Market Design is an emerging field in economics that attempts to devise a practical scheme for allocating scarce resources to individuals who value them. Its applications involve many important real-life problems ranging from allocation of public land, mineral rights, radio spectrum licenses, procurement contracts, carbon emission rights, school choice, placement of advertising in Internet search engines, to the design of TARP (troubled assets relief program). Mechanism design, auction, and matching theories underpin the field as a general methodological framework. The course shall provide a guide through these theories and discusses a few applications, along the way.

- **General Information:**
  Class Hours: Tuesday, 11:00A-12:50P
  Location: 253 Engineering Terrace (hopefully moved)
  Contact Information: (E-mail) yeonkooche@gmail.com

- **Grading:**
  1. Occasional Problem Sets
  2. Research Proposal with Preliminary Results

- **Text Books**
Course Outline

Part I: Mechanism and Auction Design

1. General Overview, and Math Preliminaries

2. Optimal Auction Design in IPV auctions, Scoring Rule Auctions

3. Correlated Types, Interdependent Values, and Winners’ Curse
4. Multiunit Auctions and Package Auctions


5. Assignment Mechanisms, Internet Keyword Advertising Auctions


6. Contingent Payment, Security Auctions, and TARP

Part II: Matching Theory

7. One-Sided Matching


8. Two-Sided Matching: One-to-one Matching (“Marriage Problem”)

- Roth and Sotomayor, Chapters 2-4.

9. Two-Sided Matching: Many-to-one Matchings (“College Admissions Problem”)

- Roth and Sotomayor, Chapter 5
10. Two-Sided Matching: Unified Approach in Matchings

- Roth and Sotomayor, Chapter 5

11. School Choice Application