**Game Theory**

**Instructor**

Tracy Xiao Liu

Associate Professor, Tsinghua University School of Economics and Management

### Course description

Game theory is a pillar of modern economics. It also plays an ever-increasing role in other social sciences as law and politics, and in natural science as biology. This course is an introduction to game theory, with 3 objectives:

* to understand basic ideas of game theory;
* to learn the basic concepts and analytical methods of game theory; and
* to acquire the preliminary ability of using game theory to observe economic behavior and phenomenon in the real world

**Textbook:** Dixit, Avinash, and Susan Skeath, Games of Strategy, 3rd edition, W. W. Norton & Company, 2009.

### Weekly Schedule

| **Time** | **Teaching Schedule**  **(Chapter Numbers in Textbook, Instruction Dates)** |
| --- | --- |
| Lecture 1 | Introduction and General Principles (Ch 1,2) |
| Lecture 2 | Games with Sequential Moves (Ch 3) |
| Lecture 3 | Simultaneous-Move Games with Pure Strategies I (Ch 4) |
| Lecture 4 | Simultaneous-Move Games with Pure Strategies II, III (Ch 5) |
| Lecture 5 | Combining Sequential and Simultaneous Moves (Ch 6) |
| Lecture 6 | Simultaneous-Move Games with Mixed Strategies I (Ch 7) |
| Lecture 7 | Simultaneous-Move Games with Mixed Strategies II (Ch 8) |
| Midterm |  |
| Lecture 8 | Uncertainty and Information (Ch 9) |
| Lecture 9 | Strategic Moves (Ch 10) |
| Lecture 10 | The Prisoners’ Dilemma and Repeated Games (Ch 11) (12/5) |
| Lecture 11 | Collective-Action Games (Ch 12) |
| Lecture 12 | Evolutionary Games (Ch 13) |
| Lecture 13 | Bargaining (Ch 17) |
| Lecture 14 | Markets and Competition |
| Final Exam |  |