Course Overview

A game is a multi-individual decision problem. Checkers and poker are games, but businesses also play games all the time – managers interact in strategic situations in every business environment. Managers play games with managers of other firms, with their peers in the same firm, with employees, supervisors, shareholders and politicians.

The goal of this course is to enhance your ability to think strategically in complex decision-making environments. Specifically, I hope to develop your skills in three crucial areas:

1. Identify the structure: See through the complexity and details of the environment to the essential core of the strategic situation

2. Play well: Use your understanding of the strategic situation to anticipate others’ decisions and to make better decisions

3. Control information: Use your understanding of the structure of the interaction to help you decide when to reveal or conceal information, and how to think about what others know and might be concealing.

Prerequisite

Game Theory is applied in many courses at Kellogg. We investigate interactions between firms in MECN441: Competitive Strategy and Industrial Structure, and games played between firms and their customers in MECN446: Pricing Strategies. Several courses address the strategic nature of bargaining and negotiation. Games played between managers and their employees are investigated across the MORS curriculum, and of course Strategy applies many of the analytical tools of game theory. A single course could not suffice to cover all of these topics in adequate depth. While this course is designed to complement all of these other offerings, it is self-contained,
and there is no prerequisite beyond MECN430: Microeconomic Analysis. A working knowledge of calculus and comfort level with algebraic manipulation will be helpful.

Textbook

The required text for the course is The Art of Strategy: A Game Theorist’s Guide to Success in Business and Life (2008) by Dixit and Nalebuff, ISBN-13 978-0-393-33717-4. A course pack will also contain assigned readings, and several pdf’s distributed on Canvas will also be assigned.

Course requirements

Presence and Participation (10%)

Even more than most courses, your presence and participation are vital to not only your success in this course, but also to the learning outcomes of your fellow students. I expect you to attend all class meetings; if you cannot attend a class meeting for any reason, please inform me in advance, so that I might plan accordingly. What’s more, we shall frequently play games together in class, and these games will often begin at the start of a class meeting. For this reason, it is important for you to be not only present, but prompt; I need you to be ready to work (and play!) when our time together commences. Don’t be late. You will earn cash and prizes from your successful participation in games.

Homework (30%)

I’ll be assigning several homework problems to work throughout the quarter. You’re allowed to work in your teams for homeworks. To the greatest extent possible, please endeavor to make your joint work truly collaborative, as compared to allocating problems (or assignments) to various individual group members. I believe that the moment you learn an idea is the moment you teach it to someone else.

Final Project (25%)

A Final Project is an issue or situation of strategic relevance where you can bring a variety of tools and concepts from the course to bear on a real-world problem faced by a firm or organization. Your Final Project will be a 10-20...
page paper (exclusive of exhibits, tables and graphics) summarizing your analysis, along with a set of slides sufficient to accompany a 10-15 minute oral presentation of your work. Time permitting, I shall choose teams to present their work to the class during the final two class meetings.

**Final Exam (35%)**

Timed, in-class final exam given during Finals Week.

For students with mandatory and non-flexible early internship start dates (June 5th or prior) ONLY The Dean’s office and the Academic Experience team support your academic experience by allowing you to design an individualized exam schedule for Evanston campus courses that have proctored exams. In Spring we will pilot, on an exception basis only, remote proctoring for students who have mandatory and documented early internship start dates (June 5th or prior) outside of the Chicago area.

**Theory to Practice**

The course is designed to introduce tools of analysis for various strategic situations, and then give you practice in applying them repeatedly throughout the rest of the quarter in various stylized, but more realistic business situations. The basic structure of the course is to introduce the essential tools of game theory through the first five weeks, and then spend the second half of the quarter applying those tools in increasingly realistic scenarios.

**Tentative Course Calendar**

Note: This section is even more tentative than my usual planned calendar; it’s quite likely that we’ll go through several topics more quickly or more slowly than I anticipate below. Don’t work too far ahead, and be prepared for changes in our schedule that I’ll announce in class.
Experiential Learning

Participation in experiments is an important component of this course. I consider these experiments to be 'living cases' where we can actually ask an individual why she made the choices she did, rather than attempt to infer reasoning from the text of a case. By matching wits with your classmates you will gain a rich understanding of the nuances of strategic interaction. Experiments will occur on a roughly weekly basis. In addition to the weekly experiments, we shall play a meta-game of Survivor among the teams, complete with tribes, immunity, and a final champion team.

Classroom Etiquette

- Punctuality: Class will start on time. Out of respect for the instructor and your peers, please be in your seat, prepared to work when class is scheduled to start. If you are tardy or absent more than once, this will lower your grade for class participation.
• Beverages and Snacks: Out of consideration for your neighbors, please refrain from eating or drinking anything noisy or smelly. Open your carbonated beverage can before class begins.

• Electronics: We shall frequently use electronic devices to facilitate interaction in experiments in class. Consequently, please bring an internet-enabled device (phone, tablet, or computer) to class. However, I ask you to confine your use of such devices to designated time periods. Recent research has convinced me that students retain less when they take notes on a laptop, rather than on paper; moreover, your use of an electronic device is distracting to your neighbors, and the temptation to check your email or calendar cannot help but inhibit your own focus and attention.

Academic Integrity

I expect that an assignment will be solely the work of the individual or group submitting it. You may discuss the questions to brainstorm approaches or insights. Please do not consult friends at Kellogg who have taken this course or friends at other business schools, or the internet. I am endeavoring to prepare you for decisions where consulting Google will not be helpful; consulting Google for the questions I pose in this course undermines that preparation.

Plagiarism

Members of the Kellogg community are expected to appropriately credit others’ ideas and work product. Northwestern’s academic integrity guidelines state: “A conscientious writer always distinguishes clearly between what has been learned from others and what he or she is personally contributing to the reader’s understanding.” This is particularly important for collaborative work. If you copy from someone else’s work and paste into a shared draft without including appropriate quotations and citations, your collaboration partners might assume that the work is yours.