



Study Plan

School: School of Arts
Degree: Bachelor
Course: Design (cód. 197)

1st Year - 1st Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2200L	Lighting Design	Design	6	Semester	156
VIS2201L	Advertising Design	Design	6	Semester	156
VIS2202L	3D Modelling Technology	Design	5	Semester	130
VIS2203L	Technology of Digital Image Processing I	Design	4	Semester	104
VIS2204L	Introduction to Drawing and Representation I	Visual Arts	3	Semester	78
VIS2205L	Visual Communication I	Visual Arts	2	Semester	52

Group of Options

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2206L	Introduction to Computer Science	Multimedia	4	Semester	104
VIS2207L	Technical Drawing I	Visual Arts	4	Semester	104
VIS2208L	Technologies of Vectorial Processing	Design	4	Semester	104

Group of Free Options

1st Year - 2nd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2209L	Furniture Design	Design	6	Semester	156
VIS2210L	Editorial Design	Design	6	Semester	156
VIS2211L	Technology Modeling and 3D Rendering I	Design	3	Semester	78
VIS2212L	Technology of Digital Image Processing II	Design	4	Semester	104
VIS2213L	Introduction to the Theory and History of Design	Design	2	Semester	52
VIS2214L	Introduction to Drawing and Representation II	Visual Arts	3	Semester	78
VIS2215L	Visual Communication II	Visual Arts	2	Semester	52

Group of Options

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2216L	Editorial Processing Technologies	Design	4	Semester	104
VIS2217L	Hypermedia Language	Multimedia	4	Semester	104
VIS2218L	Technical Drawing II	Visual Arts	4	Semester	104

Group of Free Options

2nd Year - 3rd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2219L	Design of Spaces	Design	7	Semester	182
VIS2220L	Packaging Design	Design	7	Semester	182
VIS2221L	Ergonomics and Anthropometry	Design	2	Semester	52
VIS2222L	Theory and History of Design I	Design	2	Semester	52
VIS2223L	Drawing of Design I	Design	4	Semester	104



2nd Year - 3rd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
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Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2224L	Technologies and Materials of the Industrial Practice I	Design	3	Semester	78
VIS2225L	Technology of Modeling and 3D Rendering II	Design	3	Semester	78
VIS2226L	Technologies and Materials of Communication's Practice I	Design	3	Semester	78
VIS2227L	Technologies Vector and Editorial Processing I	Design	3	Semester	78
VIS2228L	Interface Design I	Design	3	Semester	78
VIS2229L	Oriented Technologies of Hypermedia	Multimedia	5	Semester	130
VIS2230L	Aesthetics and the History of Photography I	Theory of Art	2	Semester	52
VIS2231L	Studies of Colors, Materials and Textures I	Visual Arts	2	Semester	52
VIS2232L	Art of the Twentieth Century	Theory of Art	2	Semester	52
Group of Free Options					

2nd Year - 4th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2233L	Ceramic and Glass Design	Design	7	Semester	182
VIS2234L	design corporate identity	Design	7	Semester	182
VIS2235L	Marketing and Communication	Design	2	Semester	52
VIS2236L	Theory and History of Design II	Design	2	Semester	52
VIS2237L	Drawing of Design II	Design	4	Semester	104
Group of Options					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2238L	Technologies and Materials of the Industrial Practice II	Design	3	Semester	78
VIS2239L	Technology Modeling and 3D Rendering III	Design	3	Semester	78
VIS2240L	Technologies and Materials of Communication's Practice II	Design	3	Semester	78
VIS2241L	Technologies Vector and Editorial Processing II	Design	3	Semester	78
VIS2242L	Interface Design II	Multimedia	4	Semester	104
VIS2243L	Oriented Technologies of Hypermedia II	Multimedia	4	Semester	104
VIS2245L	Aesthetics and the History of Photography II	Theory of Art	2	Semester	52
VIS2246L	Contemporary Art	Theory of Art	2	Semester	52
VIS2272L	Photography's Techniques I	Multimedia	4	Semester	104
Group of Free Options					

3rd Year - 5th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Mandatory alternatives					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2247L	Product Design	Design	8	Semester	208
VIS2248L	Digital Design	Design	8	Semester	208
VIS2249L	Design Management	Design	4	Semester	104
VIS2250L	Professional Practice Methodologies I	Design	4	Semester	104



3rd Year - 5th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Group of Options					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2251L	Advanced Industrial Project I	Design	4	Semester	104
VIS2252L	Industrial Design Lab I	Design	4	Semester	104
VIS2253L	Advanced Project Communication I	Design	4	Semester	104
VIS2254L	Graphic Design Laboratory I	Design	4	Semester	104
VIS2255L	Introduction to Interactive Systems I	Multimedia	4	Semester	104
VIS2256L	Audiovisual and Multimedia Narratives	Multimedia	3	Semester	78
VIS2257L	Audiovisual Technical Essentials I	Multimedia	7	Semester	182
VIS2258L	Art and Technology I	Theory of Art	2	Semester	52
VIS2259L	Culture, Sociology and Communication in the current context	Theory of Art	2	Semester	52
FIL2260L	Introduction to Aesthetic Thought I	Philosophy	2	Semester	52
VIS2230L	Aesthetics and the History of Photography I	Theory of Art	2	Semester	52
Group of Free Options					

3rd Year - 6th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Mandatory alternatives					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2261L	Transportation Design	Design	8	Semester	208
VIS2262L	Interactive Design	Design	8	Semester	208
VIS2263L	Design and Innovation	Design	4	Semester	104
VIS2264L	Design and Nature	Design	4	Semester	104
Group of Options					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
VIS2265L	Advanced Industrial Project II	Design	4	Semester	104
VIS2266L	Advanced Project Communication II	Design	4	Semester	104
VIS2267L	Industrial Design Lab II	Design	4	Semester	104
VIS2268L	Graphic Design Laboratory II	Design	4	Semester	104
VIS2269L	Introduction to Interactive Systems I	Multimedia	4	Semester	104
VIS2270L	Sound's Digital Processing	Multimedia	3	Semester	78
VIS2271L	Audiovisual Technical Essentials II	Multimedia	3	Semester	78
VIS2272L	Photography's Techniques I	Multimedia	4	Semester	104
VIS2273L	Photography's Techniques II	Multimedia	3	Semester	78
FIL2274L	Introduction to Aesthetic Thought II	Philosophy	2	Semester	52
VIS2275L	Art and Technology II	Theory of Art	2	Semester	52
VIS2276L	Last art tendencies (20th century)	Theory of Art	2	Semester	52
VIS2245L	Aesthetics and the History of Photography II	Theory of Art	2	Semester	52
ARC2277L	Scenographic Techniques	Theatrical Studies	2.5	Semester	65
Group of Free Options					



Conditions for obtaining the Degree:

*** TRANSLATE ME: Design

Para obtenção do grau de licenciado em Design é necessário obter aprovação a 128 ECTS em unidades de curriculares obrigatórias e 52 ECTS em unidades curriculares optativas distribuídas da seguinte forma:

1º Ano

1º Semestre:

6 UC Obrigatórias num total de 26 ECTS

UC Optativas do curso num total de 4 ECTS ou optativa livre de 6 ECTS

2º Semestre { \ } newline

7 UC Obrigatórias num total de 26 ECTS

UC Optativas do curso num total de 4 ECTS ou 6 ECTS em optativa livre caso não a tenha realizado no 1º semestre

2º Ano

3º Semestre

5 UC Obrigatórias num total de 22 ECTS

UC Optativas do curso num total de 8 ECTS, podendo 6 ECTS ser optativa livre

4º Semestre

5 UC Obrigatórias num total de 22 ECTS

UC Optativas do curso num total de 8 ECTS podendo 6 ECTS ser optativa livre caso não a tenha realizado no 3º semestre

3º Ano

5º Semestre

3 UC Obrigatórias num total de 16 ECTS

UC Optativas do curso num total de 14 ECTS, podendo 6 ECTS ser optativa livre

6º Semestre

3 UC Obrigatórias num total de 16 ECTS

UC Optativas num total de 14 ECTS podendo 6 ECTS ser optativa livre caso não a tenha realizado no 5º semestre

Program Contents

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Lighting Design (VIS2200L)

A. THEORETICAL CONTEXTUALIZATION

1. Brief theoretical introduction to the evolution of illumination systems, under Design History. Analysis of a case study paradigmatic.

2. Technological context

Technologies associated to the production of illumination.

Typologies of objects that are produced more in this sector.

The main national and international industries in this sector.

3. Analysis of illumination equipment in the market:

Main typologies; Materials and technologies; Colours and superficial treatments; Dimensions and weight; Consumptions; Use modes.

4. Selection of one of the applicable technologies to the production of illumination systems.

B. DEVELOPMENT OF THE PROJECT EXERCISE

1. Production of forms of two-dimensional representation through raised hand studies, strict drawing. Studies of colours, textures and graphics.

2. Production of forms of three-dimensional representation to a suitable scale, with the greatest possible degree of accuracy.

3. Production of prototype.



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Advertising Design (VIS2201L)

1. The Origin of Brands and Advertising

The history of big Brands on advertising

Branding

Identity

Media Advertising

Coca-Cola and Apple

Case Studies.

2. The role of the Designer

Creative Process

Adaptability of Visual Identity

Logos and Graphic Trends

Rules and presentations

Concept of visual language of Advertising Campaign.

3. The "Traditional" advertising and the Media

TV Ads

Radio Spots

Printed Supports:

Outdoors

Muppis

Posters

Brochures

Press-kits

Graffiti, etc.

4. New Technologies and New Media Advertising

Interactive design

Web applications

Online Advertising Era

5. Phases of a Design Project for an Advertising Campaign

Briefings

Research and Market Analysis

Definition and Concept Development

Values and Graphic Communication

Planning

Layout

Final Arts

6. Prototypes



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3D Modelling Technology (VIS2202L)

Different Cad software's

Types of technical drawing

Portuguese and International normalization (ANSI, DIN, ISO, JIS, NP)

Normalized lines types for technical drawing

Orthogonal projection (European and American Method)

Rhino 4

Interface:

Window Interface.

Visualization methods

Selection methods.

Toolbars.

Layers

Importing/exporting files between software's.

2D commands:

Creating 2d primitives: Lines, polylines, circumference, arcs, curves, etc.

Modeling with coordinates, "snaps" e "smartrack" .

Editing curves.

3D Commands:

Modeling from bidimensional shapes: Extrude, loft, revolve, sweep, nurbs, etc.

Modeling with primitive solids e Mesh solids: Booleans, taper, control point editing, etc.

Structuring the steps of modeling in advance to be able to create a complex 3d shape.

Render:

Illumination

Materials and maps

Manipulating materials.

Creating materials from maps.

Applying materials to objects.

Tutorials:

2D Manufacturing drawing

3D object creating



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Technology of Digital Image Processing I (VIS2203L)

1 Visual references and examples of application in work. Handling and finishing touches of digital images.

Vectorial design and Illustration. Differences between Drawing bitmap and drawing vectorial

2. Introduction to Bitmap and vectorial drawing editing tools:

Work environment.

The Tools.

The Options

3. Basic editing tools:

Selection

Layers e Channels

Masks

4. Editing and colour manipulation:

Saturation

Brightness

Contrast

Levels

5. Creating and editing text:

Construction.

Composition.

6. Creating and editing shapes.

Lines

Shapes

Composition

7. Creation and editing of patterns and textures.

8. Creation and editing using Blending modes.

Colour gradients

Shapes: layering and intersection

9. Practical exercises

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Introduction to Drawing and Representation I (VIS2204L)

- Ratios
- Structure
- Textures
- Shape
- Outline
- Negative Space
- Shadows
- Composition
- Materials and techniques
- Instruments plotters varied (Conventional and unconventional)
- Dry and Mixed Techniques
- Clippings and collages
- Supports different natures



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Visual Communication I (VIS2205L)

1. Vis. Percp. and Visual Tinking. -Art and Vis.Percp.; Rudolf Arnheim. -Gestalt Theory & Visual Arts.
 - The construction of Images - Composition, relational observation, structural elements and dynamic forces in Visual Arts. - Centers of Force. Dynamic Relations. Kinesthetic. Centric Visual System / Eccentric Visual System. Golden Section.
2. Visual Codes.
 - The eye and visual system. Light and Vision; amplitude, wavelength, power and frequency. Visual spectrum. Absorption, reflection, refraction and light scattering. The cornea, iris, lens, retina.
 - Visual rhetoric; Fig. of substitution: metaphor, simile, metonymy, personification and visual game; Fig.comparison, opposition, parallelism and gradation. Fig. of Addition: repetition, epanadiplose, hyperbole and loan. Fig. of suppression: ellipse.- Iconology vs Iconography; Panofsky.
 - Denotation and Connotation-. Studium and Punctum, Barthes.
 - Semiotics. The notion of sign. Classifications of Signs. Pierce; Saussure.

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Introduction to Computer Science (VIS2206L)

- 1 - Introduction to computer science and information processing.
- 2 - Computers and networks:
 - 2.1 - Introduction to Internet: INTERPRETATION works offline and online
- 3 - Structure of computer networks in terms of hardware and software:
 - User Stations and Servers in open and closed networks
 - System COMMUNICATION physical (ethernet and wireless).
 - The network components (routers, Swichers, Proxies)
- 3.1 - Communication Systems Software / Internet protocols: HTTP, SMTP, FTP, SSH, RTP.
 - Analysis of Progames / software associated with networks. Services. Web Server, Mail Server, FTP, etc..
 - Methods of network location (IP, Domain names)
 - Domains and domain name servers (DNS)
- 4 - Study of the settings of an internal network (LAN, WAN)
 - 4.1 - Study of communication protocols and data sharing in real time on a local internal network: Protocols OSC, MIDI, TPC, IP, UDP
- 5 - Authoring system, an introduction.



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Technical Drawing I (VIS2207L)

Representation

Learning of graphical representation languages inherent to project elaboration, acquiring the notion of making and communicating simulations in visual and plastic terms.

- Drawing and its graphic and intellectual potential.
- Notions regarding measure, proportion and scale.
- How to communicate two- and three-dimensional simulations.

Technical Representation

- Norms and conventions.
- Graphism.
- Orthogonal projections.
- Views
- Cuts and sections
- Dimensioning
- Fast perspective.
- Rigorous perspective.
- Shadows.
- Freehand Drawing.
- Models

Human Figure Representation

- Structure.
- Proportion.
- Movement.



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Technologies of Vectorial Processing (VIS2208L)

1. Introducing

Potential of software.
Vector vs. pixel
Resolution and image size
Preferences
Color profile through Adobe Bridge

2. Creating a new document

Open options
Resolution and image size
Preferences

3. Navigate in the space of the document:

Panels and respective functions
Shortcuts
Managing multiple artboards

4. Open and organizing existing documents:

Fonts: to convert or not
Panels of color definition and color control

5. Creating and Shapes control:

tools:
Edit and Transform
Pathfinder
Pen Tool
Line and Fill
Patterns
Conversion of photographic image into vector

6. Typography:

Options
Handling
Effects

7. Export document:

Organize layers:
Preview
PDF an other formats
Ways to avoid losing information



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Furniture Design (VIS2209L)

A. Theoric Context:

1. Furniture theoretic evolution in the fields of Design History.
 - 1.1. Case studies analyze.
2. Technological Context.
 - 2.1. Furniture production techniques.
 - 2.2. Furniture typology mass-production.
 - 2.3. The most important industries in the world.
3. Market existing furniture analyze:
 - Most important typologies;
 - Material technology;
 - Surface finishing;
 - weight and dimension;
 - Consumption;
 - Ways of use.
4. Furniture technology selection.
 - 4.1. Life Style layout development that specific characterize the client.

B. Practical Exercise development:

1. Sketch studies, technical drawing and image digitalization. Color, texture and graphic studies.
2. Scale modeling with the best quality possible.
3. Prototype production.
4. Photographic register.
5. Digital portfolio production of the exercise.



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Editorial Design (VIS2210L)

1. The history of books and press:

The evolution of the book and the development of the press.

The first newspapers and magazines.

2. Graphics on the page.

Margins

Flowlines

Modules

Columns

Markers

3. Page Architecture

Building a grid base:

Defining margins

Typographic Space

Images

4. Magazines Design

The Creation of a magazine layout

The format definition

Grid Construction

Creating a Master Page

Typographic choices, Style Sheets

Legibility and reading hierarchy

5. Magazine Layout

Sections layout

Creating reading flow

Graphic Narrative development

6. Prepress

Graphic Mockup

Prototype

Final Artwork



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Technology Modeling and 3D Rendering I (VIS2211L)

3d Rhino Software (version 4.0)

Training (level 1):

1.

Introduction to software, its work environment and tools;

2.

Basic menu operations of 3d Rhino;

Creation of geometries: 2d objects;

Precision modelling;

Objects editing;

Points editing (nudge control);

3.

Modelling and editing:

Creation of deformable shapes;

Modelling with solids;

Creation of surfaces;

Importing and exporting of models;

Rendering: introduction to Flamingo;

Dimensions and quotes;

Layout and printing;

4.

Customization of work environment and tool bars.

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Technology of Digital Image Processing II (VIS2212L)

1. Advanced Colour Editing:

Libraries (colour systems)

Manage and calibrate colour as a function of various formats

2. Advanced techniques I

Illustration and painting techniques

Techniques for vectorial draw illustration

Refinishing and rebuilding portraits and landscapes

3. Advances techniques II

Mask Knockout

Emulation of natural resources

4. Advanced Techniques III

Working with strokes

Compositions

Labeling

Rollovers

Advanced Automation

5. Creative Composition

Creative Typography

Colour and Expression

6. Creative effects:

Effects filters

7. Practical exercises

8. Simulation of objects in perspective and 3D

9. Exporting documents

Formats

Resolution

Comparing formats



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Introduction to the Theory and History of Design (VIS2213L)

1. A SHORT APPROACH TO THE GENESIS OF THE GRAPHIC ARTS.
2. UNIVERSAL EXHIBITIONS AND INDUSTRIAL AND COMMERCIAL MUSEUMS AS ENGINES OF PRE - DESIGN.
3. THE WORKSHOP AGAINST FACTORY.
4. ART NOUVEAU - ARTS NOUVEUXS.
5. A PORTUGUESE EXAMPLE: RAFAEL BORDALO PINHEIRO.
6. AGAINST THE ORNAMENT: MICHAEL THONET AND ADOLF LOOS.
7. CONSTRUCTIVISM / SUPREMATISM / NEO PLASTICISM.
8. SONIA DELAUNAY AND LE CORBUSIER: THE REVOLUTION OF MODERNISM.
9. THE ART DECO.
10. PETER AND THE BEHERNS A.E.G..
11. WEIMAR BAUHAUS - BAUHAUS DESSAU.
12. ADVERTISEMENTS:
 - 12.1. Posters of I and II World War I.
13. ILLUSTRATION AND GRAPHICS IN PORTUGAL BETWEEN THE DECADE OF 20 AND 40.
14. THE VISIBILITY OF THE DESIGNER (1930/1950).
15. MAX BILL AND FORM GUTE: reflections of the Ulm School.
16. PAUL RAND AND THE IBM.

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Introduction to Drawing and Representation II (VIS2214L)

- Perspective View
- Scales
- Ratios
- Shadows
- Textures
- Space
- Composition

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Visual Communication II (VIS2215L)

1. The visual communication in the age of the information: contexts
2. Origin and principles of the audiovisual communication
3. The influence of the mass media in the definition and development of the visual communication and its aesthetics
4. Critical analysis of the visual and audiovisual discourse in the current communication: radio, television and mass media.
5. The concepts of seduction and persuasion: the advertising and its resources
6. The range of the visual and audiovisual communication in the Network Society. The profile of the spectator: Homo videns.
7. Communicative principles in the digital age: from hypertext to the interactivity in the communicative context.
8. E-communication: the revolution of the online communication and aesthetics strategies
9. The multimedia communication: main characteristics
10. The mobile communication: the last trends and strategies of communication through telecommunication de



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Editorial Processing Technologies (VIS2216L)

1) Introduction:

Potential of the software.

Preferences

The workspace

2) Create a new documents:

Margins

Columns

Guides

3) Navigate in the space of the document:

Panels and respective functions

Shortcuts

Managing multiple artboards

Managing multiple documents

Importing Text or Image files

4) Managing pages:

Delete

Add

Move

Adding page number

5) Master page:

create

potentialities

6) Text:

Understand and organize

Modules

Define text styles

Define paragraph styles

Special Characters

Use Find/change tool

Fill module with blind text

7) Color:

Understand and organize

Create

Change



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Hypermedia Language (VIS2217L)

1. Introduction to online media (networks) and offline (media support).

Operating systems for user stations and servers

2. Introduction to drawing programs and hypermedia applications

2.1. Analysis of the graphical interface of Flash:

The fundamentals of composition in Flash: timeline and dashboard tools básicas. Estudo side panels and contextual menus.

2.2. Basics of drawing, animation and interaction in Adobe Flash CS3:

3. Introduction to drawing programs and Web programming

3.1. Fundamentals of HTML: Paragraphs and blocks; Playlists; Images; Character formatting (inline elements); Anchors and links; Tables; Frames

3.2. Introduction to Cascading Style Sheets (CSS)

3.2.2. Basic Rules

3.2.3. Sources

3.2.4. Text attributes

3.2.5. Colors

3.2.6. Property Classification

3.2.7. Control block

3.2.8. Positioning

3.2.9. Online Publishing

Parallel examples are introduced to Net Art, from the perspective of production and technical resources.



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Technical Drawing II (VIS2218L)

Space

- The urban structure and its understanding.
- Spatial organization of the construction.
- Values that characterize the qualification of urban and construction.

Project

- Method.
- Problem
- Background
- Fiction / Validation
- Communication
- Construction
- Usufruct
- Analysis of Results
- Steps.
- General coordination.
- Management.
- Basic legal framework.
- Project elements and phases.
- Speciality projects.

Procedural drawing

This type of drawing is a mean for action.

- Mediation of physical representation in the invention.
- Representation that circumscribes within itself tension-generating invention.
- Representation and shaping of "things" that induce an aesthetic experience.
- Virtual and physical representation as procedural concepts:
- Discursive.
- Formal:
- Scale.
- Natural Size.
- Expression:
- Two-dimensional;
- Three-dimensional;
- Digital.



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Design of Spaces (VIS2219L)

THEORETICAL CONTEXTUALIZATION

1. Brief theoretical introduction to the evolution of indoor spaces, under Design History. Analysis of a case study considered paradigmatic.

2. Technological context

Technologies associated to the production of indoor spaces.

Typologies of objects that are produced more in this sector.

The main national and international industries in this sector.

3. Analysis of space solutions and indoor equipment in the market:

Main typologies;

Materials and technologies;

Colours and superficial treatments;

Dimensions and weight;

Consumptions;

Use modes

Selection of one of the applicable technologies to the production of one furniture system.

DEVELOPMENT OF THE PROJECT EXERCISE

Production of forms of two-dimensional representation through raised hand studies, strict drawing and digitalized images. Studies of colours, textures and graphics.

Production of forms of forms of three-dimensional representation to a suitable scale, with the greatest possible

Production of prototype.



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Packaging Design (VIS2220L)

1. History of Packaging Design

Developments in Packaging

Importance of Marketing

Niche Markets

Luxury Brands

Tribes

Paper toyz

2. The Role of packaging:

Contain/ protect the product

Guarantee distribution under optimum conditions

Size and Dimensions: facilitate transport

Facilitate safely use and consumption of the product

Necessary and relevant information for the consumer

Fundamental role divulging corporative identity

Differentiate the product on the market

3. Package Design:

Target

Planning and implementating

Understanding the brief

Identify needs and wishes

Research

Concept definition

Proposals presentation

4. From Project to Production:

Relationship with client

Format definitions

Colours

Typography

Photos/ Illustrations

Materials and finishers

Environmental impact. Ethical/ economical responsibilities

5. Packaging design:

Proposals selections

Prototype and mockup

Cutters

Technical drawing

Final Artwork



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Ergonomics and Anthropometry (VIS2221L)

- Ergonomics concept
- Ergonomics importance in design
- Ergonomics and human factor
- Anthropometry contribution
- Henry Dreyfuss ergonomics anthropometries in design
- Physiology and Biomechanics contribution.
- Cognitive psychology contribution.
- Domestic environment ergonomics
- Kitchens
- Rest room
- Bed room
- Bath room

- Office environment ergonomics.
- Office work activities
- Posture
- Office chair
- Foot rest
- Office desk
- Keyboard, mouse and LCD.
- Environment conception
- Illumination
- Noise, temperature and air quality
- Ergonomics and Design Inclusive
- Knowledge based practical exercise

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Theory and History of Design I (VIS2222L)

1. NEW MATERIALS AND NEW TECHNOLOGIES IN POST-WORLD WAR II
2. NEW MATERIALS - NEW PRODUCTS - NEW CONSUMERS
3. MODERN "BURNING OUT"? - FROM POP TO POSTMODERNISM
4. ECLECTIC TYPES
5. FASHION DESIGN IN THE TWENTIETH CENTURY:
6. PRE-DESIGN IN PORTUGAL: "Sources - Ways- the "cottage industries" in Portugal - Travels in my country:
7. INTRODUCTION TO THE HISTORY OF DESIGN IN PORTUGAL.
8. PORTUGUESE EXAMPLES:
 - 8.1. Frederico George;
 - 8.2. Conceição Silva;
 - 8.3. Daciano da Costa;
 - 8.4. Sena da Silva.
9. OTHER PORTUGUESE EXAMPLES:
 - 9.1. Marco Sousa Santos;
 - 9.2. Paulo Parra;
 - 9.3. Raul Cunha;
 - 9.4. Pedro Silva Dias;
 - 9.5. The creation of the CPD;
 - 9.6. Today creations and Designers.



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Drawing of Design I (VIS2223L)

1. Introduction to drawing in representation of ideas in design projects;
2. Initiation to several ways of sketching;
3. Initiation to master drawing and illustration techniques suitable to the communication of ideas and to the development of design projects;
4. Presentation to seminars and examples of drawing and illustration techniques in design processes;
5. Stimulating practical experimentation in class with tutorial support;
6. Support to the development of project exercises of another subjects, namely at the level of nuclear subjects of the design degree.

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Technologies and Materials of the Industrial Practice I (VIS2224L)

IMPORTANCE OF MATERIALS IN THE PRODUCT CONCEPTION.

MATERIAL PROPRIETIES

Physical proprieties

Mechanical proprieties

POLYMERS CHARACTERISTIC

Type of Polymers

General polymer classification

Polymer generic name and application

Polymer structure

Polymer morphology

Processing Thermoplastics and Thermosets

Thermosets:

Rapid prototyping

GLASS:

Glass Structure

Glass Types

Molding and Process

Glass cutting

CERAMICS:

Ceramic products

Type of Ceramics

Clay primary materials

Other primary materials

Humid, plastic and dry conformation

Drying and defects

Woven

Coking

Glassing classification

E. PRACTICAL EXERCISE WITH EACH MATERIAL.

Polymer Exercise

Glass Exercise

Ceramic Exercise



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Technology of Modeling and 3D Rendering II (VIS2225L)

3d Rhino Software (version 4.0)

Training (level 1 and 2):

1. (Level 1)

Modelling and editing;

Creation of deformable shapes;

Modelling with solids;

Creation of surfaces;

Importing and exporting of models;

Rendering: introduction to Flamingo;

Dimensions and quotes;

Layout and printing;

2.

Basic menu operations of 3d Rhino;

Creation of geometries: 2d objects;

Precision modelling;

Objects editing;

Points editing (nudge control);

1.(Level 2) Introduction, objectives;

2. Rhino customization;

3. Techniques of advanced modelling:

NURBS;

Creation of curves;

Continuity of surfaces;

Modelling with historical;

Advanced techniques of surfaces treatment;

Use of background bitmaps;

Introduction to modelling;

Use of 2d drawings;

Surfaces analysis;

Sculpting;

Problems resolution;

Objects polygons networks with NURBS;

4. Rendering with Flamingo.



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Technologies and Materials of Communication's Practice I (VIS2226L)

1. Introduction to drawing programs of web programming.

Text editing and Open Source Programs.

Dreamweaver.

2. Introduction to web programming languages:

HTML and XHTML.

CSS.

Javascript.

PHP.

3. Introduction to web Design using web programming drawing programs (Adobe Dreamweaver):

HTML

Document types.

Standards.

CSS - style sheets

Typography

Structure of colours and images

Layout and Layers

Interaction

Javascript - functionalities

Browser.

Contents.

Communications

Server (FTP).

Data base.

4. Introduction to web Design with web standards.

5. Webdesign and Usability.

6. Frameworks of web development.

7. Debug tools.



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Technologies Vector and Editorial Processing I (VIS2227L)

1. Introducing

Softwares potential

Softwares Relationship

Preferences

Color profiles through Adobe Bridge

2. Briefing issues:

Planning goals

Expectations to overcome

Planning Methodology

3. Creating new document:

Setting preferences

Setting color profiles

Open options

4. Navigate between documents:

Panels and respective functions

Shortcuts

Managing multiple documents.

Importing text or image files

5. Advanced solutions:

Illustrator:

Advanced forms

Effects

Combined shapes and effects

InDesign

Organization options for text organization

Chapters, sections and pages

6. Text:

Advanced options

Relationship of softwares with text and typography

Tables, graphs and best way to manage enterprise data.

Relationship between shapes and color.

4. Export documents:

Prevent mistakes

Gather material without losing important data.

Burn

Preview

Final Artwork

Finished PDF



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Interface Design I (VIS2228L)

1. History, evolution and contemporaries visual references in Interface design with hypertext programming. The evolution of the interfaces style and technique. Models of interface.
2. Introduction to practical creation of Interfaces with hypertext online programming. 2.1) Creation of visual concept of hypertext: Visual narrative. Presentation of concepts. 2.2) Tools for hypertext creation. Edition bitmap. Vectorial edition. Manipulation of contents and programming. 2.3) Adequacy of hypertext contents. Colour. Typography. Graphic design. Images. 2.4) Organization of hypertext contents. Structure type. Hierarchy of the information. Grates of construction. Layers of information. Alignments. 2.5) Types of hypertext Application. Static and dynamic. Intranet and Internet.
3. Hypertext Programming; design of Interfaces for applications having in account: the programs of visualization and interaction; the hardware devices. 4. Exercise of web design.

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Oriented Technologies of Hypermedia (VIS2229L)

Unit 1: Introduction to digital images generation

Optical stage of image capturing. Digitalization of the signal. Data writing and storage. Data Synthesis. Digitalized video properties

Unit 2: Audiovisual Signals Compression

Comparative study of Software focused on AV Signals processing. About the process of conversion. Properties of Video tab. Codec properties. Frame-rate calculation Adding metadata in the Cue Points. Functions of Crop and Resize systems. Functions of "in" and "out" marks. Cue and multiple files compression. Conclusions

Unit 3: Interface Design Oriented to Multimedia Signal Control

Introduction to Interface design for external files control (audio, video, text and data in general). Design of a basic reproduction interface. Reproduction control. Introduction to AV signals control through scripts. Dynamic capture of video file properties. Reproduction at full screen mode. Publication of online and offline applications.

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Aesthetics and the History of Photography I (VIS2230L)

- A history of seeing in the West - image, figuration, pictorial shift
- Seeing devices and the extension of vision
- The invention of photography, Figures of astonishment and photography before «photographic culture»
- Photography and the prevalence of the event: the birth of the real and the suspended time
- The «positivist excess» of photography and the science
- Photograph studios and the first Aesthetic of Photography (1862)
- Quarrels between photography and art: excess of technique and of reality
- Pictorialism, «photographer artists» and the photography-picture
- Walter Benjamin and photography: art's loss of aura and the optical unconscious
- The photographic phenomenology of Roland Barthes: «I see the eyes that saw the emperor»
- The organization of the photographic: the visible, the image, the hors-cadre according to Jose Gil
- Photo-portraits and anonymous photographs – the reiteration of identity and memory
- The Photographic - a large territory of creation



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Studies of Colors, Materials and Textures I (VIS2231L)

Light: the visible and invisible spectrum. Natural light and artificial light. Diversity of lighting systems and their characteristics. The lighting as a builder of brightness, volume, depth and texture. Light and color. Light and shade as compositional elements, expressive and symbolic.

Color: Origin, concepts and classifications. Theories of color. Chromatic cards. The color circle. Primary, secondary and tertiary colors. Complementary colors. Analogous colors. Achromatic. Color psychology and therapies. Color temperatures. Additive and subtractive synthesis. Hue of the color, saturation and brightness.

Texture: the origin and concept. Classification. Reproduction of textures. Creating textures using different materials, techniques and mechanisms. Surface qualities. Physical texture and visual texture.

Composition. The plan, volume, size, shape, form, weight, visual direction. Iconography.

Solid, liquid and vapor materials, especially from the European tradition.

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Art of the Twentieth Century (VIS2232L)

Neo avant-garde after II World War

- Francis Bacon and the theatricality of the meat
- Informalism, painting of the substance, choreography of pure gestuality
- New-figuration, Nouveau Réalisme - Lucien Freud and «something between psychology and surface»
- The Emptiness Exhibition (1958) and Yves Klein's zones of immaterial pictorial sensibility
- Pop Art: crossing «high-culture» with «mass culture»
- Plurality of conceptualisms - the anti-aesthetic and anti-institutional program and the intermedia condition
- Art & Language: the production of definitions of art
- Minimal Art: industrial inexpressivity and phenomenology
- Arte Povera and Germano Celant's «integrative project»
- Photorealism and hyper-realism in painting and sculpture
- Performance, happening and body art: Theater Piece No.1 from Cage, Rauschenberg, Cunningham
- Land Art in the light of the «expanded sculpture»
- The antecedents of Postmodernism
- The return of the painting in the 1980s: figuration, «new romanticism», sublime



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Ceramic and Glass Design (VIS2233L)

THEORETICAL CONTEXTUALIZATION

1 Theoretical introduction to the evolution of ceramic and glass objects, Design History

1.1 Paradigmatic case study analysis

2 Technological context

2.1 Ceramic and glass utility objects production technologies

2.2 Typologies of objects that are produced in this sector

2.3 The sectors main national and international industries

3 Analysis: glass and ceramic equipment in the market

Typologies

Materials & technologies

Colours & superficial treatments

Dimensions & weight

Consumers & usability

4 Applicable technologies in ceramic and glass utility objects

4.1 Consumers Lifestyle panel

PROJECT EXERCISE

1 Production forms: two-dimensional representation, sketching, and digitalized images. Colours, textures & graphics

2 Three-dimensional forms representation, scaling & accuracy (mock-ups and models)

3 Prototype production

4 Photographic record

5 Digital portfolio of the project exercise



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design corporate identity (VIS2234L)

1. The institutional image, a drawing model

Policies of image and communication

Identity

Logo and Logotype

Corporate Identity

Brand and Brand Logo

Global Inspiration

2. The colour and typography applied to Corporate Identity

The colour and their meanings and the sensations they transmit

The typography as the words voice that determines the visual tone of the text

3. The identifying basic signs, how to make a logotype

The none verbal signs (symbols)

The names

The Logotypes

Typographic Logotypes

Figurative Logotypes

Abstract Logotypes

The Combination between them

4. The Visual Identification systems

Institutional Image

Group of application rules

Graphic applications, stationary

Legibility and recognition

5. Creation of the layout for a brand manual

Format definition

Grid construction

Choosing institutional typography

Legibility and reading hierarchy

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Marketing and Communication (VIS2235L)

1. Marketing and communication concepts and the market involvement.

- Oriented concepts for marketing e communication.

- Marketing has a company business oriented tool: Company, product and service.

- Marketing mission, objectives and company strategic and consumer analyze.

- Different types of company communication.

2. Operation strategically marketing.

- Strategically tools for Marketing and communication.

- Influential factors analyze for understanding the market.

- Marketing and communication applied to products, services and brand.

3. XXI century marketing and communication.

- New media has support for direct marketing e e-marketing.

- The Costumer Relationship Management - communication interactive tools.

- Consumer fidelization techniques.



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Theory and History of Design II (VIS2236L)

1. Design and Art: the background of this relationship.
2. The importance of "isms" in the affirmation of Design languages:
 - a) Futurism
 - b) Neoplasticism
 - c) Constructivism
 - d) Modernism
3. Bauhaus and Ulm: its importance in Design Academy.
4. Social Design and Green Design.
5. "isms" in Design at the end of 20th century:
 - a) Postmodernism
 - b) Minimalism
 - c) Adhocism
 - d) Bolidism
6. Design and Art: the evolution of a relationship.
7. Design without thickness versus mechanical Design.
8. Emotional Design.
9. The new interfaces in Design.
10. A generation of Design / "D-generation".

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Drawing of Design II (VIS2237L)

1. Development of drawing practice as a crucial tool to the representation of ideas in a design project;
2. Advanced exploration of several ways of sketching in several levels of complexity;
3. Advanced exploration of drawing and illustration techniques suitable to the communication of ideas and to the development of design projects;
4. Presentation to seminars and examples of drawing and illustration techniques in design processes;
5. Stimulating practical experimentation in class with tutorial support;
6. Support to the development of project exercises of another subjects, namely at the level of nuclear subjects of the design degree.



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Technologies and Materials of the Industrial Practice II (VIS2238L)

1. REVISION OF THE PHYSICAL AND MECHANICAL PROPERTIES OF MATERIALS.

2. Wood

Natural wood

Transformed wood

Advantage and disadvantage of natural and transformed wood.

Treatments and plastic aspects of wood.

Work tools for wood.

3. Metal

Ferrous (Iron, Steel, stainless steel e Weathering steel)

Non-Ferrous or metallic alloys (Aluminum, Brass, Bronze, Cooper and Zinc)

Physical and chemical properties

Transformation processes

Type of connectors and welding

Treatment and finishing (plastic aspects)

4. Modeling techniques

5 Practical exercise with each material

Wood exercise

Metal exercise.



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Technology Modeling and 3D Rendering III (VIS2239L)

3d Rhino Software (version 4.0)

Rendering using the render engine Vray to Rhino

Training (level 1 and 2):

1.(Level 1, revision of some points)

Modelling and editing:

Creation of deformable shapes;

Modelling with solids;

Creation of surfaces;

Importing and exporting of models;

Rendering: introduction to Flamingo;

Dimensions and quotes;

Layout and printing;

1.(Level 2: revision or consolidation of some points) Introduction, objectives;

2. Customization of Rhino;

3. Advanced modelling techniques:

NURBS;

Creation of curves;

Continuity of surfaces;

Modelling with historical;

Advanced techniques of surfaces treatment;

Use of background bitmaps;

Introduction to modelling;

Use of 2d drawings;

Surfaces analysis;

Sculpting;

Problems resolution;

Objects polygons networks with NURBS;

4. Rendering with Flamingo;

5. Rendering in Vray for Rhino.



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Technologies and Materials of Communication's Practice II (VIS2240L)

1. Introduction to drawing programs, vector animation and programming object oriented.

2. Introduction to Design of hypermedia application using Adobe Flash:
Basic concepts
Drawing tools and Escena
Animation Basic concepts
"Motion Tweens"
Movieclips animation and 3D
The motion editor
Actionscript and interactivity
Video

3. Introduction to programming Actionscript languages:
AS2
AS3

4. Integration and exportation of Hypermedia Applications.

5. Hypermedia Applications and Usability.

6. Debug Tools.



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Technologies Vector and Editorial Processing II (VIS2241L)

1. Experimentation:

Hand dawning and its potentialities on a digital platform

Applying creative options

Navigating through both softwares

2. Materials and its potentialities

3. New advanced solutions:

Illustrator:

Advanced forms

Effects

Combined shapes and effects

Patterns

InDesign

Options for text organization

Chapters, sections and pages

4. Text:

Advanced options

Softwares relationship with text and typography

Tables, graphics and best way to manage enterprise data.

Relationship shapes and color.

5. Export documents:

Preventing mistakes

Gather material without losing important data.

Burn

Preview

Final Art

Finished PDFs

6. Production and Printing options



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Interface Design II (VIS2242L)

1. Construction of Web Interfaces: an introduction
 - 1.1 Creation of visual concept for hypermedia applications.
 - 1.1.1 Definition of identity and visual concept.
 - 1.1.2 Conception for hypermedia application.
 - 1.2 Tools.
 - 1.2.1 Edition in timeline.
 - 1.2.2 Edition through code.
 - 1.2.3 Manipulation of contents and programming.
 - 1.3 Hypermedia manipulation of contents.
 - 1.3.1 Animation.
 - 1.3.2 Video.
 - 1.3.3 Sound.
 - 1.4 Hypermedia organization of contents
 - 1.4.1 Structure type.
 - 1.4.2 Hierarchy of the information.
 - 1.4.3 Time and space.
 - 1.4.4 interaction.
 - 1.5 Types of hypermedia application.
 - 1.5.1 Fixed contents, xml and database.
 - 1.5.2 Open and closed system.
2. Hypermedia programming. Design of Interface for applications having in account:
 - 2.1 The operative systems and interpreters.
 - 2.2 The devices of visualization and interaction.
3. Final implementation of the interface web.

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Oriented Technologies of Hypermedia II (VIS2243L)

Unit 1: Audiovisuals in computer networks

1. Audiovisual systems in computer network. Streaming server: models, features, resource administration. Protocols. Data reception systems. Register, digitalization and edition of video for networks

Unit 2 : Publication of AV signals in network

Study and practice of specific compression algorithms (codec). Adaptation of video signals for streaming emission. Properties of Progressive Streaming. Properties of Live Streaming. Media on-demand and live events (RT)

Unit 3: Hybrid format audiovisuals

Databases. Media fragmentation and construction of video phrases. Advanced systems with A/V monitoring through programming.

Unit 4: HD/High Definition formats in computer networks (online and offline)

Introduction to HD formats and technique. HD compression processes for networks. HD Publication on the Internet. Streaming Media in HD formats. Interface development for the offline and online HD monitoring.



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Aesthetics and the History of Photography II (VIS2245L)

Photography as a «precarious image»

Two «photographic» projects: Aby Warburg's Bilder Atlas (1920) and André Malraux's Imaginary Museum (1947)

The first avant-gardes and photographic experimentalism

Straight photography and the «decisive instant» of the modernist paradigm: the aesthetic autonomy of photography

The convergence between art and photography and the appropriation of photography by art in the 1960s - the «reinvention of medium»

The photographic creation without aesthetical intentions of the second vanguards: the objectifying and archival dimension of reality and the change of presentation devices

New objectivity and «formal» photographic language: the 1990s

Post-photography? From analogical to digital image, reality and virtual reality

Recent creative languages: the conceptual influence, staged narratives, photographic representation, documentary and fictional

Art as photography? Contemporary art and the appropriation of photography: Gerard Richter

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Contemporary Art (VIS2246L)

- The Postmodern and the «Hypermodernity»

- Transvanguardia, neo-expressionism, and the first post-modern manifestations: «the end of art's functional and functionalist valence»

- Post-minimalism, «process art», «anti-form»: Eva Hesse, Hans Haacke, Robert Morris

- The re-emergence of art festivals and biennials

- The proliferation of contemporary art museums. Cutting edge initiatives.

- Recent art collections: Saatchi Gallery, Thyssen-Bornemisza, François Pinault Foundation, Bernard Arnault Art Collection

- Kassel's Documenta: from 1955 to 2003 - «The Next Documenta Should Be Curated By an Artist»

- Appropriationism, selection, displacement, reconfiguration - «to invent something impersonal»

- Andy Warhol in Neo-pop art - repetition, fruition, ostentation in Katharina Fritsch and Jeff Koons

- Neo-conceptual art: Re-updating strategies, subjects and procedures - Ilya Kabakov, Sherrie Levine

- Perspectives from non-European and North American art - the end of eurocentrism» in art?

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Photography's Techniques I (VIS2272L)

The course consists of sessions combining theory and practice on the topic of plasticity in Photography, taking into consideration technical aspects such as use of light, composition, exposure and aperture, scale, and the relation between positive and negative.

Through a critical observation of images by photographers of reference, the course will also deal with the difference between analogue and digital photography. The practical part of the course will focus on: different kinds of cameras; analogue and digital media; focal distance and zoom in relation to different lenses; aperture; exposure times and adjustments; natural and artificial light; lighting techniques; use of filters; composition and framing; depth of field; selective focus; light measurement and compensation; analogue and digital image enhancement techniques and printing. The students will be required to execute practical photographic exercise to consolidate the theoretical and practical knowledge and skills.



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Product Design (VIS2247L)

THEORETICAL CONTEXTUALIZATION

1. Brief theoretical introduction to the objects evolution regarding Design History.
 - 1.1 Case study analysis
2. Technological context
 - 2.1 Technologie associated to production of consumption technological objects
 - 2.2 Object typologies
 - 2.3 National and international industries
3. Object analysis (sectors):
 - 3.1 Typologies
 - 3.2 Materials & technologies
 - 3.3 Colours & superficial treatments
 - 3.4 Dimensions & weight
 - 3.5 Consumptions
 - 3.6 Usability
4. Selection and framework of one production technology
 - 4.1 Life Style board characterizing consumers for the product

PROJECT EXERCISE

1. Production of forms of two-dimensional representation through raised hand studies, strict drawing and digitalized images. Studies of colours, textures and graphics
2. Production of forms of three-dimensional representation to a suitable scale, with the greatest possible degree of accuracy (mock-ups)
3. Production of prototype
4. Photographic record
5. Production of a digital portfolio of the project exercise

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Digital Design (VIS2248L)

1. Design of Web Interface, research, analysis and visual references.
2. Digital Design, regarding its integration with devices, another support hardware, software, networks and Internet:
Display and interaction devices and Digital Design.
Functionality at the level of Digital Design.
Usability about the point of view of Digital Design.
3. Digital Design, communication strategy and interface structure regarding a transversal project exercise of Communication Design:
Website Information Architecture.
Editing and Treatment of website contents.
Visual structure of Information for websites.
Website Interaction and functionalities.
Prototyping of web interface and integration with other media.
Usability, display and interaction.
Implementation of websites in the web server.
4. Web design, case studies ('Case Study').



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Design Management (VIS2249L)

What is Design Management

Management of the Design Strategy

How to identify the Design opportunities

Mutant circumstances

Tools and methods to identify the design opportunities

Understand the public and the market

Marketing and Design

Marketing concepts and tools

Interpret the consumer needs

Understand the client

Understand the consumer

Audit of Design application

Audits of design employment

Execution of a design audit

The utility of a design audit

Creation of the Design strategy

Creation of a design strategy

Development of offers for the design strategy

Internal teams against external teams

Work with design consultancy

How to define the design profitability

Promotion and sale of the Design strategy

The approval of the main agents implied

Creation of partnerships and alliances

Plan of long term growth

Integration of design in the company

Creation of a resource of flexible and versatile design

Maximum use of design

Case studies



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Professional Practice Methodologies I (VIS2250L)

1. Work Organization.

The business structure.

Work maps.

The development phases of a product.

Production and implementation plans.

Logistics and quality control.

2. Budgets.

Calculating the cost of creation.

Search for suppliers.

Ensuring the technical aspects of the suppliers.

Request for production and logistics budgets.

Compilation of budgets.

Definition of quantities, production and retail prices, to ensure the strategic relevance of a product.

3. Protection of intellectual and industrial property.

The law of copyright.

Registration of ideas, designs, trademarks and industrial patents nationally and internationally.

The sale of patents.

Transfer of production rights.

4. Contracts.

Confidentiality contracts.

Contracts for services.

Contracts with suppliers.

Contracts for sale of product.

5. Organizations supporting the work activity.

Individual.

Collective.

Legal aspects and implications.

Corporate.

Tax.

Hires.

Implementations.



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Advanced Industrial Project I (VIS2251L)

A. THEORETICAL CONTEXT

1. Introduction to different project practice methodologies.
 - 1.1. Out of the box thinking.
 - 1.2. Understanding Product Lifecycle Management (PLM) concepts.
2. Introduction to product project tools:
 - 2.1. Introduction to target identification and interpretation.
 - 2.2. Technologic processes approach.
 - 2.3. Function vs. Form.
3. Introduction to product layout processes:

B. INDUSTRIAL PRODUCT DEVELOPMENT:

Applying theoretical lecture info to conceptualize and develop an industrial product.

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Industrial Design Lab I (VIS2252L)

1. Theoretical and practical contextualization of the initiation basics to prototyping for the acquirement of critical skills in the analysis of processes and results;
2. Perception stimulus and project development process in industrial design, namely in the areas related to the development of prototypes and models;
3. Introduction to prototyping and model development techniques;
4. Initial application learnt in industrial design or equipment projects;
5. Recognition of execution modes suitable to certain needs, and development of intervention skills in project management in multidisciplinary environments;
6. Recognition of several ways of doing prototypes and models in quick prototyping and traditional technologies;
7. Concerted exploration of activities and equipments available at the University of Évora either as observers or in a more practical side by experimenting with results.

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Advanced Project Communication I (VIS2253L)

1. Case studies of digital identities and digital communication projects.
2. Briefing of project exercise of communication design for digital visual identity.
3. Project exercise of digital identity construction of Web expression, in a context of communication design:
Elaboration of Audit to digital identity.
Creation of digital identity.
Design structure of digital identity.
Application explorations of digital identity.
4. Oral presentation of a project exercise.



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Graphic Design Laboratory I (VIS2254L)

1. Digital identity of web expression, integration in different media, media and technical reproduction:

Printed Identity

Digital Identity

2. Manuals and applications for web digital identity:

concept presentation

Vision.

Values.

Positioning.

Strategy.

Media application identity.

Website

Banner

Digital Advertising

Digital Promotion

3. Preparation of materials for distribution

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Introduction to Interactive Systems I (VIS2255L)

Learn the origin of programming languages, the main types of languages and differences between them.

Seizure of the concepts and fundamental structures of programming languages: variables, conditions, Cycles, Arrays, Functions.

Understand and apply the concepts of object-oriented programming: Classes and Objects, Encapsulation, Constructors and Destructors, Polymorphism.

Knowing and applying some basic techniques in Processing: Generation of animation, interaction with the user through mouse / keyboard, 2D and 3D graphics primitives of the language Processing, Video and Sound.

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Audiovisual and Multimedia Narratives (VIS2256L)

Unit 1: Introduction to audiovisual narrative

1. Introduction to the structural analysis of cinema narration

2. Temporality in cinema: order, duration and frequency

3. Alternative cinema models: free cinema and experimental cinema

4. Narration in TV

5. Narrative models applied both in art and television

6. Narrative in video art

7. Animation and its narrative models

8. Cinema and the digital era: processes of hybridization

Unit 2: Introduction to hypermedia narrative

1. Computer supports and their influence on the birth of a new digital rhetoric

2. Databases and hypermedia narrative

3. Interactivity in hypermedia narration

4. Concepts of contemplation and navigation in digital supports

5. The new temporality of hypermedia narration

6. The double dimension of digital image: code and light.



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Audiovisual Technical Essentials I (VIS2257L)

1 Introduction

- 1.1 Sequenced image capture and reproduction devices and sound recording and reproduction devices brief history.
- 1.2 Equipments, devices, supports and formats overview.

2. Video camera

- 2.1 Optical, lens, focus and depth of field.
- 2.2 Shutter speed. Aperture. Gain. White balance. Time code.

3 Shooting

- 3.1 Kind of plans (length and framing). Camera movements.
- 3.3 Equipment and mechanical devices for fixing or controlling camera movements.
- 3.4 Lightning
- 3.4 Sound capturing.

4 Essential aspects of video technology

- 4.1 Frame rate. Interlaced, progressive. Pixel aspect ratio. Definition (SD, HD, 2K, etc.)
- 4.5 Formats. Compression. Codec.
- 4.6 Luminance and chrominance codification systems.

5. Post-production and video editing introduction

- 5.1 Video editing software overview.
- 5.3 Customization, set up, preferences.
- 5.4 Capture, digitalization e importing.
- 5.5 Technical approach to video editing and montage
- 5.6 Some correction and adjusting tools

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Art and Technology I (VIS2258L)

1. Terminology issues according to the multiplicity of shapes.
2. Relation between art and technique/technology. Historical antecedents before 20th century. Aesthetics debates.
3. Main antecedents of the first half of 20th century.
4. Cybernetics and its influence in art.
5. Artificial intelligence and its influence in art.
6. Beginning of video art, manifests, aesthetic trends till the 1980's.
7. Artists and productions of video art till 1980's .
8. Emergence of digital technologies and its influence on production of media art.
9. Pioneers and productions of computer animation. The new computer and manipulation technologies and their influence in aesthetic definition of work.
10. The main theories and their connection with media art in 20th century
11. Connection between art, science and technology
12. Audiovisual expanded shapes: closed circuits, environments, instalments, etc. Features and specificities in art of instalment.



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Culture, Sociology and Communication in the current context (VIS2259L)

1. Brief introduction to sociological studies.
2. Comparative analysis between industrial and post-industrial societies. Cultural industrial model and cultural identity model.
3. Modernism and Post-modernism.
4. Contemporary societies and their idiosyncrasies:
 - 4.1 Marshall McLuhan: technological determinism and the studies of contemporary Media.
 - 4.2 Globalization processes examined from the socio-cultural, political and economical point of view. Integration versus social exclusion. Globalization. Local and global.
 - 4.3 Critical analysis of influence and impact of Media in society. The society performance. The consumption society. The Information society. The knowledge society.
 - 4.4 The informational society according to Manuel Castells.
 - 4.5 The problem of the individual in consumption society. The individual today.
 - 4.6 New notions of public space and private space.
 - 4.7 The human rights in the XXI century
5. Sociological contemporary theories in Portugal.

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Introduction to Aesthetic Thought I (FIL2260L)

1. Towards a critical understanding of Contemporaneity
 - 1.1. The cultural history of artistic Modernity, from Renaissance to the avantgarde: the connection of artistic thinking with Philosophy, Science, Technology and the socio-political History of Modernity
 - 1.2. The main features of philosophical thinking; an overview of modern and contemporary philosophical streams
 - 1.3. Philosophical reason and aesthetic reason: the 'aesthetic turn' and the new centrality of Art (combining Hegel, Schelling, Adorno, Malevitch and Duchamp)
2. Introduction to Aesthetics
 - 2.1. The aesthetical core of art: the 'aesthetic paradox' and the work of art as a way of thinking (between Kurosawa and Adorno)
 - 2.2. Aesthetic experience and aesthetic judgement: Kant and the classical fields of Aesthetics
 - 2.3. Is art a form of language?
 - 2.4. Ontophenomenological and post-Phenomenological approaches of aesthetic space: Heidegger, Merleau-Ponty, José Gil



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Transportation Design (VIS2261L) THEORETICAL CONTEXTUALIZATION

1 Introduction to the evolution of transportation and systems: Design History.

1.1A paradigmatic case study analysis

2 Technological context

2.1 Technologies associated to transport production

2.2 Transport typologies and systems

2.3 National and international industry

3. Different transportation analysis considering:

Typologies

Materials and technologies

Colours and superficial treatments

Dimensions and weight

Consumptions

Usability

4. Selection of one applicable technology

4.1 Life Style board characterizing consumer

PROJECT EXERCISE

1 Two-dimensional representation through drawing, digitalized images, color studies, textures and graphics

2 Accurate three-dimensional representation to a suitable scale (mock-ups)

3 Prototype.

4 Photographic record.

5 Digital portfolio of the project exercise.

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Interactive Design (VIS2262L)

1. Interface design of hypermedia applications, research, analysis and visual references.

2. Design of interactive applications regarding its integration with display and interaction devices, software and networks:

Interactive design and pointing and interaction devices.

Functionalities of interactive devices.

Usability and interaction of interface.

3. Interactive Design, communication strategy and interface structure regarding a transversal Project exercise of Communication Design:

Strategy for information structure.

Editing and treatment of interactive multimedia contents.

Visual structure of information regarding interaction levels.

Functionalities at the level of software design of Interactive Applications.

Prototyping of interface of Hypermedia Applications and integration with other applications.

Usability tests of Hypermedia Applications.

Implementation of Hypermedia Applications in devices.

4. Hypermedia applications, case studies ('Case Study').



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Design and Innovation (VIS2263L)

1. Invention vs. Innovation.

Concept analyze of invention vs. innovation.

3. R&D- Research and Development

Technology has a mean for product design innovation.

From conceptual development through production and commercialization.

2. Innovation and technologic development legislation data.

Innovation and technologic development in Design - definition and related legislation.

Institutions financial program for innovation.

4. Innovation case studies.

How computer change the design process.

The benefits and problematic of Computer aided design (Cad) in the formal evolution of design.

New typology and there cultural interaction.

New opportunity identifications as means for strategically design conception.

Open Source product development.

5. Future Innovation.

New technologic tendencies for design innovation.

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Design and Nature (VIS2264L)

7. Design and Nature:

a) Nature as inspiration for Design.

b) Nature as entity to preserve by Design.

8. Biotechnical and Biomorphic Methodologies:

a) Definition of Biotechnical Methodologies.

b) Definition of Biomorphic Methodologies.

c) Brief historical background of its applied evolution to the construction of Material World.

9. Bionic Design:

a) Origin and evolution of the concept.

b) Its application to Design.

c) Presentation and analysis of case studies.

10. Bio design:

a) Origin and evolution of the concept.

b) Its application to Design.

c) Presentation and analysis of case studies.

11. Symbiotic Design:

a) Origin and evolution of the concept.

b) Its application to Design.

c) Presentation and analysis of case studies.

12. Eco-bio Innovation and Technological Innovation in Conception (ITC)

c) Concepts and Methodology.

d) Presentation and analysis of case studies.



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Advanced Industrial Project II (VIS2265L)

1. Development, at an advanced level, of a theoretical and practical route centred in the perception and understanding of the Project development process in industrial design, namely in the areas related to the development of prototypes and models;
2. Advanced development of prototyping and physical modelling techniques;
4. Suitable application of teaching techniques to the needs of the work being developed and its contextualization at the level of intervention in the project management in multidisciplinary environments;
5. Recognition of the several ways of doing prototypes and models in quick prototyping technologies;
6. Concerted exploration of activities and equipments available at the University of Évora either as observers or in a more practical side by experimenting with results.

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Advanced Project Communication II (VIS2266L)

1. Interactive brands and interactive communication projects, case studies.
2. Interactive brand, Briefing of a project exercise of communication design.
3. Study project exercise, creation and application of interactive brand, at the level of communication design.
Study, research and positioning of interactive Brand.
Visual conception of interactive Brand.
Application of design principles to interactive Brand.
Application of interactive Brand to communication holders.
4. Oral presentation of a project exercise.

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Industrial Design Lab II (VIS2267L)

1. Development, at an advanced level, of a theoretical and practical route centred in the perception and understanding of the Project development process in industrial design, namely in the areas related to the development of prototypes and models;
2. Advanced development of prototyping and physical modelling techniques;
4. Suitable application of teaching techniques to the needs of the work being developed and its contextualization at the level of intervention in the project management in multidisciplinary environments;
5. Recognition of the several ways of doing prototypes and models in quick prototyping technologies;
6. Concerted exploration of activities and equipments available at the University of Évora either as observers or in a more practical side by experimenting with results.



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Graphic Design Laboratory II (VIS2268L)

1. Books and interactive applications for digital brand:

Brand Toolkit:

Logo.

Colours.

Typography.

Imaginary.

Design principles.

Applications:

Interactive Application.

Power Point Presentation.

Stationary.

Promotion.

Advertising.

2. Page Layout of brand Manuals for PDF distribution.

3. Finalization and preparation of materials for use both in screen and printing applications.

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Introduction to Interactive Systems I (VIS2269L)

Learn the origin of programming languages, the main types of languages and differences between them.

Seizure of the concepts and fundamental structures of programming languages: variables, conditions, Cycles, Arrays, Functions.

Understand and apply the concepts of object-oriented programming: Classes and Objects, Encapsulation, Constructors and Destructors, Polymorphism.

Knowing and applying some basic techniques in Processing: Generation of animation, interaction with the user through mouse / keyboard, 2D and 3D graphics primitives of the language Processing, Video and Sound

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Sound's Digital Processing (VIS2270L)

1. Framing

1.1 Sound / aural perception

1.2 A brief phonography history, from gramophone to digital formats.

1.3 Sound in visual arts: Russolo to digital age.

1.4 Different kind of relations between music and visual arts (John Cage, Alvin Lucier and Christian Marclay)

1.5 Synaesthesia and metaphoric relations between sound and image.

2. Skills

2.1 Basic skills in sound recording. Broad use of the department equipments.

2.2 ADC and DAC converters.

2.3 Digital recording formats. Bit depth e sample rate.

2.5 Editing audio and MIDI in diverse software.

2.6 Applying creative filters. Using plug-ins.

2.7 Using MIDI interfaces.

2.8 Different studio and live act set up possibilities.

2.9 Post-production and mastering tools.

2.10 Compression standards. lossless and lossy compression. Bit rate: CBR and VBR.

3 Practice

3.1 Accompanied audio and MIDI technical and creative exercise.

3.2 Help and support in possible sound installation and live act projects.



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Audiovisual Technical Essentials II (VIS2271L)

- 1 Audiovisual language and planning
 - 1.1 Idea or screenplay planning (theoretical)
 - 1.2 Descriptive memory. Screenplay and storyboard simplified models.
 - 1.3 Plan, scene, sequence, and movie.
 - 1.4 Camera location in relation with sight.
 - 1.5 Sequence plan and subjective plan.
 - 1.6 Shot and counter shot
 - 1.7 Raccord and continuity.
 - 1.8 Flash Back e Flash Forward
- 2 Editing and montage (Practical)
 - 2.1 Image and sound formats integration and preparing.
 - 2.2 Montage tools and methodologies.
 - 2.3 Image correction and adjustment tools.
 - 2.4 Applying filters and effects.
 - 2.5 Composition tools.
 - 2.6 Using text and fonts.
 - 2.7 Chrominance Key e Luminance Key
 - 2.8 Video formats conversion and compatibility.
 - 2.9 Video format conversion software.
 - 2.10 Compression and export formats in according to the objective.
 - 2.11 Distribution formats.
 - 2.12 DVD Authoring basic notions.
 - 2.13 Exhibition displays.

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Photography's Techniques II (VIS2273L)

The unit consists of theoretical-practical lessons around the Photograph. The practical component of the course consists of sessions around the work with the equipment and photographic materials, and the (re)production of the photographic image, approaching aspects such as: the variable classic (opening diaphragm, time of exposition, focal distance perspective/lens, focus/field and film characteristics) for the production of images (the elaboration in real space-time). The software for construction and manipulation of image (processing in the camera and the computer) are practically inherent to the procedure of elaboration of the photographic image, so they are considered parallel to the resources and ways of visualization. For this aim, the execution of practical works will be requested to the students. The works must establish a link with the diverse modalities: technical and theoretical component.

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Introduction to Aesthetic Thought II (FIL2274L)

1. Exemplifying an aesthetic theory in action
 - 1.1. The self-theorization of painting in Francis Bacon
 - 1.2. Monographic study of Francis Bacon's work according to Gilles Deleuze
 - 1.3. Ontological-existential re-interpretation of the Deleuzian approach and of the Baconian sensation-image
2. Phenomenological and Metaphenomenological Aesthetics of Design
 - 2.1. From ocularcentrism to the multisensorial synesthesia and bodily involvement of visual perception: from Merleau-Ponty to Deleuze
 - 2.2. Design between a theory of the beautiful, the theory of the work of art as an image and a theory of the object: dialectic of the aesthetic disinterestedness and of the beauty of utilitarian functionality
 - 2.3. The perceptual, virtual and conceptual addresses implied by 'Design': reconfiguring traditional theories of representation
 - 2.4. Image, writing, object: the work of the History of the World and Design, according to Vilém Flusser



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Art and Technology II (VIS2275L)

1. Analysis of media art tendencies since the 1980's.
2. The media and their influence on definition of Communication Art. Experiences and pioneer projects.
3. From reception to participation: interactive art, features, tendencies, languages. Theoretical contextualization.
4. The importance of centers and festivals of media art. Major events and their influences.
5. Aesthetic of media art. Theories, contexts, debates
6. Network art. Use, influences and transgressions of telematic technologies.
7. Web art, net art, multimedia: aesthetic and production currents.
8. Network, game art, streaming art, telepresence, etc.: aesthetic and production currents.
9. Artificial intelligence and artistic productions in this area. Theoretical context.
10. Advanced tendencies in media art: software art, robotic art, virtual reality, etc.
11. New theoretical and social tendencies, and their influence in artistic production.

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Last art tendencies (20th century) (VIS2276L)

1. Contextualization of last trends from different artistic demonstrations and its theories
2. The end of history of art in the post-historical period
3. The end of the style in the hybridization period
4. The end of the objectual aesthetics in the period of immaterial
5. The changes of paradigms:
 - 5.1. Decentralization, deterritorialization, displacement
 - 5.2. Local, global, glocal: the art and the globalization
 - 5.3. Reality and fiction: from doc-realism to cyber-realism
 - 5.4. Processual art
 - 5.5. Post-humanism and the new notion of body in current art
 - 5.6. From contemplation to interaction and cooperation of the spectator
 - 5.7. From ontological aesthetics to aesthetics of the game in current art
6. New roles of art agents I: the artist as a mediator; the role of curator; the galleries and the art fairs; museums and directors
7. Micro e macro-shapes of exhibitions
 - 7.1. Paradigmatic exhibitions of the first decade of XXI century
8. Media art as contemporary art



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Scenographic Techniques (ARC2277L)

3. Space

1.4 Scenography as scenic writing

1.5 Scenography and scenic design in the contemporary space

1.6 The performative power of space

e. expressions of spaciality

f. the imaginary made visible

g. theatre / installation art / transdisciplinary spaces

h. design of hybrid spaces

4. Technique

2.7 The process of designing for the theatre

e. research / analysis

f. reflection / creation / selection

g. communication strategies

h. implementation / realization

2.8 Basic notions of theatre architecture

2.9 The lexicon of theatre machinery

2.10 Elements of scenography

d. composition

e. colour

f. light

2.11 Tools / materials / construction techniques

2.12 Visual dimensions of scenic design

d. place / set

e. body / costume

f. environment / light

3. Experimentation

3.1 Theoretical-practical scenography project:

a. from concept to concretization

b. communication work

c. documentation work