



UNIVERSITAT DE VIC
UNIVERSITAT CENTRAL
DE CATALUNYA

Centre: Barcelona

Course: Design Thinking: **Product Innovation**

Programme: Business, Design & Innovation

Course Code:

Semester: 1 and 2 (Fall and Spring)

ECTS credits: 6

Duration: 45 hours (3 hours/week)

Language of Instruction: English

Instructors: Jordi Cusido, Oriol Alcoba

Course description

The aim is to understand the dynamics of product development and innovation. "Design thinking" is presented as a useful methodology for designing innovative products. The design thinking process is user-centred and prototype-driven. As a participant in design thinking, you will be part of a small multidisciplinary team and work through a hands-on innovation challenge from start to finish. You will walk away from the course with a strong understanding of the key tenets of design thinking and be able to execute them within your organisation.

Attendance policy

Attendance is mandatory for all classes, including study visits. Any exams, tests, presentations, or other work missed due to student absences can only be rescheduled in cases of certified medical or family emergencies. If a student misses more than three classes in the course half a letter grade will be deducted from the final grade for each additional absence. Seven absences in the course will result in a Fail grade.

Objectives

- Gain a comprehensive understanding of "design thinking" methodology
- Understand the benefits of applying a methodology that requires empathy with customers
- Develop deep consumer insights
- Reduce risk and accelerate learning through rapid prototyping
- Drive towards innovation, not just incremental growth
- Empower your team mates to be innovative
- Acquire knowledge and skills to observe and understand the needs of users and customers, develop fast experiments and prototypes with users, and develop prediction markets
- Brainstorm methods to boost ideas
- Story-telling and presentation techniques to enhance the customer's position.

- Visual thinking and visualisation techniques to express ideas, products and services

Learning outcomes

By the end of the course, students will be able to

- Understand the principles of design thinking and how it can drive innovation
- Understand the mind-sets and basic tools for each stage of the design thinking process:
 - Empathise: understanding the needs of those you are designing for
 - Define: framing problems as opportunities for creative solutions
 - Ideate: generating a range of possible solutions
 - Prototype: communicating the core elements of solutions to others
 - Test: learning what works and doesn't work to improve solutions
- Apply design thinking methodology to innovate and solve problems and issues arising during a design project
- Execute a design project (independently) from conceptualisation to ideation by applying design thinking methodology

Method of presentation

- Lectures and discussions: Lectures with appropriate visual support provide the theoretical content of the sessions. Class discussions facilitate the students' ability to connect reading and lectures, analysing or applying concepts.
- Class participation: Students are expected to participate in group activities and in the discussions based on the course readings and cases proposed.
- Student oral presentations: Students are expected to present their papers with visual support to the class.
- Guest speakers: Guest speakers will be invited to several of the sessions, with the aim of sharing their experiences and insights with students. Guest speakers will be entrepreneurs or experts with specific experience in the field of the session concerned.

Field study: We will have a guided tour of Espacio Coperfield and visit the prestigious international design centre "Disseny Hub Barcelona" (<http://www.museuldisseny.cat/>). This visit will include the exchange of experiences and open discussion with designers and entrepreneurs. Students are expected to defend their projects and discuss expectations with experienced designers and entrepreneurs and incorporate ideas from them into their business plans.

Required work and assessment methods

- Project design (55%). Development (in teams) of a product or service design that includes the specific issues presented throughout the course. The base mark will be the same for each member of the team, and will be modified up or down in accordance with individual contributions. Two different projects will be developed during the course:
 - Oral presentation of the product design (30%).
 - Report of 50 pages (at most), including the different contributions in the case chosen by the team (25%).

- Cases, reading and exercises (30%). Preparation, development and discussions related to exercises will be highly valuable for the success of the course both at individual and group level. The grade will include both individual and group assignments to be submitted in various formats (oral presentations and documents).
- Participation (15%). Individual active participation in discussions, oral presentations and team work. The positive and proactive attitude of the student will be encouraged and valued by instructors throughout the course.

Contents

Week 1. Introduction to design thinking methodology, the "birthday present" exercise, benefits and experiences developing innovative products.

Week 2. Project initiation, group creation, interview preparation, interview for empathy and visiting.

Week 3. Interview analysis, extreme users, information analysis and visualisation, the empathy map, why-how laddering and point of view definition. Group practice.

Week 4. Stoke techniques, brainstorming, game storming, selection of ideas, lateral thinking techniques. Group practice.

Week 5. Prototyping, rapid prototyping techniques, prototype for empathy, prototype to test. Group practice.

Week 6. Story-telling and ideas presentation, visual thinking, presentation techniques. Group practice.

Week 7. Giving and receiving feedback techniques, "I like, I wish, What if...", Alumni result presentation and story-telling for first projects, feedback and analysis.

Week 8. Project 2 group formation, project definition. Deliverable group name and challenge definition. Group practice.

Week 9. New product commercialisation, business model, Iridium lecture. Group practice on interview preparation and user identification.

Week 10. Group practice on interview analysis, point of view definition. Week 11. Group practice, brainstorm. Guest speaker.

Week 12. Group practice, prototyping.

Week 13. Group practice, story-telling, feedback. Week 14. Visit to Barcelona Design

HUB.

Week 15. Final presentations, story-telling and results presentation.

Required reading

School, Jeane Liedtka and Tim Ogilvie (2010). Designing for Growth: A Design Thinking Tool Kit for Managers. Columbia Business

Paul Harris (2011) Design Thinking; Gavin Ambrose, AVA Publishing

Tim Brown (2009) Change by Design, Harper Business.

Recommended reading

Dan Roam (2008) The Back of the Napkin: Solving Problems and Selling Ideas with Pictures.

Portfolio. Dave Gray, Sunni Brown, James Macanufo (2010) Gamestorming: A Playbook for Innovators.

Rulebreakers and Changemakers, O'Reilly