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# Technology Strategy

**Professor:** Carlos J. Serrano

**Course Type:** Elective

**Credits:** 4 ECTS

**Term:** 3<sup>rd</sup> Term

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## Course Description

This course addresses what determines the competitive advantage of a firm and applies tools from microeconomics and industrial organization to business-decision making. We study this issue in an economic environment where technological innovations can transform markets and create opportunities and threats for both start-ups and established companies. Finally, we investigate the financing of innovation and the role played by patents and venture capital investors. The course will rely on the analysis of case studies.

## Objectives

- Understand the nature of strategic competitiveness and develop the ability to analyze the competitive environment facing a firm, assess the attractiveness of the industry and identify potential sources of competitive advantage.
- Recognize typical technical, organizational, and market issues that occur during the product life cycle, and be better equipped to anticipate and manage such problems.
- Consider the actions of competitors and how that impacts the ability of a business to accomplish its strategic goals. Develop courses of actions that incorporate the actions of multiple players in the marketplace.
- Discriminate among the types of data that general managers need to evaluate alternative scenarios. Make quantitative assessments of strategic alternatives and develop logical, coherent and persuasive analyses for a desired course of action.

## **Methodology**

This course exploits four complementary approaches to reach the objective highlighted above: Individual class contribution, Group case presentation, Group case reports, and In-class final exam.

### **Individual class contribution**

Active participation in the class is an essential part of the learning experience. We will be using cases as well as other readings and you must be prepared to discuss everything assigned for the session. The grade will be based on both the quality of student contributions and attendance.

### **Group case presentation**

Students will participate in one presentation to the class as part of a group. The presentation will consist of an “investor presentation” of a company that may go public during the remaining of the current year or next year. Students will play the role of the founding and executive team. You will make your group presentations with the aid of visuals and use your business communication skills to explain and defend why this company is ready to launch an Initial Public Offering (IPO) or being acquired. Presentations should last 20 minutes with an additional 10-15 minutes for questions from the students and the professor. Presentations will be judged by 3 criteria:

- Comprehension – how well did students understand the case?
- Analysis - application of insights from the class, evidence used to support argument, novel insights and use of information provided in the case.
- Style - clarity, slide quality, etc.

You should email me the presentation the day before the day of your presentation.

## **Group case reports**

Each group of students will have to prepare specific reports on business cases. Students will be assigned specific questions to guide the preparation and reports. Students must combine the analysis of the case with the conceptual material in the course. The goals are to analyze a real problem in further depth, based on information available in each case. The case reports are to be uploaded to Aula Global the day before the case study will be discussed in class.

## **In-class final case-study exam**

At the end of the trimester, there will be an in class final case exam. To prepare for the exam, I will hand in advance a case study to take home and read. However, I will not provide any specific questions to guide your preparation. Neither group collaboration nor the use of outside information will be allowed in preparing for the exam.

On the date of the final exam, I will give you the specific questions of the same case study that I would have been typically given you a week in advance. You will write the answer to these questions in class. The final exam will be no longer than 60 minutes.

## **Evaluation criteria**

Evaluation will be based on class participation (20%), case write-ups (20%), group case report presentation (25%), and the in-class final case-study exam (35%). Passing the course requires obtaining a grade of at least 5 out of 10.

Students are required to attend 80% of classes. Failing to do so without justified reason will imply a Zero grade in the participation/attendance evaluation item and may lead to suspension from the program

Students who fail the course during the regular evaluation are allowed ONE re-take of the evaluation, as long as they have attended 80% of the classes, submitted all but one of the case writ-ups, and active participated in the group case report. If the course is again failed after the retake, the student will have to register again for the course the following year.

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In case of a justified no-show to an exam, the student must inform the corresponding faculty member and the director(s) of the program so that they study the possibility of rescheduling the exam (one possibility being during the "Retake" period). In the meantime, the student will get an "incomplete", which will be replaced by the actual grade after the final exam is taken. The "incomplete" will not be reflected on the student's Academic Transcript.

Plagiarism is to use another's work and to present it as one's own without acknowledging the sources in the correct way. All essays, reports or projects handed in by a student must be original work completed by the student. By enrolling at any UPF BSM Master of Science and signing the "Honor Code," students acknowledge that they understand the schools' policy on plagiarism and certify that all course assignments, including case write-ups, will be their own work, except where indicated by correct referencing. Failing to do so may result in automatic expulsion from the program."

## **Reading Materials/ Bibliography/Resources**

Additional resources may later become available in eCampus.

## **Bio of Professor**

Carlos J. Serrano is an Associate Professor of Economics and Management at the Universitat Pompeu Fabra, where he teaches Business Economics and Technology Strategy. Prior to coming to Pompeu Fabra, Serrano was on the faculty at the University of Toronto and a Faculty Research Fellow at the National Bureau of Economic Research in Boston. He has been Visiting Scholar at the Stanford Institute of Economic Policy Research at Stanford University and the Max Planck Institute for Innovation and Competition in Munich. He received his Ph.D. in Economics from the University of Minnesota in 2006. Prior to completing his doctoral studies, his career includes positions as a Research Analyst at the Federal Reserve Bank of Minneapolis and Instructor at the University of Minnesota.

Professor Serrano's research focuses on innovation and technological change, strategy, entrepreneurship and entrepreneurial finance. His work has been published in academic journals such as the *International Economic Review*, the *Journal of Economics and Management Strategy*, the *Journal of Financial Economics*, the *RAND Journal of Economics*, *Research Policy*, and *Science*.

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