ABM_S5DRF357_MFT_2023
SYSTEMIC DESIGN

Number of ECTS credits : 3
Course language : English
Course leader : HACHE Thibault
Speakers : HACHE Thibault , RIVAS Rémi

COURSE DESCRIPTION

This course is composed of three major parts.

Theme 1: Managing uncertainty with design thinking & effectuation (9 h)

We will explore how design thinking can be used to manage uncertainty. For that prupose, students will work on a challenge and reframe it before using human-centered principles. We will also compare it to the way entrepreneurs manage uncertainty with effectuation : a set of principles used by expert entrepreneurs.

Theme 2 : Introduction to complex thinking (3h)

What if there was a different way of tackling issues that you will inevitably face in your future jobs? You have been accumulating a lot of knowledge so far, in a vast array of specialties, but none of them gave a clue on how to link them and make sense out of them.

This course is an introduction to Complexity, an approach deeply rooted in real-life challenges, which aims at giving you the basics of Edgar Morin's philosophy.

Theme 3: Systemic design (12h)

This module aims to allow students to discover what "systemic design" is, through the exploration of the main theories that define this current and the application of tools and methods that structure this approach

COURSE OBJECTIVES

- Understand how design thinking and effectual thinking helps managing uncertainty through reframing and applying specific human-centered principles used by entrepreneurs.

- Discern between complicated and complex issues ;
    - Provide you with a pocket map of philosophical approaches on problem solving ;
    - Give you an overview of Edgar Morin's complex thinking ;
    - Give you some clues on how to use it in future challenges.

- Introduce you to systemic design that now helps us design for more stakeholders than human-centered design allowed it. Learn and practice some tools that allow to adopt a more holistic approach
    - understand what systemic design is, and how it offers tools and methods adapted to the growing constraints around industrial design and production approaches in the current context
    - have experimented with a set of simple tools how to frame a problem that can be solved by a systemic approach, how to conduct and analyze research, how to align stakeholders to define solutions and then how to organize and implement attempts of optimal resolution
    - have basic notions on the conduct of transformation in human groups

TACKLED CONCEPTS

Design thinking, human-centered design, effectuation

Descartes and Morin: two approaches of problem solving ;

· Complexity and systemics: history of some philosophical concepts and their role (cognitivism, Palo Alto school's systemics and interpersonal communication, complexity, Actor-network-theory…) ;

· The main ideas components of complex thinking: cybernetics, Complexus, hologramic principle, recursive loops and dialogics ;

· Complexity in real life challenges: examples from the pitch.

Systemic design

LEARNING METHODS

Lectures, group and individual work

EXPECTED WORK AND EVALUATION

Theme 1 : Groupwork 25% + peer grading

Theme 2 (see final assessment)

Theme 3 : Groupwork 25% + Mutual evaluations of students + Individual Harmonization Committee at the end of the dates

Final individual assessment on three parts : 50% (MCQ during exam week)

Assessment might be subject to change.

BIBLIOGRAPHY

Theme 1 :

- The design thinking playbook, Michael Lewrick
- Effectuation, Philippe Silberzahn

Theme 2 :

Edgar Morin La méthode (t.1 to 6)

- Madeleine Akrich, Michel Callon, Bruno Latour Sociologie de la traduction
- Paul Watzlawick L'invention de la réalité
- Herbert. A. Simon La science des systèmes, science de l'artificiel (trad. & postface J.L. Le Moigne)
- Jean-Louis Le Moigne La modélisation des systems complexes
- Michael Tichauer The beautiful manager – Comment la pensée complexe d'Edgar Morin éclaire le management des équipes du football à l'entrepris

Theme 3 :

- Bosschaert Tom - Symbiosis in Development (SiD) - 2019 - Available on https://thinksid.org/
- Braungart Michael, McDonough William - Cradle to Cradle: Remaking the Way We Make Things – 2002 - North Point Press
- Daumal Sylvie - 58 outils de design systémique pour une conception centrée sur la planète – 2023 – Eyrolles
- Jones Peter & Van Ael Kristel - Design Journeys through Complex Systems - 2022 - BisPublishers
- Meadows Donella - Thinking in Systems: A Primer - 2008 – Chelsea Green Publishing
- Meadows Donella & Denis et al. - The Limits to Growth - 1972 - Available on https://www.clubofrome.org/publication