive worry, alcohol/drug problems, a loss of motivation, or problems with eating and/or sleeping can all interfere with optimal academic performance. We encourage all students to reach out to talk with someone, and we want to make sure you are aware that you can access mental health support at the Counseling Center (<https://counselingcenter.illinois.edu/>) or McKinley Health Center (<https://mckinley.illinois.edu/>).

For mental health emergencies, you can call 911 or walk into the Counseling Center, no appointment needed.

### Disruptive Behavior

Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. A student responsible for disruptive behavior may be required to leave class pending discussion and resolution of the problem and may be reported to the Office for Student Conflict Resolution for disciplinary action.

### Emergency Response Recommendations

Emergency response recommendations can be found at the following website: <http://police.illinois.edu/emergency-preparedness/>. I encourage you to review this website and the campus building floor plans website within the first 10 days of class. <http://police.illinois.edu/emergency-preparedness/building-emergency-actionplans/>.

### Religious Observances

The Religious Observance Accommodation Request form is available at <https://odos.illinois.edu/community-of-care/resources/students/religious-observances/>. Submit the form to the instructor and to the Office of the Dean of

Students (helpdean@illinois.edu) by the end of the second week of the course; in the case of exams or assignments scheduled after this period, students should submit the form to the instructor and to the Office of the Dean of Students as soon as possible.

### Family Educational Rights and Privacy Act (FERPA)

Any student who has suppressed their directory information pursuant to Family Educational Rights and Privacy Act (FERPA) should self- identify to the instructor to ensure protection of the privacy of their attendance in this course. See <http://registrar.illinois.edu/ferpa> for more information on FERPA. Student information and records will not be released to anyone other than the student unless the student has provided written approval or as required by law.

### Sexual Misconduct Reporting Obligation

The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University's Title IX and Disability Office. In turn, an individual with the Title IX and Disability Office will provide information about rights and options, including accommodations, support services, the campus disciplinary process, and law enforcement options. A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found here: <http://www.wecare.illinois.edu/resources/students/#confidential>. Other information about resources and reporting is available here: <http://wecare.illinois.edu/>.

### Student Support

The Counseling Center is committed to providing a range of services intended to help students develop improved coping skills in order to address emotional, interpersonal, and academic concerns. Please visit their website to find valuable resources and services: <https://counselingcenter.illinois.edu/>.

#### Counseling Center Information: 217-333-3704

Location: Room 206, Student Services Building (610 East John Street, Champaign IL)

#### McKinley Mental Health Information: 217-333-2705

Location: 3rd Floor McKinley Health Center 1109 South Lincoln, Urbana, IL

#### Emergency Dean:

The Emergency Dean may be reached at (217) 333-0050 and supports students who are experiencing an emergency situation after 5 pm, in which an immediate University response is needed and which cannot wait until the next business day. The Emergency Dean is not a substitute for trained emergency personnel such as 911, Police or Fire. If you are experiencing a life threatening emergency, call 911. Please review the Emergency Dean procedures: <http://odos.illinois.edu/emergency/>

### Academic Dates and Deadlines

Students should make note of important academic deadlines for making changes to their courses (add, drop, credit/no-credit, grade replacement, etc.). <https://registrar.illinois.edu/academic-calendars>  
Please check with your academic department regarding specific procedures and policies.

**Course Outline**

Note: Suggested sections from the Church and Ware textbook (CW) and the textbook by McAfee, et al (M) are in parentheses. Relevant articles for some topics are included below. More articles will be also suggested for readings. They will be updated on Compass 2G.

1. Simple pricing: monopoly, competitive markets (CW: 2; M: 15)

2. Game theory (CW: 7; M: 16)

3. Economics of information (CW: 6; M: 18)

4. Personalized pricing, market segmentation (CW: 5; M: 15)

5. Bundling (CW: 5)

6. Nonlinear pricing (CW: 5; M: 15)

7. Conditioning prices on purchase history

Acquisti, A. and Varian, H. 2005. "Conditioning Prices on Purchase History", *Marketing Science*, 24:3, pp. 367-381. You can download it from <http://people.ischool.berkeley.edu/~hal/Papers/privacy.pdf>

8. Versioning

Varian, H. 1997. "Versioning Information Goods". You can download it from <http://people.ischool.berkeley.edu/~hal/Papers/version.pdf>

9. Network effects

Katz, M. and Shapiro, C. 1994. "System Competition and Network Effects." *The Journal of Economic Perspectives*, Vol.8, No. 2, pp. 93-115.

10. System competitions

Besen, S. and Farrell, J. 1994. "Choosing How to Compete: Strategies and Tactics in Standardization." *The Journal of Economic Perspectives*, Vol.8, No. 2, pp. 117-131.

11. Platforms

Eisenmann, T., Parker, G., and Van Alstyne, M. 2006, "Strategies for Two-Sided Markets", *Harvard Business Review*. You can access this article from UIUC Online collection via EBSCOhost.