DESIGN SKILLS

IE University
Professor: **RUXANDRA IANCU**
E-mail: riancubratosin@faculty.ie.edu

Academic year: 22-23
Degree course: FIRST
Semester: 1º
Category: BASIC
Number of credits: 6.0
Language: English

PREREQUISITES

This class requieres a positive mind-set towards thorough investigation, attention to detail and a disciplined approach towards the creative process.

Technical requirements:

All students are required to have a personal laptop (no older than 5 years old) and a 3 button mouse.

Tablets do not count, as they can not run the required softwares for this class, but students can bring them to class if it aids their note taking and the documentation of the process.

Material requirements:

Students will be required to have a personal notebook for taking class notes, sketching and diagrams. At the end of the class the notebook will be submitted and taken in consideration for the final grade.

Throughout the course the students will be asked to do physical prototypes, extending from cardboard/paper model to 3d printed and other digital fabrication techniques, as well as print physical catalogues.

SUBJECT DESCRIPTION

Design Skills is an introductory course into the holistic and collaborative field of design and the professional practice of design.

It covers a broad spectrum of introductory topics regarding the professional skills, design strategies, design impact and marketing.

The course aims to prepare the students in their approach towards design projects, both in the following university years and later in their individual careers.

Design skills celebrates the process of design, looking closely on all the parts and layers that comprise the development of a project. It begins with analysis of the client, context, limitations and opportunities. Through the course the students accumulate a series of general design relevant skills. The researching component will deepen the students capacity to produce relevant work, while the digital tools help them communicate their designs and ideas. The course is centred around creating one project within a team, meant to strengthen the students capacity to collaborate, organise and manage a design project. The project comes to life through prototyping and iteration, a hands on approach to problem solving that allow the project to move forward fast.

Design Skills concludes with a final presentation in front of a jury board, for which the teams prepare a clear and extensive presentation of their semesters work.

OBJECTIVES AND SKILLS

The objectives of this course is to provide the students with the necessary skills to approach design projects in the future.

At the end of the course the student is expected to have a good mastering of the following skills:

- The capacity to understand the requirements of a design brief and respond to it accordingly.
- Research the basis for a design project, understand the client, the context and state of the art.
- Introduce ecology values in the design process by understanding the components and systems that make the design and injecting sustainable decisions through-out the project development.
- Work within a multi-interest team and be able to identify potential in each team-member during the creative process, as well as mastering collaborative tools of creation.
- Time management of both individual and teamwork tasks.
- Have a broad understanding of prototyping techniques.
- Discuss and defend a design through articulate, effective and constructive arguments. Critical thinking will be fostered through investigation, exercises and regular peer reviews.
- Sketch, structure, diagram and summarise the development of a project.
- Experimentation with different means of prototyping, materiality and visualisations.

Objectives:

CB1: The students must demonstrate a level of knowledge and control over introductory notions in the field of design.

CB2: The students know how to apply in their field of study the knowledge and skills gained in the course. This is demonstrated through the resolutions of problems, experimentation and logical argumentation and reasoning in defence of their deliverables.

CB3: The students have the ability to gather and interpret relevant data in order to make judgements or take design decisions that include a reflection of social, scientific or ethical issues.

CB4: The students have the ability to effectively transmit information, ideas, problems and solutions to a specialised audience as much as a non-specialised audience, through verbal and visual languages belonging to the field of design. The students must also master the resources and systems necessary in order to effectively communicate the above mentioned.

CG1: Students must acquire the basic ability to state relevant results during their involvement in different areas of design, integrating information from other disciplines in order to develop new proposals and design solutions that add value to companies and society.

CG2 : Students must understand the impact and implications that design has in contemporary life and be able to propose relevant solutions and be an active participant in the process of creation and conceptualisation.

CG5: Produce relevant work as a result of the students practical involvement in different areas of design, like visual, product, spacial or strategic design, integrating knowledge from other disciplines in order to develop and communicate appropriate solutions.

CE10: Practice methodologies and strategies for the innovative resolution of creative briefs.

CT2: Demonstrate a professional behaviour that is in alignment with the constitutional principles and ethical values of the design profession.

CT3: Manage unforeseen changes and situations with agility and be able to respond to organisational changes.

CT4: Use professional knowledge in order to analyse and asses current situations.

Topics touched by the design skills course:

Researching as a base for building design (analysis and readings of relevant information for the project, both historic and state of the art; investigation as a work methodology)

Concept building and prototyping (design proposals based on thorough research, concretised in digital and physical representations).

Communicating design though graphical means like presentation, composition, digital and analog tools (typography, sketching, editorial compositing, image and image composition and proportions, spatial representation through graphical language) as well soft skills like oral presentation, body language and medium.

METHODOLOGY

The course unfolds through a series of lectures in combination with practical exercises, using a case-study as an exercise base.During the development of the different practical exercises the critique technique is used as a teaching tools serves as a training for the project based education.

Through out the course the teaching methodologies change accordingly to fit the exercises types and the growing amount of knowledge the student acquire and the complexity of the projects.

All of the design briefs, materials that need to be studied for the individual tests or assignments or deliverables for presentations will be provided to the students in class (and submitted on campus) at least two weeks before the deadline.

Below you can find the main activities of the course that contribute to the final grade.

Individual assignments:

While the bulk of the work for this course is in teams, a series of individual assignments like tests and digital skills assignments are distributed throughout the course

Peer reviews:

The student will be submitted to class peer reviews throughout the course. These peer reviews are in short a feedback medium that encourages constructive criticism and focuses on influencing the revision work to come instead of appraising the work that's already been done. In other words, students take part in a collective project review, in which each student must evaluate the works of their peers and help them see things that perhaps they have missed or ways to improve it. Students will be instructed in class very broadly regarding the type of questions they must ask themselves and their peers in order to give an effective feedback.

Group project development:

In the second half of the Design Skills class, the focus of the sessions will be on the evolution of the group projects. These sessions will consists of project based reviews and students are expected to bring to each class an advancement of their project based on previous commentary. The student will be guided in the progress of the project with the help of technical guidance, references to other projects that the student can take inspiration from and notes on how to improve the overall project.

Group Mood-board and Dynamic Concept Board:

The students will be asked to produce a mood-board as the base for the concept building of the group-project. A mood-board is simply a collage like composition, which contains elements of inspiration for the projects, be it textures, colours, materials, etc. This is an effective visual tool to both define a style but also communicate the overall “feel” of their idea. It helps to set up the stage for the project and acts as a design concept safety net that students can always revisit during the creative process. Students will be asked to have a physical mood-board. While there is a submission date for the mood-board, it is considered an active element throughout the course that supports the project.

Group prototyping:

The students will be asked to use prototyping as a method of expressing and developing their ideas, be it digital prototyping or physical, depending on the individual projects. The best methods of prototyping will be discussed on class on a case by case basis. Prototyping is a tool that will help the student express and experiment throughout the design process, as well as introducing him to the iterations that occur during the development of the project. It is an effective method of testing and improving ideas that pushes and improves the project. Throughout the course, students will be asked to continuously prototype based on their own findings, peer review comments and teacher notes.

Group presentations:

Throughout the course students will be asked to present their developing work of exercises in front of the class. These presentations will be subject to the above mentioned class peer reviews and they serve to teach the student how to articulate they project and communicate it more effectively. These presentations set milestones for the evolution for the project for the entire class.

Midterm:

In the middle of the course, students will be asked to present the group project in its early stages for a thorough review.

Teaching methodology	Weighting	Estimated time a student should dedicate to prepare for and participate in
Lectures	20.0 %	30 hours
Discussions	13.33 %	20 hours
Exercises	20.0 %	30 hours
Group work	33.33 %	50 hours
Other individual studying	13.33 %	20 hours
TOTAL	100.0 %	150 hours

PROGRAM

SESSION 1 (LIVE IN-PERSON)

Introduction to the course.

This first session is dedicated to deciphering the course, the requirements, deliverables and what is expected in general from the students. We will go through the projects from previous years and the methodology. Any and all questions or doubts regarding the syllabus, deadlines and evaluations are to be discussed in this class.

SESSIONS 2 - 3 (LIVE IN-PERSON)

Tools of collaboration.

We begin with a short lecture presenting the professors work and process and a round of introductions from the students.

Before the project development stage can begin, we dedicate time to understanding the resources that allow for the creation of a collaborative design process. We explore online tools and set the rules for how to accumulate and document the process of design, as well as cover the basics regarding how to effectively use the research tools available to us, find reliable information and avoid superficial conclusions.

Students are placed in workgroups in which they will develop their project for the rest of the semester. The teams are created using a randomising algorithm and are fixed.

This begins the project development stage and to jumpstart the process this session will be dedicated to agile team building exercises that help define the character of each team and recognise each team members strengths.

The class will end with a short design exercise meant to activate observation, problem solving and critical thinking. The exercise brief will be given in class.

SESSIONS 4 - 5 (LIVE IN-PERSON)

Test 1 (a multichoice individual test will be presented to the students. Study materials are provided 2 weeks before the test date. During the test students are not allowed phones or laptops, but are allowed to check their analogue notes if they have to. Each test represents 5% of the grade)

Class discussion and Researching lecture and exercises.

First session is dedicated to a lecture detailing researching teqniques and how to apply them in the design process.

The second session is dedicated to jumpstarting the research phase of the group project, based on a set of instructions and a methodology explained in class.

These sessions comply with the CB3, CB4, CG1, CT2 objectives.

SESSIONS 6 - 7 (LIVE IN-PERSON)

2d Digital skills

These session is dedicated to understanding the basics of InDesign, a powerful tool for creation of publications and presentation catalogues, crucial in order for the students to be able to submit their final deliverables.

We explore together the interface and learn to navigate the 2d environment.

(Students must have a functional InDesign version installed on their computer before the beginning of the class and use a 3 button mouse during the entire tutorial. Those who do not follow the class exercise or do not have the software installed will be marked as absent and asked to leave the virtual classroom.)

At the end of these sessions students will be presented with individual Assignment 1 and talked throgh the deadline and evaluation method for the assignment. Each assignment is worth 10% of the final grade.

These sessions are consistent with CB1, CB2, CT2, CT3 objectives.

SESSIONS 8 - 9 (LIVE IN-PERSON)

Test 2 (A multichoice individual test will be presented to the students. Study materials are provided 2 weeks before the test date. During the test students are not allowed phones or laptops, but are allowed to check their analogue notes if they have to. Each test represents 5% of the grade)

Class discussion and Concept building exercise.

These sessions are dedicated to an exercise of brainstorming and concept building, based on a set of rules and methodology explain beforehand. At the end of the session each team presents the direction they will be taking with their final project.

SESSIONS 10 - 11 (LIVE IN-PERSON)

Moodboard and Fast prototyping exercise.

The first session is dedicated to building a moodboard for the group project that is consistent with the concept they presented in the previous sessions.

Second sessions is meant to push forward each teams project these sessions are dedicated to fast prototyping and problem solving. We will be exploring techniques of folding, cutting, glueing and moulding paper (or paper like materials like cardboard) in order to narrow the direction of each project.

This hands-on exercise requires the students to bring their own materials, like paper and cardboard, and tools to modify (cutter, scissors, glue etc. A more detailed list will be provided in the previous class.)

The iterative paper prototypes and moodboards are to be presented in the midterm.
The teams who do not bring their own materials will be marked as absent for both sessions.

These sessions are consistent with CG1, CE10, CG5, CT2.

SESSIONS 12 - 14 (LIVE IN-PERSON)

Midterm.

Each team must present the work done so far in front of a jury of their peers. The detailed deliverables and minimum requierments for the presentation will be previously discussed in class, but they mainly consist in the work developed by the team so far (concept building, moodboard and prototypes) presented in a 10 slide digital presentation along with the physical prototypes.

This presentation represents 20% of the grade. Peer comments are part of the development each students critical thinking and strengthening their capacity to observe potential and give constructive feedback. Each student will have a chance to post a comment regarding a teams work and the coherence and depth of the comment will be evaluated and represents 5% of the grade.

Students who do not participate are marked with a 0.

These sessions are consistent with CB1, CB2, CB3, CB4, CG5, CE10, CT2 objectives.

SESSIONS 15 - 16 (LIVE IN-PERSON)

3d Digital skills.

This session is dedicated to understanding the basics of Rhinocerous3D, a powerful tool for creation of 3d models and fabrication files, crucial in order for the students to be able to submit their final deliverables.

We explore together the interface and learn to navigate the 3d environment.

At the end of these sessions students will be presented with individual Assignment 2 and talked throgh the deadline and evaluation method for the assignment. Each assignment is worth 10% of the final grade.

These sessions are consistent with CB2 and CB4 objectives.

SESSIONS 17 - 18 (LIVE IN-PERSON)

Test 3 (A multichoice individual test will be presented to the students. Study materials are provided 2 weeks before the test date. During the test students are not allowed phones or laptops, but are allowed to check their analogue notes if they have to. Each test represents 5% of the grade)

Project development.

Students are expected to bring new trials of prototypes, drawings and diagrams. References and guidance will be given based on the needs and directions of each proposal. Peer-reviews at the end of the sessions, collaborative process and project communication are obligatory at the end of each session. Students will be evaluated on their participation in class as well as their work and evolution in between sessions.

SESSIONS 19 - 20 (LIVE IN-PERSON)

Project development.

Students are expected to bring new trials of prototypes, drawings and diagrams. References and guidance will be given based on the needs and directions of each proposal. Peer-reviews at the end of the sessions, collaborative process and project communication are obligatory at the end of each session. Students will be evaluated on their participation in class as well as their work and evolution in between sessions.

SESSION 21 (LIVE IN-PERSON)

Prototype overview.

This session is dedicated to establishing the strategy of refining, presenting and photographing the prototypes of each team in a way that fits with the values of each project.

Students are expected to bring new trials of prototypes, drawings and diagrams. References and guidance will be given based on the needs and directions of each proposal. Peer-reviews at the end of the sessions, collaborative process and project communication are obligatory at the end of each session. Students will be evaluated on their participation in class as well as their work and evolution in between sessions.

SESSIONS 22 - 23 (LIVE IN-PERSON)

Peer review.

Each team must present the work done so far in front of their peers. The review consists of a 10 slide presentation representing the advancements and future steps, as well as the prototypes created so far. This allows for alignment within the class and also acts as failure detection system inside each project by allowing it to be evaluated by a larger group.

Peer comments are part of the development each students critical thinking and strengthening their capacity to observe potential and give constructive feedback. Each student will have a chance to post a comment regarding a teams work and the coherence and depth of the comment will be evaluated and is taken into consideration for the final grade in the "class participation" category.

These sessions are consistent with CB4, CT2, CT3, CT4 objectives.

SESSIONS 24 - 25 (LIVE IN-PERSON)

Deliverables overview and Peer review.

These sessions are dedicated to establishing the deliverables for the final presentation and identifying what each project is lacking and where the final push should be.

Students are expected to bring new trials of prototypes, drawings and diagrams. References and guidance will be given based on the needs and directions of each proposal. Peer-reviews at the end of the sessions, collaborative process and project communication are obligatory at the end of each session. Students will be evaluated on their participation in class as well as their work and evolution in between sessions.

SESSIONS 26 - 27 (LIVE IN-PERSON)

These sessions are dedicated to explaining the program for the final presentation, the deliverables and order of the presentation.

Sessions are focused on a quick overview of each project presentation and fine-tuning for the final presentation.

SESSIONS 28 - 30 (LIVE IN-PERSON)

FINAL PRESENTATION

These sesions are dedicated to the final presentation of each teams projects in front of a jury.

The deliverables for the final are discussed in class and shared with the students on campus (additional documentation section) after the midterm.

The details of the final presentation (order, classroom, jury members) will also be shared with the class a few weeks prior.

This final presentation of the project represents 35% of the final grade. (15% prototype, 10% catalogue and slides, 10% presentation).

EVALUATION CRITERIA

Criteria	Percentage	Comments
Attendance	10 %	individual eval.
Test 1	5 %	individual eval.
Test 2	5 %	individual eval.
Test 3	5 %	individual eval.
Assignment 1	10 %	individual eval.
Individual Work	10 %	individual eval.
Midterm	20 %	group eval.
Final presentation	35 %	group eval.

The evaluation for this course is a mixture betwee : individual assignments and tests, group work and presentation and individual class participation.

The assignments, midterm and final presentation grade breakdown will be discussed in class.

Important: At the end of the course each student can annonimously evaluate the collaboration skills of the team members that have been assigned to them through the evaluation sheet they will be provided. The results of these evaluation can affect how the final grade is calculated for some individuals.

Important: In class attendance is mandatory and students who have a bellow 70% attendance record will automatically fail the course. Attendance is considered binary present/absent. If students are late for more than 5 minutes in the classroom, they will be considered absent.

PROFESSOR BIO

Ruxandra Iancu Bratosin is a spatial designer and computational researcher, as well as a professor in the Bachelor in Design at IE University. She is a co-founder of 50(Super(Real)), a studio focused on multi-scalar spatial strategies, driven by the harmonious marriage of human values with technological innovation. At the core, her work explores ecology, social impact and the process of design and it has been exhibited at the Venice Architecture Biennale of 2016, Rotterdam Design Biennale of 2017, London Design Biennale of 2021 and published in several books with a digital ecology focus.

Her tangent focus explores the aesthetics of computation, algorithmic driven design, and the quest of expanding the notion of collaborating with technology in the process of design in order to address contemporary social or sustainability issues.

ACADEMIC EXPERIENCE

- Institute of Advanced Architecture of Catalonia in Barcelona (“Self Sufficient Buildings Studio”

assistant – ecological design, “Individual master thesis” junior professor – end of master thesis projects mentoring, “Slow Crisis” junior professor – city scale ecological response seminar, “Self Sufficient Neighbourhood” junior professor – studio for the “Master in City and Technology” program), 2014 – 2017

- Elisava in Barcelona (“Design, make, share” professor – computational design seminar), 2016
- ETSAM in Madrid (“Uncanny Dynamics” professor – computational explorations of the self seminar, “Individual master thesis” professor – end of master thesis projects mentoring), 2018
- University of Pisa, Italy (“Computational Design Summer School” professor), 2018
- University of Pisa, Italy (“Computational Design and Fabrication Summer School” professor), 2019
- Associate Professor in the Bachelor in Design at IE School of Architecture de Design (“Design Skills” professor, “Programming for designers” professor), 2019 – Present

ACADEMIC BACKGROUND

- M. A. in Architecture. "Spiru Haret University" Bucharest, Romania, 2013
- “Thesis of Excellence” Award, Master in Advanced Architecture. Institute of Advanced Architecture of Catalonia, IAAC, 2015

CORPORATE EXPERIENCE

- Founder. 50 (Super(Real)). Focus on digital tools and fabrication, sustainable, social and environmental practices, 2016
- Coordinator for the Project for the Self Sufficient City Department within the Institute of Advanced Architecture of Catalonia in Barcelona, 2015 – 2016
- Partner Architect at Margen-Lab Barcelona. Multi-scale projects in Spain and abroad. Topics related with environmental analysis and adaptation, sustainability and self-sufficiency, 2014 – 2016
- Founder. Advocacy Planning. Initiative dedicated to aiding disenfranchised communities, as a continuation of her projects in Guinea-Bissau.

Professor: **RUXANDRA IANCU**

E-mail: riancubratosin@faculty.ie.edu

RUXANDRA IANCU

www.50superreal.com

www.computationalaesthetics.com

OTHER INFORMATION

Office Hours:Students Should contact the professor to make an appointment.
Contact: riancubratosin@faculty.ie.edu

ADDITIONAL MATERIALS

Gary Hustwick. (2009). Objectified. https://www.kanopy.com/en/ielib/video/2931959

Gary Hustwit. (2018). Rams. https://www.kanopy.com/en/ielib/video/6481065

Didier Baussy-Oulianoff, Reiner E. Moritz.. (1993). Icons of 20th Century Design. https://www.kanopy.com/en/ielib/video/166047

IE Library Permalink