

# BEM / PS 126 - Business and Public Policy

<b>Instructor:</b>	George Georgiadis (georgiadis@hss.caltech.edu)
<b>Lecture Hours:</b>	Tuesday and Thursday, 14:30 - 16:00 (Baxter 25)
<b>Office Hours:</b>	Tuesday and Wednesday, 17:00 - 18:00 (Baxter 104)
<b>Course Website:</b>	<a href="https://courses.caltech.edu/course/view.php?id=1560">https://courses.caltech.edu/course/view.php?id=1560</a>
<b>Readings:</b>	Lecture Notes and some other readings.
<b>Version:</b>	March 31, 2014

*Read this syllabus carefully. It is an informal contract between teacher and student, and lays out the plan for the entire term. As the quarter progresses, there may be changes. In this case, I will post revised versions on the web and let you know they are there.*

## Overview

This course provides an overview of the economic theories that describe, explain, and predict the existence of firms, their boundaries, and their relationship to the market. Note that we will be focusing primarily on the “business” part of the course title. The course is loosely divided in three parts.

The first part (weeks 1-2) introduces some foundations to agency theory that will be useful for the topics that we will cover in the remainder of the course. In this part we address questions such as: How should workers be motivated to be most productive? We will begin by introducing an economic analysis of incentive contracts under moral hazard. We will also cover relational contracts, where formal incentive contracts cannot be written, so employer-employee relationship must rely on trust. Lastly, we will study career concerns models, where employers seek to learn the ability of their employees.

In the second part (weeks 3-7), we will focus on the following, fundamental question in economics: What constitutes a firm? What determines its boundaries (*i.e.*, which transactions occur within the firm, and which are negotiated in the market)? How do firms differ from the market (*i.e.*, when is it preferable to produce within the firm or outsource)? We will discuss four theories of the firm. First, the rent-seeking theory of the firm, which argues that integration (*i.e.*, producing within the firm) is preferable when firms have to make relationship-specific investments. Second, the property-rights theory of the firm, which used the theory of incomplete contracts to provide a unified account of the costs and benefits of integration, and consequently develop answers to the question “What is a firm, and what determines its boundaries?” Third, the incentive-system theory of the firm, which focuses on an incentive problem between a principal and an agent. Fourth, we will cover the adaptation theory of the firm, which asks whether integration or non-integration better facilitates “adaptive, sequential decision-making” in environments where uncertainty is

resolved over time. We will also cover some empirical studies that test these theories, as well as a range of topics pertinent to the theory of the firm. These will include topics in incomplete contracting, delegation, strategic information disclosure, cheap talk, organizational hierarchies, team theory, decision making in committees, corporate culture, and the economic theory of leadership.

The third part of this course (weeks 8-10) will focus on public policy and antitrust economics. We will cover topics on monopoly regulation, intellectual property rights policy, and merger control. Monopoly regulation concerns the government's problem of preventing monopolists (*i.e.*, firms who are the only ones producing a particular product) from abusing their market position by raising prices, and thus decreasing social welfare. Intellectual property rights (*e.g.*, patents) provide incentives to innovate, but they also give their holder monopoly power. Intellectual property rights policy concerns the problem of trading off the benefits and costs of intellectual property rights to maximize social welfare. Lastly, merger control refers to the government's policy of reviewing mergers and acquisitions in order to prevent the formation of monopolies.

### **Prerequisites**

You are expected to have taken Introduction to Economics (Ec 11) and Introduction to Political Science (PS 12) or equivalent.

Familiarity with game theory (*e.g.*, PS / Ec 172), convex optimization (*e.g.*, Ec 181), regression analysis (*e.g.*, Ec 122), and real analysis (*e.g.*, Ma 108) is also useful but not necessary.

### **Grades**

Grades will be determined by three problem sets (15% each), class participation (5%), and a final exam (50%). To make your grades comparable with students at the peer schools you compete with for jobs and admission to graduate programs, I will use a fairly inflated curve with approximately 40% A's and B's, and 20% C's.

### **Problem Sets**

There will be three problem sets. Each will comprise of 3-6 questions that build upon the concepts and techniques taught in class. Problem sets may be submitted in groups of up to 3 students. Each submission will be assigned a grade, and this will be your grade for that particular problem set regardless of the number of students in your group. The due dates are as follows:

Problem Set #1: Tuesday, April 15 (Week 3)

Problem Set #2: Tuesday, May 6 (Week 6)

Problem Set #3: Tuesday, May 20 (Week 8)

Late submissions will be reduced in grade by 50% for each day late and not accepted after two days. The only standard exception is a medical excuse approved by me at least 24 hours in advance (and certified in writing by a health care professional). You can try to email me for other extensions but I am generally

very unsympathetic to granting an extension for a reason that was foreseeable in advance. (For example, if you are on a recruiting or science trip that you knew about at the beginning of the term, I won't grant an extension.)

## Final Exam

The final will be similar to the problem sets, and it will cover everything discussed in class, in the readings and the course textbook. It will be take-home and you will have 48 hours to complete it. You may consult any notes, textbooks, etc. However, after the final exam has been posted, you may not discuss any substance of the course with your classmates.

## Class Participation

Attending class is strongly recommended. To incentivize you to come to class and engage in the classroom discussion, (a small) part of your grade will depend on your class participation.

## Readings (*subject to change*)<sup>1</sup>

- Lecture Notes (They will be posted on the course website at the beginning of every week).
- Bolton and Dewatripont (2005), *Contract Theory*, MIT Press.
- Tirole (1988), *The Theory of Industrial Organization*, MIT Press.
- Whinston (2008), *Lectures on Antitrust Economics* (Cairolis Lectures), MIT Press.
  
- Gibbons (2005), "Incentives Between Firms (and Within)", *Management Science*.
- Gibbons (2005), "Four Formal(izable) Theories of the Firm?", *Journal of Economic Behavior and Organization*.
- Aghion and Holden (2005), "Incomplete Contracts and the Theory of the Firm: What Have We Learned over the Past 25 Years?", *Journal of Economic Perspectives*.

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<sup>1</sup>Thanks to Simon Board, Florian Ederer, and Juan Ortner for sharing teaching material that has been very useful in designing this course.