



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Service Science

2425-2-FDS01Q019

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#### Learning objectives

A parallel can be drawn between the design of innovative services in established organizations and the creation of start-ups. In both contexts, the knowledge acquisition and management processes are paramount, in the case of established organizations, the focus is on existing users and known processes, while in the start-up case the focus is on users who are still "unknown" and processes to be created from scratch. The course will address the problems related to the design of innovative services in both scenarios.

At the end of the course, the students will learn:

- an approach for addressing knowledge management issues in service production and delivery processes, both in mature scenarios (e.g. long-lasting businesses) and in innovative and uncertain contexts (e.g., while creating a start-up where validating the business model assumptions is paramount);
- to identify the correct methodologies and technologies to design a service according to a specific business strategy;
- to design knowledge harvesting processes to create and improve innovative services (addressing questions like the following: does the service meet the customer needs, what can I do to increase the customer base?).

Furthermore, the students will be able

- to design innovative businesses with a particular focus (but not only) on data analysis
- identify and apply the most suitable metrics to evaluate the success of an entrepreneurial initiative right from the start of activities
- intercept feedback from start-ups' customers to validate and possibly rapidly evolve a start-up's business model

This course refers to the learning area "statistics and computer science".

The contents of the course may vary, the teacher will communicate any changes via the course website.

## Contents

- Service Science: the focus is on the relationship between Service Science, service design methodologies, information and knowledge management systems, and knowledge harvesting processes in uncertain scenarios;
- Business strategies of service companies: the role of collaboration and value co-production in the business processes of service companies with the focus on validating the business model assumptions in start-up firms
- The Lean Start-up approach to maximise knowledge acquisition in innovative scenarios
- The Sprint approach to minimize the time it takes to get knowledge
- Laboratory on the design of service systems;

## Detailed program

- Introduction to Service Science
- The services characteristics and the delivery process
- The Service sector Porter value chain
- The role of information and knowledge to innovation of services
- Service systems design (from engineering model to interpretative model)
- Business strategies of service companies
- Evolution of business processes
- The role of value co-production (network companies)
- Knowledge-based services (crowdsourcing and open innovation processes)
- Case Studies
- The difference between an idea and a business opportunity
- Why do ventures require dynamic leaders who understand vision, strategy, risk, and tactics?
- Differences between a start-up and a mature firm (or between an innovative project and a project in a well-known scenario)
- The knowledge harvesting problem
- MVP (Minimum Viable Product)
- Validated learning, Build-measure-learn cycle. How to shorten the feed-back loop in a start-up
- How to prevent endless loop: the sprint approach
- Business Model Canvas vs Business Plan
- Lab. Designing an innovative service/start-up

## Prerequisites

Even a basic knowledge of the main technologies and applications used in e-commerce and social media is useful.

## Teaching methods

The course is taught in English and includes lectures in the classroom and laboratory exercises. The laboratory exercises can be performed in a computer laboratory or in a classroom using a personal computer.

The lectures are dedicated to the study of the theoretical topics related to the course. Approximately 70% of the course (about 34 hours) will be delivered as "Traditional Lectures"

The lab exercises are aimed at designing a knowledge-based service. About 30% of the course (about 11 hours) will be delivered in this form of "Interactive Teaching".

Some of the hours of frontal lessons may be replaced by testimonies and expert dialogue sessions. In this case, the testimonies will take place approximately in the last weeks of the lessons, based on the availability of the people involved.

The lessons and lab activities will be held in person.

## **Assessment methods**

Students must be registered to take the learning verification (i.e., the exam). It is mandatory to register via "Student Services Online" by the official deadline. Registration usually closes 3 working days before the examination day.

The examination is an oral exam. The oral exam will focus on the topics covered in class. The student, in agreement with the teacher, can replace a part of the oral exam with a project discussion. The project must be agreed in advance with the teacher.

The examination is the same for both attending and non-attending students.

The oral exam is aimed at assessing the theoretical knowledge of the student on the topics presented during the course. The ability to reason and deepen the issues proposed during the examination, the methodological rigor of their development, and the ability to use theoretical knowledge to solve practical business cases will be evaluated.

## **Textbooks and Reading Materials**

- Ries, Eric. The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses. Currency, 2011.
- Fitzsimmons, James A. (2010). Service management: operations, strategy, and information technology. New York, NY: Mc Graw Hill.

## **Sustainable Development Goals**

INDUSTRY, INNOVATION AND INFRASTRUCTURE

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