S170 - Industrial Organisation

Format:
The course will consist of 18 hours of lectures, supplemented by five two-hour classes. For these classes, problems will be assigned. These will support the material taught during the lectures and present additional examples of the main ideas.

To supplement the lectures, several optional self-study modules will be made available to the students. These will allow the interested student to go further in parts of the material and to cover it in more depth than the lectures allow.

In addition to the lectures and classes, the course will comprise of an additional session Competition Policy and Practice, delivered by a guest speaker from the Competition and Markets Authority. This session will enhance the learning from the lectures and classes and students are strongly encouraged to attend.

Course outline:
This course develops some of the central topics in the theory of industrial organisation and competition policy. Although the main angle of analysis will be analytical, applications of the theory to practical competition policy issues will be emphasised. In particular, issues of market power, anti-competitive practices, theories of harm and possible policy responses will be discussed.

Course objective:
Upon completing the course, the student should be equipped to identify the main issues involved in competition policy and to think critically about when policy intervention may be warranted. Furthermore, the student will have the necessary knowledge to independently read the research literature in the fields of industrial economics, competition policy and industry regulation.

Who this course is for:
This course is intended for any student with an interest in how imperfectly competitive markets work and how firms compete. This is not only restricted to students wishing to pursue careers in research, consulting and government with a direct application of industrial organisation, but also to students who are interested in corporate finance, international trade and macroeconomics.

Specific topics to be covered:
1. Basic models of oligopolistic competition – from monopoly to perfect competition.
2. Quantity and price setting, horizontal and vertical differentiation, complements and substitutes in consumption, strategic complements and substitutes.
3. Oligopolistic competition with sequential moves and the value of commitment.
4. Endogenous vertical and horizontal product differentiation.
5. Horizontal mergers and merger policy.
6. Vertical relations, efficiency and market foreclosure.
7. Horizontal agreements, cartels, tacit collusion and price wars.
8. Entry deterrence, accommodation and pre-commitment.
9. Competition, advertisement and information.

10. Price dispersion, consumer search and switching costs (if time allows).

Session on Competition Policy and Practice:
In addition to the lectures, there will be an additional session early in the term. This session is devoted to the practice of industrial organisation and competition policy and will feature an outside speaker with deep knowledge of applied industrial organisation. This year the speaker will come from the Competition and Markets Authority. Details will be announced in due course.

Session on introduction to *Mathematica*:
As an aide to learning and self-study, all the models presented in this course will be made available to students as *Mathematica* notebooks (that is, the models will be programmed in the *Mathematica* language). This will meet two objectives. First, it will allow students to analyse very complex models visually and to experiment with variations of the basic models in a very straightforward manner. Second, learning how to do analysis of formal models with *Mathematica* it will be useful for those students wishing to do research in industrial organisation.

A recording of a hands-on introduction to *Mathematica* will be posted on the course page. This introduction covers the basics of the *Mathematica* environment and programming language. After following the introductory session, students should be equipped to perform simple programming tasks in Mathematica and know how to learn more through independent study. The relevant *Mathematica* notebooks will be available on Moodle.

Readings:
The main textbooks for the course are:
- Pepall, L., D. Richards and G. Norman (2011). *Contemporary Industrial Organization: A Quantitative Approach*, John Wiley & Sons.
- Belleflamme, P. and M. Peitz (2015). *Industrial Organization: Markets & Strategies*, 2nd edition, Cambridge University Press.
- Tirole, J. (1988). *The Theory of Industrial Organization*, MIT Press.
- Shy, O. (1995): *Industrial Organization: Theory and Applications*, MIT Press.

In addition to the textbook readings for each lecture, classical research papers on the relevant topics will be suggested.

Other useful books that cover related material and applications include:
- Bishop, S. and M. Walker (2010). *The Economics of EC Competition Law: Concepts, Application and Measurement*, Sweet & Maxwell.
- Davis, P. and E. Garces (2010). *Quantitative Techniques for Competition and Antitrust Analysis*, Princeton.
- Motta, M. (2004). *Competition Policy: Theory & Practice*, Cambridge University Press.

For the session on *Mathematica*, all material will be made available on the course website. The following additional texts may be useful for specific applications:
- Varian, H. R. (1993). Economic and Financial Modeling with Mathematica, *TELOS/Springer*.

- Varian, H. R. (1996). Computational Economics and Finance: Modeling and Analysis with Mathematica, *TELOS/Springer*.
- Stinespring, J. R. (2002). Mathematica for Microeconomics: Learning by Example, *Academic Press*.
- Masala, G. (2015). Mathematical Tools for Economics and Finance with Mathematica Software, *Universitas Studiorum*.