UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Digital Economy

2223-2-F9101Q018-F9101Q019M

Aims

The course Digital Economy is designed to understand the economic foundations of the new digital world. Moreover, it wants to support students to confidently conceive, lead and execute digital innovation initiatives and develop new business models for existing and insurgent organizations.

The digital revolution is rapidly transforming the fundamental nature of many companies in a wide range of industries: students need to understand the economics, technology paradigms and management practices of innovating in digital-centric businesses to ensure corporate and personal success.

The course is intended for students pursuing careers in which digital technologies will be critical to the development of new products and services, e.g., entrepreneurial start-ups, consulting, and R&D, as well as positions in marketing, operations, and strategy inside larger enterprises.

Contents

Specifically, the course will help students learn:

- the economic and technological factors that are at the heart of the digital revolution taking place in the economy
- examining the nature of information as an asset, and defining the laws that govern its behaviour as an economic good
- the clash between existing business models and new digitally enhanced and led business models emphasizing platforms and ecosystems
- the competitive interactions among firms with different digital business models
- how to best organize and lead product and service innovation initiatives in the digital space and how to leverage on what you learnt to be successful in the professional world.

Detailed program

Course introduction, methodology and assessment methods

The Basics of (Digital) Economy

- What is an investment?
- The balance sheets
- Tangible & Intangible Assets
- Current & Fixed Assets
- The Goodwill
- Case studies

Measuring the value of Information: an asset valuation approach

- Moody & Walsh - "7 Laws" governing the behaviour of the information as an economic good
- Max Boisot
- Varian & Shapiro
- Jeremy Rifkin

The Intangible Economy (Part 1)

- The emergence of the intangible economy
- How to measure intangible investments
- The four S's of intangibles
- Scalability
- Sunkenness
- Spillovers
- Synergies

The Intangible Economy (Part 2)

- Intangible assets and secular stagnation
- Intangible and the rise of inequality
- Intangible infrastructures
- Financing an intangible economy
- Managing and investing intangibles

Datafication- Reinventing Capitalism in the age of Big Data

- The impact of Big Data on the Capitalism structure
- Datafication
- Markets and Money
- Data Rich markets
- Key technologies essential to reconfiguring the markets

The Platform Economy (Part 1)

- Platforms Business models: Two basic Types
- Platforms key components
- Platforms and network effects (direct and indirect network effects)
- Platforms vs pipelines

The Platform Economy (Part 2)

- Architecture: Designing a successful platform
- Monetizing the network effects
- Factors affecting platforms
- The future of Platform Revolution

Rethinking strategy and operating models in the age of AI

- Traditional vs digital operating model
- Transforming value creation, capture, and delivery
- New competition and market structure
- Case studies

The Economy of the Metaverse

Part 1

•Metaverse: Centralization or Decentralization?
•The 3 Ages of the Web
•A brief Hystory of the Metaverse
•Augmented vs Virtual Reality
•Definitions
•Cathy Hackl's «decentralized» approach
•Matthew Ball's «more centralised approach»

Part 2

•Payment Rails
•Blockchains
•Cryptocurrencies
•Bitcoin
•Ethereum
•DAPPS
•NFTs
•DAOs – Smart Contracts
•The Metaverse Economy

Designing Innovative Business with Business Model Canvas

- What is a business model?
- The Business Model Canvas (BMC)
- Mapping the BMC
- Methodology for building a BMC
- Case studies

** **Presentation and discussion of the Group Projects**

Prerequisites

Successful attendance to the Course "Juridical and Social issues in Information Society"

Teaching form

Lectures, elearning platform, take home assignments

Textbook and teaching resource

Suggested readings

- Batini, C; Cabitza, F; Cherubini, P; Ferrari, A; Masiero, R; Maurino, A; Palmonari, M; Stella, F, “La scienza dei dati, Cap. 13” La Scienza Dei Dati (unimib.it)
- Jonathan Haskel and Stian Westlake – Capitalism without Capital – The Rise of the Intangible Economy. Princeton University Press, 2018
- Michael A. Cusumano, Annabelle Gawer, David B. Yoffe, “The Business of Platforms”, Harper Collins, 2019
- Hal R. Varian, Josef Farrel, Carl Shapiro, "The Economics of Information Technology. An Introduction" (Raffaele Mattioli Lectures), Cambridge University Press, 2005
- Daniel Moody & Peter Walsh, "Measuring the value of Information: an asset valuation approach", ECIS 99, Copenhagen 1999 (available at)
- Viktor Mayer-Schonenberg and Thomas Ramge, "Reinventing capitalism in the age of Big Data", John Murray Publishers, London 2018
- Matteo Fusco, Business Design per le PMI, Edizioni LSWR, Milano, 2017
- Marco Iansiti, Karim R. Lakhani, “Competing in the Age of AI – Strategy and Leadership when Algorithms and Networks Run the World”, Harvard Business Review Press, 2020

Semester

****Second semester

Assessment method

The exam will be a written exam.

Optional take-home project, that will be evaluated from 0 to 3 additional points to the written exam. Students, in teams of 2/3 people, are expected to deliver a Report of no more than 5 pages (plus tables and figures) and a Powerpoint presentation. The projects will be presented at the end of the course during a public session.

Office hours

Please contact the teacher via email

Sustainable Development Goals

AFFORDABLE AND CLEAN ENERGY | DECENT WORK AND ECONOMIC GROWTH | INDUSTRY, INNOVATION AND INFRASTRUCTURE | REDUCED INEQUALITIES | SUSTAINABLE CITIES AND COMMUNITIES