

Laboratoris de Creació 1

Sofia Acosta , Yuri Alemany Mascareñas, Miquel Cardiel

Villamediana, Carmen Casula Oliver, Javier Nieto Cubero, Cristina Subias Soto

Supervising Teacher: Javier Nieto Cubero

Content: 1,2,3,4,5

Code: 106069

Credits: 3 ECTS

Course: 3

Semester: 1

Typology: Obligatory

Subject: Means of Expression

Schedules:

Content	Schedules	Teacher
1	Divendres 08:30 - 12:00	Carmen Casula Oliver
		Javier Nieto Cubero
2	Divendres 08:30 - 12:00	Javier Nieto Cubero
		Yuri Alemany Mascareñas
3	Divendres 08:30 - 12:00	Miquel Cardiel Villamediana
		Javier Nieto Cubero
4	Divendres 08:30 - 12:00	Sofia Acosta
		Javier Nieto Cubero
5	Divendres 08:30 - 12:00	Cristina Subias Soto
		Javier Nieto Cubero



Eina Centre Universitari
Fundació Eina
Disseny Art Barcelona

Passeig Santa Eulàlia 25
08017 Barcelona T+34 932 030 923
info@eina.cat www.eina.cat

Subject Presentation

Creation Labs II is a practical subject that explores creation and materiality through experimentation and project development in various design disciplines. These labs offer a space for research, innovation and collaboration, using different materials, techniques and tools.

Learning outcomes of the subject

Knowledge

Relate visual arts languages to the communicative and expressive possibilities of different artistic techniques. (KT03)

Competencies

Develop artistic projects in different formats: editions, installations, pieces for exhibition, etc. (CT01)

Combining traditional artistic techniques with digital image manipulation. (CT04)

Skills

Apply plastic and expressive qualities in the formalization of design projects. (ST04)

Use the technical and expressive resources of different artistic disciplines to generate images. (ST08)

Learning outcomes of the degree program

Knowledge

Respond to global issues related to the fields of design and art, cultural industries, their institutional environments, and the agents involved.

Correctly reference documentary sources, the necessary bibliography and knowledge of the heritage environment both for the projection and for the analysis and reasoned criticism of design and/or art.

Catalogue materials, their properties and physical principles in relation to the conceptualisation and formalisation of design projects, taking into account environmental and sustainability criteria.

Categorise technologies and production processes, along with their respective costs, in relation to the conceptualisation and formalisation of design projects, while ensuring rigour and quality in finishes and details.

Reference essential knowledge of the sciences and auxiliary disciplines of design, such as anthropometry, ergonomics, visual communication, evaluation methods, marketing, and prospecting.

Demonstrate a sufficient command of the English (level B1 of MCER), in both general communicative contexts and design-specific contexts, with particular attention to democratic, human, and fundamental rights.

Skills

Identify design problems through the analysis of objects, graphic communication elements, and

spaces, from a perspective rooted in contemporaneity, universal accessibility, and equal opportunities.

Apply plastic expression skills and knowledge of materials and production technologies in accordance with the objectives of a design project.

Propose design solutions (or solutions in related areas) clearly and precisely, using appropriate vocabulary and techniques of expression and representation.

Graphically represent spaces, volumes, planes, and surfaces using the characteristic techniques of design.

Use digital tools and technologies according to creative and production processes in the field of design

Structure visual information hierarchically and apply typographic families and font architecture appropriately.

Apply ethical and aesthetic criteria and values to design practice, taking into account the formal dimensions of environments and their diversity.

Adapt visual languages, media, and artistic techniques to the communicative goals of each design project.

Make value judgments about design projects by interpreting data and justifying critical analysis using knowledge of graphic communication, space, objects, and reference texts.

Conduct research with a critical spirit in the field of design and related disciplines, considering innovation, experimentation, and the ongoing renewal of the cultural industries, while promoting equality and democratic values.

Synthesize knowledge from diverse sources—studies, fieldwork, literature, direct observation, or practical experience—in the field of design and related disciplines within the cultural industries.

Evaluate the social, economic, environmental, and technological feasibility of a design project, incorporating gender and diversity perspectives, and ensuring respect for sustainability, democratic values, and fundamental rights.

Competencies

Propose creative, socially and environmentally sustainable design solutions, aligned with the Sustainable Development Goals (SDGs).

Manage the development of design projects—individually or in teams—with adaptability, within the organisational context of companies and institutions.

Manage design-related tasks autonomously, planning and organising time and processes in professional and/or academic settings.

Apply acquired knowledge to the execution of design and art projects with professional standards, considering user and audience diversity.

Content: 1

Brief Description:

Memes, GIFS and stickers; Instagram filters, influencers, Snapchat dysmorphia, death by selfie, infinite scrolling and the attention economy; biometric recognition systems, camera phones, camera cars, camera glasses, cameras monitoring prisoners and creatures; creatures playing and killing other creatures through drone images; video games, virtual reality, 3D scanning, Google Street View walks, QR codes, satellites and endoscopic cameras; AI-generated photographic-looking images, polluting macro servers and exploited microworkers seeing the images we don't want to see; fake news, activism, conspiracy theories; images that enrich the rich and impoverish the poor; screenshots, CAPTCHAS, RECAPCHAS, sexting and cat photos.

The technologies developed over the last decades in the context of visual capitalism have generated new cultural practices related to the image at an extraordinary speed. The Internet, digitalization, mobile phones and artificial intelligence have changed the way images are produced, circulated and consumed, and have transformed the photographic medium.

What is photography today? And the image? What defines them? What imaginaries and ideological frameworks do they project? How do they represent us and what agency do they grant us? What interests do they respond to? What social, political and economic implications arise from their use? What do they do to us, and above all, what can we do with them?

The Photography Creation Laboratory aims to open a space to think about and practice these questions. A space that goes beyond the limits drawn by traditional photographic discourse, and that makes it possible to explore some of the places in the territory where this hybrid and transforming photographic medium is expanding.

To do this, the workshop focuses on a series of gestures, in which various facets of the current nature of the image and photography are expressed, and the relationship we maintain with them is codified. A sequence of gestures belonging to cultural, technical or artistic practices; and connected to various image, information, computational or artificial intelligence technologies. Gestures that embody our fears and hopes. Photographic, post-photographic, non-photographic and anti-photographic gestures.

The laboratory observes these gestures and encourages them to perform them, in an attempt to foster critical thinking and practices; both about photography, image, technology and language, and about the reality that is seen and transformed through them.

Training Objectives:

- Adopt a broad perspective of the current image and photography landscape, as well as its social, political and economic implications.

- Question the ideas and categories established by traditional photographic discourses.
- Identify cultural practices that exemplify the most relevant aspects of the nature of photography and the image today.
- Learn about contemporary artistic references and techniques that expand the possibilities of using images and photography.
- Analyze and debate the effects of images and photography on our lives, and develop critical and committed thinking and practice.
- Acquire the necessary knowledge about the operation of programs and tools, and possess a certain agency towards these technologies to use them according to one's own intention.
- Undertake experimental, speculative, playful and procedural artistic practices that respond to one's own interests, desires and concerns.

Recommendations

This laboratory is open to anyone interested in photography, image, art, technology or language, regardless of the level of previous theoretical or practical knowledge in any of these areas.

To participate, an open, critical and curious attitude is required; cultural or political concerns; a predisposition to think, analyze and debate; and a desire to work with images and photographs from an artistic and experimental perspective.

To take the laboratory, it will be necessary to dedicate time outside the subject's teaching hours, between classes, to carry out the practical work corresponding to each of the modules. Likewise, attendance at all classes is highly recommended.

Contents and Methodology

Brief Description:

The laboratory program is structured around 8 modules, each dedicated to a gesture. Each of these gestures expresses one of the forms that images and photography take today; and the ideas, visual forms, codes, technologies and cultural practices that are associated with them.

1. The gesture of copying and pasting. Original, copy, virality, authorship, appropriation, recontextualization, screenshot, challenges, memes, GIFS and stickers.
2. The gesture of surveillance. Privacy, extimacy, exhibitionism, stalking, listening phones and data plundering, behavioral capital gain, biometrics, control, webcam stickers and Google Street View.
3. The gesture of editing: Time and non-linearity, present continuous, representation, identity, selfies, filters, posturing, surgery, dysmorphia, skincare, virtual reality and 3D.
4. The gesture of error. Transparency and opacity, coding, corruption, boycott, playing against the device, computer rage, glitch and subtitles.
5. The gesture of reading. Image and text, format, language, code, non-creative writing, Google Translate Camera, QR codes and CAPTCHAS.
6. The gesture of generating. AI, abstraction, photographic appearance, veracity and probability, statistical representation, normativity, fake news and Stable Diffusion text-to-image.
7. The gesture of accumulating. Space and memory, archive, digital diogenes, past, cloud and physicality, resources and external memories.
8. The gesture of imagining. Imaginaries, ideology, capitalist realism, future, consumption, desires, Shein and stock photos.

Teaching methodology:

Each of the 8 modules that make up the program is developed through the following methodologies:

- Presentations: theoretical parts that begin each of the modules, where the teacher conceptually approaches the gesture in question, through the cultural practices in which it is expressed, the technologies involved, and a collection of related references from various fields and disciplines. The presentations aim to conceptually and methodologically delimit the scope of work, and to encourage its exploration through a premise from which the research will be developed.

Research: practical work with images, of an experimental and speculative nature, where students perform the gestures corresponding to each of the modules based on a premise. These practices, which can be carried out individually or in groups, seek to have students explore the ideas and references shared during the presentations, placing them in their context according to their own interests. The research will be shared later through exhibitions.

- Exhibitions: parts that close the modules, where the results and processes of the research are shared, and the questions that arise are debated. The exhibitions aim to encourage analysis, the exchange of ideas, and the identification of relevant aspects according to the interests of the group.

- Games: sporadic exercises, of a practical and playful nature, through which some relevant ideas, processes or tools are collectively explored.

- Readings: excerpts from books, publications and articles, optional reading, that expand on some of the ideas that articulate the program.

Regarding the structure of the classes, the research is carried out outside the teaching hours of the subject once the corresponding class has finished, and is presented at the beginning of the next one. Therefore, a given class is divided into two parts, which belong to different modules: in the first part of the class, the research presentations of a module will be made, and in the second, the presentation of the following module.

At the end of the subject, the group will be offered the possibility of producing a publication that includes the results of the research carried out, and that functions as a laboratory report. The publication will be subject to the interest and involvement of the students, and can be carried out through other subjects.

Training activities:

Each of the investigations is equivalent to 10% of the grade, which for a total of 8 investigations, is 80%. The remaining 20% of the final grade corresponds to attitude, participation and class attendance.

Evaluation

General evaluation regulations

A student will be considered "Not Assessable" (NA) if they have not submitted all the learning evidences or have not attended 80% of the classes without justifying their absences. In case of a justified absence, the student must contact the teacher at the time of rejoining to determine the recovery of the activities they missed.

If the student commits any irregularity that may lead to a significant variation in the grade of an evaluation act, that evaluation act will be graded with 0, regardless of the disciplinary process that may be initiated. If several irregularities occur in the evaluation acts of the same subject, the final grade for that subject will be 0.

Continuous evaluation system

The evaluation system of EINA and UAB is a continuous assessment system, the objective of which is for the student to know their academic progress throughout their educational process to allow them to improve it.

The continuous assessment process must include a minimum of three evaluative activities, of two different types, distributed throughout the course, none of which can represent more than 50% of the final grade.

The evaluation will consist of a total of 9 pieces of evidence: the 8 investigations (each of which corresponds to 10% of the final grade, and which, therefore, together account for 80%), and the participation item (which corresponds to the remaining 20%).

In the evaluation of the research, the following points will be assessed:

- Ability to adapt the premise to one's own interests.
- Conceptual interest of the approach.
- Willingness to experiment and play.
- Relevance of the work process, and application of innovative methodologies.
- Exploration of alternative or disruptive technical uses.
- Use of programs and tools according to the intention.
- Communicative effectiveness of the presentation.
- Formal quality and conceptual coherence of the images and materials produced.
- Potential to challenge, question preconceived ideas and generate debate.
- Conceptual and formal overview of the results.

Regarding the evaluation of participation, in addition to attendance, the active attitude in class, the predisposition to debate, and the involvement with the proposed dynamics and practices will be taken into account.

Review process

The revisions will consist of repeating or developing the research presented.

Bibliography and Resources

- Bollati, Martín (2023) On the collapse of the history of photography
- Borges, Jorge Luis (1944) Fictions, Publishing Alliance
- Various authors (2021) Automated Photography, Mörel
- Farocki, Harun (2013) Distrust images, Caja Negra Editora
- Fisher, Mark (2016) Realismo capitalista ¿No hay alternativa?, Caja Negra Editora
- Flusser, Vilém (1984) Towards a philosophy of photography, Editorial Síntesis
- Flusser, Vilém (1985) The universe of technical images, Caja Negra Editora
- Flusser, Vilém (1994) Gestures, Herder
- Fontcuberta, Joan (2015) The kiss of Judas: photography and truth, Editorial GG
- Goldsmith, Kenneth (2011) Non-creative writing, Caja Negra Editora
- Han, Byung-Chul (2016) Shanzai, Caja Negra Editora
- Morley, Daniel (2023) AI: doomsday for humanity, or for capitalism, Marxism.com
- Nakahira, Takuma (2018) The documentary illusion, Ca l'Isidret
- Salvaggio, Erik (2022) Cybernetic Forests
- Soto Calderon, Andrea (2020) the performativity of images, Metals
- Steyerl, Hito (2014) The condemned of the screen, Caja Negra Editora
- Steyerl, Hito (2023) Mean images, New Left Review

Content: 2

Brief Description:

What is art direction?

What does an art director do?

What is your contribution to image, design and communication?

In this subject we will understand the vision, work and coexistence of an Art Director with photography.

And we will put it into practice by doing projects, applying the learning, to understand and internalize the task of the art director directly related to photography.

Training Objectives:

Understand the role of the art director through personal experience.

Introduce the work of the art director to spark students' interest.

Discover the possibilities and disciplines in which art direction intervenes in relation to photography.

Do! Think, create and lead.

The idea, the concept and the execution.

Criterion: Knowing how to choose and direct the photographer.

Work as a team.

Recommendations

This creative workshop is recommended for anyone interested in design, communication, image, photography and art.

Create, think, share, grow and learn.

Contents and Methodology

Brief Description:

Introduction to Art Direction.

References and Referents.

Art direction and photography.

Art director and photographer.

Ways of communicating.

Trends.

Art direction and graphic design.

Project 1

Project 2

Project 3

We will invite Art Directors and Photographers.

Teaching methodology:

Let's do it!

We learn by doing.

We argue, develop and defend our ideas.

Be honest and talk about what interests us.

Let's take advantage now that we still have the freedom to express who we are and what sets us apart.

Training activities:

Training activities

Indicate the training activities that are evaluable with the value /%/ assigned to the evaluation.

Joint proposals and content creation

Presentations and debates in the classroom.

Argumentation, conceptualization and development of projects.

Realization and production.

Evaluation

General evaluation regulations

A student will be considered "Not Assessable" (NA) if they have not submitted all the learning evidences or have not attended 80% of the classes without justifying their absences. In case of a justified absence, the student must contact the teacher at the time of rejoining to determine the recovery of the activities they missed.

If the student commits any irregularity that may lead to a significant variation in the grade of an evaluation act, that evaluation act will be graded with 0, regardless of the disciplinary process that may be initiated. If several irregularities occur in the evaluation acts of the same subject, the final grade for that subject will be 0.

Continuous evaluation system

The evaluation system of EINA and UAB is a continuous assessment system, the objective of which is for the student to know their academic progress throughout their educational process to allow them to improve it.

The continuous assessment process must include a minimum of three evaluative activities, of two different types, distributed throughout the course, none of which can represent more than 50% of the final grade.

The assignments scheduled in the program will be scored numerically based on 10 as partial grades. The final grade will take into account the partial grades in the various phases of the subject as well as attendance and completion of the assignments (20%), the idea or proposal (40%) and the formalization 20% and presentation (20%).

3 art direction and photography projects, each worth 30% and 10% for the public presentation.

Review process

The review can be requested from the corresponding teacher and will be carried out during the week indicated in the school calendar.



Eina Centre Universitari
Fundació Eina
Disseny Art Barcelona

Passeig Santa Eulàlia 25
08017 Barcelona T+34 932 030 923
info@eina.cat www.eina.cat

Bibliography and Resources

D&AD Rotovision. The Art Direction Book

Milton Glaser. Citizen designer ed. Gustavo Gili

A. Tarkowski. Sculpting in Time. Rialp-

Fontcuberta, Joan. The kiss of Judas. Photography and truth

Pablo d'ors. Biography of silence. ed Siruela

Content: 3

Brief Description:

PHOTOGRAMMETRY · 3D MODELING · DIGITAL SCULPTING · 3D PRINT

This laboratory will use photogrammetry as its central focus, a technique used to create a reconstruction of reality in a digital environment.

Using various methods of 3D scanning and modeling, we will create figures and environments to jointly design fictional virtual worlds. We will incorporate the use of AI technologies, which have represented a paradigm shift. We will analyze, employ, and discuss the ethics of current commercial platforms.

We'll look at references from major studios, but especially from freelance artists who have managed to create their own visual impact through their style. We'll discuss these artists' styles to summarize the resources they use and create exercises to learn about them.

We will work with different visual techniques, 3D modeling, and sculpting, which will allow the final project to have its own personality and be able to be 3D printed.

Training Objectives:

1. Encourage creativity and abstract thinking from an AI-generated snippet.
2. Introduce students to the process of 3D photogrammetry and the creation of digital models.
3. Explore the potential of artificial intelligence in different areas of creation, and discuss the ethics of current commercial solutions.
4. Develop skills in 3D modeling, sculpting techniques, as well as 3D printing.
5. Explore how to transport elements from the physical world to the digital world, or how to view the physical world with digital effects.
6. Promote team collaboration and the exchange of ideas and 3D objects among students.

Recommendations

It is recommended that you have completed and passed the mandatory second year of Audiovisual Resources, as some knowledge of Premiere will be useful.

You will need a digital camera or smartphone to capture images of the physical elements and

environments.

We will use free smartphone applications such as Polycam, Metascan or Luma AI as photogrammetry software.

We will use the free software Blender as a 3D modeling base with its EEVEE and Cycles rendering engines.

Preferably work with Windows.

Contents and Methodology

Brief Description:

The subject develops these 3 blocks: Photogrammetry, Artificial Intelligence Solutions and 3D Modeling.

Photogrammetry:

Current uses of photogrammetry in the market.

Artistic references that use photogrammetry.

Software scanning technique (learn the different steps of creating point cloud, mesh and texturing).

App scanning technique (automatic).

Different formats for exporting photogrammetry.

AI:

Current solutions and granted uses.

Debate on the ethics of current solutions.

Image, audio and video references.

Modifying existing images with prompts in KREA.AI.

Creating new images with prompts in KREA.AI.

Brief development and textual communication with ChatGPT.

Using AI tools to conceptualize directly in 3D with MESHY.

Blender:

How to visualize photogrammetry, reshape it, and adapt it to different materials. Texturize according to different viewing styles in a 3D environment and render an image.

3D Modeling

Creating an object and 3D printing it

PBR Materials Theory

Case Study 0: Point Cloud to Mesh

Debate of references analyzing their style

What is style?

Deconstructing the image: composition, form, technique

Blender Basics
PBR Plugins and Materials

Case Study 1: Nikita Diakur, Lidl
Project from View

Case Study 2: The Dragon Statue by Andrés Nagel
2D Illustrator to 3D Blender
Extrude from SVG

Case Study 3: Rosalía in frames
Photogrammetry from video frames
Scene lighting techniques

Case Study 4: Caldea in 3D
Photogrammetry from 360 panoramas

Case Study 5: Flags. Simulation
Physics of forces (wind, motion)
Soft Body
Simulation of textile elements
Inflated
Pin points
Vertex Groups

Case Study 6:
Boolean and cutting tools

Exporting 3D objects, still images and video frames

Rendering in EEVEE and Cycles

Exported PBR materials and mesh simplification for real-time engines

3D printing Bambu Lab Slicer + gcode

Teaching methodology:

The classes will be primarily practical in nature, so students are encouraged to attend all classes. During the practical sessions of the course, different case studies will be replicated. These will be chosen based on the prior analysis of references to learn how to create using the same techniques (see Contents section).

A debate on AI will be promoted to identify the new opportunities and risks that some of the current market solutions pose for artists and designers.

We will learn the technique of photogrammetry and its limitations by scanning various elements on an outing outside the classroom.

Based on the Digital Playground concept, a shared framework with a curatorial narrative will be developed so that different projects can be accommodated in a single digital space.

The projects will have public presentations during which both the ability to present and the ability to analyze and offer constructive criticism will be developed.

Training activities:

Presentation of the project statements, as well as related references and case studies.

Project work in the classroom.

Participation in debates and classes 10%

Stock Photogrammetry Practice: 20%

Stock photogrammetry bank. Together, the students will create a photogrammetry bank to share in future projects.

Invisible City Practice: 30%

Generate a new chapter of Italo Calvino's book Invisible Cities using ChatGPT. Using this text and the photogrammetry images generated during the course in the class stock database, represent the fictional city narrated in the text using the photogrammetry and 3D techniques learned.

Digital Playground Practice: 40%

Create a 3D product based on the common Digital Playground framework, where each student will conceptualize, using the tools learned in the course, a 3D object that evokes a playground brought into the digital world. These objects or spaces will be brought into a digital environment to complement the class's shared imagery in an immersive experience.

Evaluation

General evaluation regulations

A student will be considered "Not Assessable" (NA) if they have not submitted all the learning evidences or have not attended 80% of the classes without justifying their absences. In case of a justified absence, the student must contact the teacher at the time of rejoining to determine the recovery of the activities they missed.

If the student commits any irregularity that may lead to a significant variation in the grade of an evaluation act, that evaluation act will be graded with 0, regardless of the disciplinary process that may be initiated. If several irregularities occur in the evaluation acts of the same subject, the final grade for that subject will be 0.

Continuous evaluation system

The evaluation system of EINA and UAB is a continuous assessment system, the objective of which is for the student to know their academic progress throughout their educational process to allow them to improve it.

The continuous assessment process must include a minimum of three evaluative activities, of two different types, distributed throughout the course, none of which can represent more than 50% of the final grade.

Participation in debates and classes 10%

Participation in class and student motivation regarding the course content will be assessed. Questions and participation in class discussions will be provided.

Stock Photogrammetry Practice: 20%

The quality of the photogrammetry uploaded to the server will be evaluated, as well as the correct file naming, preview photography, and inclusion of technical details in the collaborative datasheet.

Invisible City Practice 30%

Originality and the ability to create a visual narrative will be assessed through a combination of photogrammetry and 3D modeling techniques discussed in class.

Digital Playground Project: 40%

The ability to transfer the narrative and reflection from the previous exercise to represent the playground object contextualized within the chosen fiction, as well as the 3D print finish, will be assessed.

Review process



Eina Centre Universitari
Fundació Eina
Disseny Art Barcelona

Passeig Santa Eulàlia 25
08017 Barcelona T+34 932 030 923
info@eina.cat www.eina.cat

Bibliography and Resources

Manuel Borja-Villel et al. (2014). "Playgrounds: Reinventing the plaza." Edited by Reina Sofia.

Smith, A. (2023). "Photogrammetry: Fundamentals and Applications in 3D Modeling." Imaginación Digital Publishing.

Johnson, R. (2022). "Advanced 3D Modeling: Techniques and Tools for Creating Digital Worlds." Creative Editions.

García, M. (2021). "Realidades: The Creative Fusion of Photogrammetry and 3D Modeling in Visual Narratives." Mundos Híbridos Publishing House.

Davis, P. et al. (2020). "Technology and Art: Exploring the Creative Potential of Photogrammetry and 3D Modeling in Fiction." Digital Art and Futurism Collection.

Clark, S. (2019). "Photogrammetry for Beginners: From Capture to 3D Modeling." Modern Virtual Publications.

Content: 4

Brief Description:

In this creation laboratory we will work with light as a mediating element between the observer and the scene or object observed. Through touching and working with different light sources we will discover how it can become an object or subject depending on how we work with it and its application. In these 9 weeks we will discover in a practical way how light can transform any project, sensation or perception and how we can incorporate it into designs of the different disciplines working on it as another material to project and define in any design project.

To organize the experience we will build a box that will become the experimentation laboratory where light is captured in each practice, we will work on the concepts that define lighting design to distort reality and build a concrete vision

Training Objectives:

Understand the relationship between the observer and the observed object and how light builds this relationship and can modify it.

Working with light as a shaper of spaces, atmospheres and sensations.

Be able to analyze the role of light and lighting in any design regardless of the discipline (product, spaces or graphics)

Train your eye to start looking instead of seeing.

Recommendations

No prior knowledge of the world of light and lighting is required, if that it is interesting to take this subject with an open mind and curiosity to question what the eyes see.

Contents and Methodology

Brief Description:

The eye and the perception of light

Theoretical-practical class to understand how the human eye works, the basis perceptiveness of the natural and artificial light that surrounds us. We will also work concepts of light and health.

Representation of light

We will work in a practical way on how to represent light and the beginning of the project and design.

Light and color

Experiments to understand the primary colors of light, how light can be adding and subtracting and how to design colored shadows working with white light.

Experimental class.

Guest artist

Visit from a guest artist specializing in light who will present her work research and his work.

Visit to the facilities and showroom of two manufacturers/distributors of lighting

A visit to a factory of a local decorative lighting company is planned. and the visit to the offices of a European manufacturer in Barcelona. In both visits you will see the product they manufacture live and they will share with us their design, production and installation processes. The date and time will be confirmed address when confirming the calendar and availability in September.

Core exercise

A light box will be built to experiment with different concepts. that we are introducing every week.

Teaching methodology:

Experimental sessions are planned with samples and different materials. provided by the Student and the teacher and the guests in the subject to create a "light laboratory" and learn by experimenting.

Training activities:

ACT 1: Creation of a light box. Process of creating the light box 50% (groups)

ACT 2: Final delivery of the light box. Oral presentation of the concept 25% (groups)

ACT 3: Specific activities that will arise in each mandatory delivery class 15% (individual)

ACT 4: theory test 10% (individual)

Evaluation

General evaluation regulations

A student will be considered "Not Assessable" (NA) if they have not submitted all the learning evidences or have not attended 80% of the classes without justifying their absences. In case of a justified absence, the student must contact the teacher at the time of rejoining to determine the recovery of the activities they missed.

If the student commits any irregularity that may lead to a significant variation in the grade of an evaluation act, that evaluation act will be graded with 0, regardless of the disciplinary process that may be initiated. If several irregularities occur in the evaluation acts of the same subject, the final grade for that subject will be 0.

Continuous evaluation system

The evaluation system of EINA and UAB is a continuous assessment system, the objective of which is for the student to know their academic progress throughout their educational process to allow them to improve it.

The continuous assessment process must include a minimum of three evaluative activities, of two different types, distributed throughout the course, none of which can represent more than 50% of the final grade.

ACT 1: Creation of a light box. Process of creating the light box 50% (groups)

ACT 2: Final delivery of the light box. Oral presentation of the concept 25% (groups)

ACT 3: Specific activities that will arise in each mandatory delivery class 15% (individual)

ACT 4: theory test 10% (individual)

Review process

The theoretical test may be repeated within the established review time and, if the minimum level of the practical tests is not reached, they may be supplemented during this period.



Eina Centre Universitari
Fundació Eina
Disseny Art Barcelona

Passeig Santa Eulàlia 25
08017 Barcelona T+34 932 030 923
info@eina.cat www.eina.cat

Bibliography and Resources

Abstract Series: Olafur Eliasson Chapter <https://www.netflix.com/title/80057883>

Content: 5

Brief Description:

The rise of man as a living and rational being is marked by a continuous conquest of the materials he uses in his daily activities.

Materials constitute and are part of our living environment, we create them, we shape them, we use them. What are their properties? What is the process that takes us from matter to material?

We are living in a historical period in which new material properties and new materials open up a wide range of possibilities and opportunities in the design and development of a project or product, which will make it differentiable and of high added value in the market.

But not only the functionality and effectiveness of a product or project will determine its "success", its intangible side, its emotional properties, based on technical and sensory properties, must be taken into account, as materials today can generate interactions with the user, be autonomous or even grow and die.

The designer's task should not simply be to find other uses for each new material that is developed, they should be able to create new materials for the new requirements that arise in the world of design and in today's society.

Training Objectives:

Experiment with the material as the main and primary tool of the design process, taking as its backbone the sustainability of the material or its creation process, as well as the environmental impacts it may generate.

Study the development and innovation of materials, moving from traditional materials to ultramaterials. Understand materials innovation as a tool that can change the world through design.

Know the specific standards linked to the mechanical, chemical or thermal properties of each material.

Learn the physical and chemical principles that govern these rules and how they apply to natural, plant or animal structures. This will facilitate innovation in the field of materials and also offer the possibility of reinventing with existing materials.

Provide the student with the ability to understand materials not as a final consequence of the project procedure but as an instrument to be incorporated into the first stage of the process, either as a method of exploring ideas or as a premise of the project.

Recommendations

This subject is recommended for any design degree student who is curious and interested in contemporary materials and the exploration of their possibilities.

The multidisciplinary nature of the content means that the subject is open to all majors, with Product and Spaces being the most suitable.

Contents and Methodology

Brief Description:

Treat the material as a source of inspiration and starting point for the design process.

Processes of generating ideas through materials.

Approach materials from an overview for new design requirements:

- Sustainability
- Biomaterials, biomimicry, biofabrication.
- Nanotechnology and smart materials.

Teaching methodology:

- Theoretical classes and visualization of current examples to illustrate the contents of the subject.
- Application of idea generation systems through the use of materials in the first instance.
- Exploration of research methods that may be useful for the knowledge of new materials.
- Development of self-analysis methods to evaluate the results obtained.
- Individual and/or group work focused on the use and/or creation of new materials.
- Presentation of works.
- Viewing documentaries on the latest research on materials.
- Visit to an innovative materials center, MaterFad.
- Visit to the company classroom or to the designer of a new material.
- Visit to a technological research center.

Training activities:

- Attendance at proposed visits, both outside the school and those that take place at the school.
- Class attendance.
- Participation in corrections and others (viewing of proposed documentaries, etc.)
- Research work, analysis, design and development and application of a new material in a specific context.

Evaluation

General evaluation regulations

A student will be considered "Not Assessable" (NA) if they have not submitted all the learning evidences or have not attended 80% of the classes without justifying their absences. In case of a justified absence, the student must contact the teacher at the time of rejoining to determine the recovery of the activities they missed.

If the student commits any irregularity that may lead to a significant variation in the grade of an evaluation act, that evaluation act will be graded with 0, regardless of the disciplinary process that may be initiated. If several irregularities occur in the evaluation acts of the same subject, the final grade for that subject will be 0.

Continuous evaluation system

The evaluation system of EINA and UAB is a continuous assessment system, the objective of which is for the student to know their academic progress throughout their educational process to allow them to improve it.

The continuous assessment process must include a minimum of three evaluative activities, of two different types, distributed throughout the course, none of which can represent more than 50% of the final grade.

The final grade for the course will be based on a continuous assessment of the student's work. The teacher will monitor the student's evolution and progress on an individual basis. The assessment criteria correspond to the acquisition of the competencies corresponding to this subject, described in detail in this teaching guide.

The skills of this subject will be assessed through the presentation of one or more practical exercises (the exercises may be merged into a single assignment).

To qualify for a passing grade for the subject, the student will be required to pass all the exams and/or practical exercises, and have attended all the specialized visits, and attended all the supervised activities that are proposed in this guide and that are marked throughout the course as essential. Assignments or work submitted outside the established deadlines or without the minimum presentation requirements requested will not be accepted.

* Evaluation criteria:

65% of the grade in the evaluation will be given by a research project that will be developed in different phases and exercises.

This work will consist of an analysis of the context of new materials that will allow the student to create their own new material.

The level of resolution, development and presentation will be assessed.

of the documentation that is determined, as well as the intermediate deliveries and final exhibition.

15% of the grade will correspond to a written test.

20% of the grade will correspond to monitoring and active participation in classes, workshops and work sessions proposed both at school and in external visits.

To be eligible for reassessment, a student must have attended more than 80% of the classes/visits and have completed the proposed exercise(s).

The reassessment may consist of a correction/expansion of previously worked exercises or a final synthesis test to assess the acquisition of skills.

The maximum grade that can be obtained for re-evaluation will be 6 and will replace the rest of the grades previously obtained.

Review process

At any time, the student can request a review of a completed assignment or test.

Bibliography and Resources

* Bibliography:

- William McDonough, Michael Braungart. "Cradle to Cradle: Redesigning the Way We Do Things."
SAMcgraw-Hill/Interamericana de España
- Chris Lefteri. (2009). Ingredients. Chris Lefteri Design Ltd London.
- Dalcaci Reis (2010). "Product design in the sustainable era". Pockets Paris
- David Bramston. "Basics of product design. Materials". Ed.pad Parramón Architecture and design.
- Etienne Guyon – Alice Pedregosa – Beatrice Salviat. "Matter and materials. What is the world made of?" Publisher: Belin (March 23, 2010 Collection: Bibliothèque scientifique
- Frank Kaltenbach (ed). (2007). "Translucent materials, glass, plastic, metal Ed Gustavo Gili. Barcelona.
- George M. Beylerian – Andrew Dent. "Ultramaterials. Ways in which innovation in materials changes the world". Ed. Blume.
- Guillem Aguilar Sahagún. "Man and materials". Ed.FCE Fund of economic culture Mexico.
- Guillem Aguilar Sahagún, Salvador Cruz Jiménez, Jorge Flores Valdés. "A look at the matter". Ed.FCE Fund of economic culture Mexico.
- Janine M. Benyus. "Biomimicry. How science innovates by drawing inspiration from nature". Ed. Tusquets.
- Javier Peña Andrés. (2009). "Materials selection in the design process". CPG Publishing.
- Klaus-Michael Koch. (2004). "Membrane Structures, Innovative building with films and fabric". Ed Prestel Munich
- Nussbaumer jester. (2011). "Inclusive Design: A Universal Need". Fairchild Pubns. Wilmington.
- "Mater in progress. New materials, new industry". Barcelona
- Subject "Material World 3. innovative materials for architecture and Design" Ed.Frame Publishers
- Peter Zumthor. (2006) "Atmospheres" Ed Gustavo Gili. Barcelona
- Rafael Serra (1993). "Energies in architecture". Edicions UPC. Barcelona.
- Rob Thompson. (2009). "Manufacturing processes for design professionals". Thames & Hudson. new york
- Roberto Verganti (2009). "Design-Driven Innovation: Changing the Rules of Competition by Radically Innovating What Things Mean". Harvard Business School Press. Boston.
- S. Kalpakjian, Sr. Schmid. (2008). "Manufacturing, engineering and technology". Ed. Pearson Education, Mexico.

* Resources - Websites:

- <http://www.materialconnexion.com>
- <http://ca.materfad.com/materials>
- <http://www.inventables.com>
- <http://www.materialslibrary.org.uk>
- <http://www.materia.nl>

<http://www.materio.com>

<https://mtrl.com/en/>