

Topic

Digital Transformation

Brief Description

Overview

Information technology have transformed the ways in which firms compete, and have become an important factor in management decisions at all levels of the business. Our economy is sometimes referred to as the "digital economy", which is indicative of the pervasive nature and the critical role of technology in business strategies and operations.

This course will help to analyze the application of technology in its wider sphere of social transformational drivers, and to apply that in your own sphere of influence. It is aimed to cover the following objectives

- To analyze what Digital Transformation means and how it affects society, industries and individuals.
- To identify and understand the economic and technological factors that are at the heart of the digital revolution taking place in the economy.
- To manage and lead product and service innovation initiatives in the digital space, assessing strategies and plans for managing the risks –and exploiting the opportunities- associated with Digital Transformation.

Content outline

Through a series of lectures, discussions, activities and cases, this course provides you with the tools to understand, envision, and create a strategy of digital transformation. The course is led by four professors who bring in complementary skillsets. The reading

material range from articles in press to proprietary content and will be provided to you. Participants are expected to come prepared having read the material due for each session.

Welcome to the beginning!

- **Digital Transformation Thinking and Doing (2 sessions)**

Professor: Kiron Ravindran. <https://www.ie.edu/business-school/faculty-and-research/faculty/kiron-ravindran/>

Successful efforts at digitization have to keep both technological and managerial perspectives in mind. In the first part of the course, we will discuss why understanding “Digital Transformation” is important for future leaders, including its conceptual origins, what questions it raises for managers, and its implications for the organization. This 2-session introduction equips you with a set of tools and frameworks to craft a Digital Transformation Roadmap

Readings before class:

- Video: Please watch this video <https://youtu.be/35gSmVs4Yfi?t=254>
- Short Article: And read this short article (4pgs)
<https://www.capgemini.com/resources/digital-leadership-an-interview-with-angela-ahrendts/>

- **The 4th Industrial Revolution and How to Capitalize on it: Leveraging AI and Big Data (2 sessions)**

Professor: Konstantina Valogianni. <https://www.ie.edu/business-school/faculty-and-research/faculty/konstantina-valogianni/>

The advent of machine learning (ML) and artificial intelligence (AI) coupled with Big Data has brought new challenges to the way businesses operate and is creating new opportunities that corporations need to capitalize on in order to remain competitive. This part of the course is aimed at introducing the fundamental machine learning algorithms, analyzing successful business applications of AI, and examining the boundaries and limitations of AI in today’s business world. The end

goal of this course module is to provide you with an understanding of what AI algorithms can do for your business and how to capitalize on this 4th Industrial Revolution. Finally, we will analyze the role of humans in this revolution, as well as potential threats posed by this fast-paced technological advancement.

Readings before class:

- What's Driving the Machine Learning Explosion? by Erik Brynjolfsson and Andrew McAfee. HBR: syllabus link here:

<https://services.hbsp.harvard.edu/api/courses/603103/items/H03SL5-PDF-ENG/sclinks/48e827bef3c02062ca04412884b7d046>

- Becoming a data drive organization. Forbes link:

<https://www.forbes.com/sites/adigaskell/2016/10/28/becoming-a-data-driven-organization/#435569654121>

- **Cybersecurity and the Digital World (2 sessions)**

Professor: Alvaro Arenas. <https://www.ie.edu/business-school/faculty-and-research/faculty/alvaro-arenas/>

As you will explore during the week, The Fourth Industrial Revolution is here. Digital disruption is affecting all industries and the way society, individuals and businesses work. Changes are profound in the way we live, work and relate with each other, where mobility, data and social collaboration are the new normal. This increases the risks for companies and individuals, affecting from organization's operations and brand to personal privacy. How does it affect the way companies and individuals need to protect their assets? Do we encounter new threats, or just wider attack surface? We will explore the situation today, understand the concept of cybersecurity in a wider view, and explore how to develop strategies and actions to improve our security profile.

Simulation to be played in class:

- IT Management Simulation: Cyber Attack! (8690-HTM-ENG)

- **Disruptive Technologies (2 sessions)**

Professor. Ricardo Pérez. <https://www.ie.edu/business-school/faculty-and-research/faculty/ricardo-perez/>

The combination of emerging technologies with the re-imagination of traditional processes and business models will transform not only entire industries but society as a whole. Which are the key technologies to follow? Which models can we use to understand its impact? In these part we will explore some of the technologies that have the potential to disrupt entire industries, looking at the opportunities and challenges they pose for current players in those industries.

Module format and assessment

Students will participate in a group project that will challenge them to develop a digital transformation program in a real company. The project will be assessed. Groups will be assigned in advance of the module and will be required to begin collaboration on their project before the week commences.

Groups will be required to present their project at the end of the week.

The academic credit that will be offered for this module is equivalent to 15 contact hours. The evaluation criteria are class participation (50%) and the group project (50%).

Apart from the classes and group work, the week will include company visits, which will be complimenting the topic, and cultural immersion activities.

Faculty

The course will include five faculty from IE Business School, as well as guest lectures and conferences from executives at leading Spanish organizations.

Prof. Alvaro Arenas (Lead Faculty)

<https://www.ie.edu/business-school/faculty-and-research/faculty/alvaro-arenas/>



Alvaro Arenas is Professor of Information Systems and Cybersecurity at IE Business School, where he teaches in MBA programmes on the topics of digital innovation, risk management and information security. Alvaro is also Head of the Information Systems and Technology Area at IE.

Alvaro's research work has focused on digital innovation, and trust and security in distributed information systems. His research has been published in a number of top tier academic journals. Highlight of some of his research work includes models for reputation management in service computing; trust management in virtual organizations and business collaborations; and security requirements for large-scale distributed systems.

Before joining IE, Alvaro was a senior research scientist at the Science and Technology Facilities Council (STFC) in the UK, leading the Distributed Systems Team at the STFC e-Science Centre.