Ph.D. in Business Program: Information Systems

CIS 84000 – IS SPECIAL TOPICS SEMINAR:
Information Economics and Competitive Strategy (Fall 2021)

Tentative Syllabus (subject to change)

Thursday 4 – 6:30 pm, Room VC 13-254, Baruch College
Prof. Karl Lang, phone: 646-312-3092, VC 13-51, karl.lang@baruch.cuny.edu
Prof. Roumen Vragov, RVragov@qcc.cuny.edu

Course Objectives and Description

Business organizations and markets use a bewildering variety of structures and practices to coordinate economic activities. Dramatic changes in information technology and the nature of economic competition are forcing firms to come up with new ways of designing markets, organizing work and interacting with customers. This course specifically investigates the role of information and the digitization of business processes in the existing diversity of organizations, platforms and markets, and in enabling the creating of new organizational forms and strategies.

Information economics has emerged as one of the most active and most relevant areas in information systems research. This class offers an exposure to fundamental ideas in the economics of information, systems, and strategy. It will review important economic concepts and also study how economic theory has been applied in current IS research. As a particular focus in this course, we will introduce the methodology of experimental economics and discuss applications in information systems and other business research areas.

The course is designed for Ph.D students in information systems as well as other business and economics research disciplines. In class, we will typically discuss a mix of background readings, research method texts (on experimental economics), and a selection of seminal publications and current, cutting edge research articles. You are expected to be knowledgeable about these materials when you come to class so that we can spend most of the class time on the discussion of the reading materials. You will be assigned as a discussant of papers on a rotating basis. We will also develop and run some experiments using the otree experimental software platform.

In addition to a research paper presentation there will be one group and individual research project in the class. In a team setting, you will set up and run a replication of a previously published research study using the o-tree experimental software. As your term project you will propose, design, and (pilot) run your own experimental study on a topic in your area of interest.

Required Text

Recommended Additional Readings (Optional)

Experimental Economics Methodology Readings:

Experimental Economics Applications

Recommended Readings on Information Economics (optional)
**Research Paper Presentation**
Each student will be assigned a paper published in a top IS journal that presents a study using methods of experimental economics. Students will present the paper in class with a particular focus on discussing the experimental design, execution of the experiments, the analysis of the experimental data, and a discussion of the findings of the experimental study. The dates of the presentations will be arranged in class.

**Group Project: Replication Study**
Each team will replicate an original economic experiment using the o-tree experimental software package (or some other experimental software package) to conduct the experiment. Teams need to install the o-tree software, select a published study from literature (in consultation with the instructor), design the replication experiment, recruit study participants (from the subject pool in the ISS department), run some experiments, compare the results from the replications study with the original study, and present the project in class.

**Term Project: Original Study**
Each student will design and (pilot) run a (small scale) original study that addresses an IS research question and uses the methods of experimental economics, using the o-tree (or any other) experimental software package. You will need to choose an original research question in your own area of interest (in consultation with the instructor), design your experiment, recruit study participants (from the subject pool in the ISS department), pilot-test the experiment, and present the project and preliminary findings in class.

**Grading**
- Class Participation 15%
- Research Paper Presentation 15%
- Group Project 30%
- Term Project 40%
Course Outline (subject to change)

August 26: Introduction and Overview

WBK, Ch.1, The Study of Behavior.

September 2: Methodological Foundations I
WBK, CH.2.1 – 2.3, Methodological Foundations (part 1)

September 9: Experimental Software Platforms
(Anh Luong – Guest Speaker)

September 16: No Classes Scheduled

September 23: Methodological Foundations II
WBK, CH.2.4 – 2.6, Methodological Foundations (part 2)
Smith, V.L. (JEP 1989), Theory, Experiment and Economics

September 23: Methodological Foundations III
WBK, CH.2.7 – 2.9, Methodological Foundations (part 3)
September 30: Experimental Practice
WBK, CH.3

October 7: Experiments from a Statistical Perspective
WBK, CH.4.1 – 4.5

October 14: Data Analysis
WBK, CH.4.6 – 4.8

October 21: Human Decision Making
Smith (JPE 1991), Rational Choice: The Contrast between Economics and Psychology
Kahneman (AER 2003), Maps of Bounded Rationality
Kahneman, Knetsch, and Thaler (1986), Fairness and the Assumption of Economics

October 28: Human-Machine Decision Making (Guest Speaker: Anh Luong)
Luong, Kumar, and Lang (2021): Human-Machine Collaboration and Algorithmic Decision Making in Organizations
Brynjolfsson and Hitt (Science, 2017), What can Machine Learning Do? Workforce Implications.
Gupta et al (INFORMS, 2019), Cognitive Challenges in Human-AI Collaboration

November 4: Group Project Presentations

November 11: Electronic Market Design (Guest Speaker: Richard Shang, UNF)
Vragov, Shang and Lang (IJE 2010), Online Auctions with Buy-It-Now Pricing
Lang, Shang, and Vragov (JAIS 2015), Consumer Co-Creation of Digital Culture Products.

November 11: Social Commerce (Guest Speaker: Alex Pelaez, Hofstra Univ.)
Pelaez, Yu, and Lang (IJE 2013), Social Buying
Jing and Xie (MSc 2011), Group Buying: A New Mechanism for Selling Through Social Interactions
November 18: Neuroeconomics

Dimoka et al (MISQ 2012), Developing a Research Agenda for IS

Weinhardt et al (JAIS, 2017), A Platform for Conducting Neuro-IS Research

Camerer et al (ScandEco, 2004), Neuroeconomics

November 25: No Class – Thanksgiving

December 2: Open Topic

December 9: Term Project Presentations

The reading assignments and additional selected papers will be distributed in class