



Eina Centre Universitari  
Fundació Eina  
Disseny Art Barcelona

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## LABORATORI D'INVESTIGACIO AUDIOVISUAL

Francesc Soria Castellet

Supervising Teacher: Francesc Soria Castellet

Group: 1

Code: 105757

Credits: 6 ECTS

Course:

Semester: 1

Typology: Optative

Subject: Means of Expression

Schedules:

Group	Schedules	Teacher
1	Dijous 12:00 - 15:30	Francesc Soria Castellet



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## Subject Presentation

### **Brief Description:**

Block 1 - Introduction to transdisciplinary art and design. Introduction to digital creation.

Block 2 - Theory.

Block 3 - Digital creation tools.

Block 4 - Organic-digital interaction tools.

Block 5 - Glitch. Break and rethink the final goal.

Block 6 - Final project.

To be confirmed - Departure. Depending on feasibility, an attempt will be made to organize a visit outside the classroom related to the fields presented (or in the form of a visit to a professional studio, exhibition or event).

To be confirmed - Talks. Depending on the feasibility, one or more people will be brought in to present a topic in which they are experts, to introduce or accompany the subjects and projects of the subject.

### **Training Objectives:**

1\_ Contextualize students for the interpretation, analysis and design of audiovisual projects, in their structure, context and style.

2\_ Provide a foundation on tools, both analog and digital or transmedia (a tree trunk, an analog camera, software or a humidity sensor), that are available to audiovisual research projects. Promote literacy in relation to the treatment of digital information. Critically discuss and reflect on digital creation tools, their uses and toxicities in a context marked by the rise of AI.

3\_ To solidify students' abilities to identify, delimit and position themselves within the ecosystem of the creation of audiovisual, transdisciplinary and intra-active projects. To become aware of the actors and agencies present in the creation process.

4\_ Open the field of action towards peripheral disciplines (lighting, electronics, mechanics, programming, machine learning...) that allow them to conceptualize and implement multimedia projects through design methodologies.

5\_ To foster the spirit of self-learning inherent in the field of audiovisual research, offer resources based on open-source communities and their crystallization in the form of forums, programming repositories and tutorials.

6\_ Internalize theory that contextualizes all the previous points. Critical theory on the digital image, the artistic process, the dissolution of the anthropocentric vision in society and art, etc.

## Recommendations

It is necessary to have a basic understanding of digital imaging, and ideally to know animation and video editing tools.

Although no prior programming knowledge is required, they are welcome and will allow greater fluency. In class, basic programming languages will be worked on and a willingness to work on logical-mathematical thinking will be required.

You need to have a good predisposition and patience to learn new things that are far from specific knowledge in the field of design, and dedicate time to review the content outside of the classroom.

Teamwork will be necessary throughout the course, and students are encouraged to form interdisciplinary groups to share knowledge derived from each specialty.

## Contents and Methodology

### **Brief Description:**

Block 1 - Introduction to transdisciplinary art and design. Introduction to digital creation.

Both from one's own professional experience and from the current context, a base of projects and creative methodologies will be provided that will feed the practical part that will be developed during the subject (the use of mechanized elements, filming techniques, programming, communication languages, etc.).

Block 2 - Theory.

Introduction to philosophies and fields of thought related to image, creation and the role of humans and technology within eco-social systems.

Readings outside of class and theoretical talks/debates given during class hours will be proposed. Authors such as Hito Steyerl, Rosi Braidotti or Forensic Architecture research, among others, will be discussed.

Block 3 - Digital creation tools.

Introductory pills to a variety of software and languages (touchdesigner, resolume, python, blender...), with the intention that students understand the capabilities and limitations of their own devices and creative context. Some software will be explained above so that students can research and use them in case they have a special interest, some will have common development in class to delve deeper and use them as a launch pad for the rest.

Block 4 - Organic-digital interaction tools.

Leaving the screen but accompanying ourselves with it. We will investigate what the relationships between the digital world and the natural world mean. Using the tools at our disposal (arduino, sensors, motors...), we will reflect and exercise on the narrative and creative possibilities that arise from it.

Block 5 - Glitch. Break and rethink the final goal.

Based on the learnings from the previous blocks, we will look for limits, exceptions and breaks in the dynamics that sensors, software and codes (programming and behavioral) have predetermined. We will seek to play with the uncomfortable and unintelligible behaviors of the actors present in the audiovisual project.

Block 6 - Final project

In working groups and with follow-up tutorials, students will have to conceptualize and design a free production piece that uses the knowledge acquired in the previous practices. It is recommended to start from one of the practical exercises already

created and explore their creative possibilities to the fullest.

**Teaching methodology:**

Case study analysis

Theoretical computational principles: tools, software, hardware and communication protocols

Theoretical principles of the philosophy of creation.

Fundamentals of electricity and electronics: voltage, current, resistance.

Evaluation of students' specific interests.

Ideation and conceptualization exercise.

Autonomous activities.

Debate and critical thinking.

Basic programming exercises.

Research and documentation.

Implementation of projects.

Project monitoring tutorials.

**Training activities:**

Theory project: Individual.

Based on the readings done outside and inside the classroom, outline a creative ecosystem so that its actors, context, intentions and policies are clearly studied and established.

Digital project: Individual.

Practice and presentation of a project on screen. Touchdesigner exercise that evolves from what was learned in class.

"break/glitch" project. individual

Based on the readings done and the technical learning accumulated during the subject, carry out an experimental exercise in which common creative language processes are subverted.

Final project. Group.

Students will develop an interdisciplinary project in one of the main areas of the subject (algorithms, automation, audio-reactive digital creation) based on technological hybridization, being able to present functional prototypes for evaluation.

They will work in groups (approximately four) to create an interactive, sound, audiovisual object or a semi-functional prototype that meets requirements for technical feasibility and originality, and which will be presented in class for evaluation.

## 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 continuous assessment and the evolution and progress of students will be monitored on a group and individual basis.

The skills of this subject will be assessed through the presentation of projects.

90% of the grade corresponds to the level of resolution, presentation of the documentation that is determined and the oral defense of the projects.

Projects to be submitted during the course:

Theory project: Individual. (15%)

Based on the readings done outside and inside the classroom, outline a creative ecosystem so that its actors, context, intentions and policies are clearly studied and established.

Digital project: Individual. (20%)

Practice and presentation of a project on screen. Touchdesigner exercise that evolves from what was learned in class.

"break/glitch" project. individual (20%)

Based on the readings done and the technical learning accumulated during the subject, carry out an experimental exercise in which common creative language processes are subverted.

Final project. Group. (35%)

Students will develop an interdisciplinary project in one of the main areas of the subject (algorithms, automation, audio-reactive digital creation) based on technological hybridization, being able to present functional prototypes for evaluation.

They will work in groups (approximately four) to create an interactive, sound, audiovisual object or a semi-functional prototype that meets requirements for technical feasibility and originality, and which will be presented in class for evaluation.

Monitoring of active participation in tutorials, workshops and joint work and correction sessions (10%). This percentage assesses attendance and proactive monitoring of classes.

In order to adequately review the students' projects, they will need to provide all the material and documentation developed to carry them out: their codes, electronic schematics and functional prototypes, as well as designs and photographic or videographic documentation of the project. The projects will need to be presented orally and most feedback will be given orally in these presentations. The experimentation and expressive risks that the student acquires will be taken into account, as well as autonomy and the search for their own references.

Learning through dialogue with colleagues will be very important, to share concerns, doubts or opinions about one's own or others' projects.

Attendance and submission of assignments are mandatory. No work will be accepted outside the agreed dates, except for those who have a medical certificate or other important situations.

Projects submitted must be completely original or derived from open-source projects. In all cases, students must make a substantial contribution both in terms of conceptualization and development.

Project plagiarism, easily identifiable in the era of indexed searches, is will be penalized with an automatic failure of the subject.

### **Review process**

If a grade of less than 6 is obtained in any of the assignments, the student will have the possibility of improving the exercise and grade (up to a maximum of 7) in the reassessment phase. end of the course).

Arriving late to the subject or leaving before it is finished without a justified reason will be penalized with 0.5 points on the final grade of the project being completed. developing.

It is mandatory to attend classes with the necessary material to carry out the projects. Failure to bring the materials will be validated as an absence.



## Learning outcomes of the subject

### Knowledge

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

### 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)

### Competencies

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

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

## 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.

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.

Describe the legal framework and the ethical and deontological values of the design profession, along with the contexts and agents that apply them, with

### 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.

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

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.

Produce academic and professional reports related to design, the arts, and their supporting disciplines.



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## Bibliography and Resources

The Posthuman  
Rosi Braidotti

Duty free art - art in the age of planetary civil war  
Steyerl Landmark

Meeting the Universe Halfway  
Karen Barad

Alidasun  
<https://www.instagram.com/p/DL7s0oJNX5x/>

A Touch of Code: Interactive Installations and Experiences  
Robert Klanten, S. Ehmann, V. Hanschke. Editorial, Gestalten.

<https://derivative.ca/UserGuide/TouchDesigner>

Autodesk - Instructables  
<https://www.instructables.com/>

Open Processing  
<https://openprocessing.org/discover#/dataviz>

Tinkercad  
<https://www.tinkercad.com/>

Arduino References  
<https://www.arduino.cc/reference/en/>

Arduino Libraries  
<https://www.arduino.cc/reference/en/libraries/>