

Representacions Digitals II

Nora Balcells Repullo, Jordi Esteve Pastor, Salvador Huertas Vidal

Supervising Teacher: Salvador Huertas Vidal

Content: 1,2,3,4,5

Code: 108087

Credits: 6 ECTS

Course: 2

Semester: 1

Typology: Fundamentals

Subject:

Schedules:

Content	Schedules	Teacher
1	Dimecres 08:30 - 10:00	Nora Balcells Repullo
		Salvador Huertas Vidal
	Divendres 08:30 - 10:30	Nora Balcells Repullo
		Salvador Huertas Vidal
2	Dimecres 10:30 - 12:00	Salvador Huertas Vidal
		Jordi Esteve Pastor
	Divendres 12:30 - 14:30	Salvador Huertas Vidal
		Jordi Esteve Pastor
3	Divendres 10:45 - 12:15	Salvador Huertas Vidal
	Divendres 08:30 - 10:30	Salvador Huertas Vidal
4	Dimecres 12:15 - 14:15	Salvador Huertas Vidal
	Dimecres 08:30 - 10:00	Salvador Huertas Vidal
5	Dimecres 12:15 - 14:15	Salvador Huertas Vidal
		Nora Balcells Repullo
	Divendres 10:45 - 12:15	Salvador Huertas Vidal
		Nora Balcells Repullo



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Subject Presentation

The course delves into the concepts and resources of computer science applied to design, emphasizing aspects such as usability, format compatibility, resolution and interaction. Students will learn to manage files in multiple formats, explore digital editing and visualization techniques in three-dimensional environments and learn about the specific functionalities of professional design software. A critical and efficient use of digital tools for the development of advanced projects is encouraged.

Learning outcomes of the degree program

Knowledge

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

Skills

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

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

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

Competencies

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.

Learning outcomes of the subject

Knowledge

To associate the use of digital environments in the creation of audiovisual resources, web design, 3D modeling, and spatial representation, identifying their characteristics, functions, and suitability criteria according to different design contexts (KT05)

Skills

Apply specialized digital tools throughout the different phases of a design project, producing digital representations of text, images, volumes, and spaces with technical and expressive coherence (ST06)

To use various types of software required for the development of design projects, including 3D modeling, graphic editing, web design, and spatial representation programs(ST06)

Competencies

Generate digital models of three-dimensional objects, adjusting parameters and producing

dimensioned drawings when necessary. (CT04)

Create digital representations of spaces in two, three, or more dimensions using appropriate software, incorporating technical and aesthetic criteria according to the project type. (CT04)

Content: 1

Brief Description:

The computer tool has become an essential technical tool for the designer, and the market demands agile and reliable use in different programs and operating systems, in the representation of space.

Training Objectives:

The ability to achieve the work and main operations of the programs, AutoCad, 3DStudio Max, Vray, Photoshop and Illustrator.

Achieve the necessary knowledge to create originals from computer work, whether it be the creation of plans, three-dimensional models, functional prototypes, etc.

Master the graphic resources of the programs for the representation of plans with communicative intent.

Control the file extensions of the programs worked on and the export and import relationships for cross-working between them and other programs.

Achieve the ability to work at scale by applying the correct units of measurement for each specific case.

The ability to create "photorealistic" quality images through the application of materials, cameras, lighting schemes, etc.

Motivation for the quality of work, order in the organization of files and presentation of design work.

Understand the importance of working with computer programs in design projects.

Learn to layout your own projects in different formats of DIN A1, A3, A4... both in graphic, written and photographic documentation.

Recommendations

Have taken the Digital Representations subject. Be familiar with the use of CAD programs.

Have taken the Technical Drawing subject. Know how to apply the knowledge gained in CAD programs.

Contents and Methodology

Brief Description:

1. AUTOCAD 2D
 - 1.1 2D drawing. Autocad
 - 1.2 Presentation in Paper Space
 - 1.3 Layers Menu
 - 1.4 Plot : Ctb, pdf
 - 1.5 Utilities, Menus
 - 1.6 External and image references
2. 3D STUDIO MAX
 - 2.1 Generation
 - 2.1.1 Generation and Editing of Basic Volumetries
 - 2.1.2 Generation and Editing of Complex Volumetries
 - 2.2 Render: Lighting
 - 2.2.1 Indirect lighting
 - 2.2.2 Outdoor lighting
 - 2.2.3 Interior lighting
 - 2.3 Render: Mapping
 - 2.3.1 Materials
 - 2.3.2 Material libraries
 - 2.3.3 Maps
 - 2.4 Blocks
 - 2.4.1 Insertion of models: people, vegetation...etc.
 - 2.4.2 Websites for downloading models, libraries and maps
3. POST-PRODUCTION
 - 3.1 3D Studio
 - 3.2 Adobe Photoshop
4. LAYOUT
 - 4.1 AutoCAD
 - 4.2 Adobe Illustrator

Teaching methodology:

The integration of theoretical and practical knowledge will be carried out with an explanation at the beginning of each session where the contents and techniques with which to achieve the objectives of each session will be presented.

The knowledge will then be applied in a training activity of variable duration. Each activity will be

accompanied by the relevant explanations. The activities may be carried out during the course of the class (directed activities) or require the student to work independently outside the classroom (supervised and autonomous activities).

There will be a final project of an individual nature that will be carried out as a supervised and autonomous activity, and which will be submitted at the end of the course.

The training activities will be based on the application and synthesis of the computer procedures acquired in theoretical classes and seminars.

Training activities:

Theoretical Classes

ECTS: 20%

Teaching/learning methodology: Lectures: key concepts and general procedures of applied computing.

Workshop

ECTS: 30%

Teaching/learning methodology: Classroom exercises with assistance and resolution of difficulties in the application of the different resources used.

Performing exercises

ECTS: 50%

Teaching/learning methodology: Independent work: carrying out exercises on the application and synthesis of computer processes

Evaluation

General evaluation regulations

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

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

Continuous evaluation system

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

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

The evaluation criteria presented below are generic in nature. Each of the activities and exercises carried out during the course of the subject will be accompanied by specific objectives and evaluation criteria.

1. Contents

They will be assessed based on the achievement of the general objectives, through:

Autocad work 35%

3ds Max work 35%

Independent project 20%

Exams 10%

Classroom intervention

2. Procedures

They will be assessed based on the general objectives of the subject with the following parameters:

Procedure followed by the student

How he works and how he applies his knowledge

Understanding and assimilation of the contents

Physical presentation of the works

Review process

The review can be requested from the teaching staff and will be carried out according to the school

calendar.

Bibliography and Resources

Space Resources

www.autodesk.es

Websites of spaces:

www.3dsky.com (3D models)

www.evermotion.com (3D models)

www.archiproducts.com (3D models)

www.kvadrat.es (textile textures)

www.egger.com (wood textures)

Content: 2

Brief Description:

The computer tool has become an essential technical tool for the designer, and the market demands agile and reliable use in different programs and operating systems.

Training Objectives:

- The ability to master the main operations of the programs, SolidWorks and Keyshot.
- Acquire the necessary knowledge to create originals from computer work, whether it be the creation of plans, three-dimensional models, functional prototypes, etc.
- Master the specific graphic resources of the programs for the representation of plans with communicative intent.
- Control the file extensions of the programs worked on and the export and import relationships for cross-working between these and other programs.
- Achieve the ability to work at scale by applying the correct units of measurement for each specific case.
- The ability to make photorealistic and quality images through the application of materials, cameras, lighting schemes, etc...
- Motivation for the quality of the work, the order in the organization of the files and the presentation of the design work.
- Understand the importance of working with computer programs for design projects.

Recommendations

Have completed the Digital Representations I subject.

Be familiar with the use of CAD programs.

Have completed the Technical Drawing subject.

Know how to apply the knowledge acquired in CAD programs.

Contents and Methodology

Brief Description:

Teaching methodology:

The integration of theoretical and practical knowledge will be carried out with an explanation at the beginning of each session where the contents and techniques to achieve the objectives of each session will be presented. The knowledge will later be applied in a training activity of variable duration. Each activity will be accompanied by the relevant explanations. The activities may be carried out during the course of the class (guided activities) or require independent work by the student outside the classroom (supervised and autonomous activities). There will be a personal and individual final project that will be carried out as a supervised and autonomous activity, and which will be delivered at the end of the course. The training activities will be based on the application and synthesis of the computer procedures acquired in the theoretical classes and seminars.

Training activities:

Theoretical classes ECTS: 10% Teaching/learning methodology:

Master classes: key concepts and general procedures of applied computing.

ECTS program video tutorials: 10% Teaching/learning methodology: Introduction to the specific characteristics of each computer program and guidelines for self-learning

Workshop ECTS: 30% Teaching/learning methodology: Classroom exercises with assistance and resolution of difficulties in the application of the different resources used

Carrying out ECTS exercises: 50% Teaching/learning methodology: Independent work: exercises on the implementation and synthesis of computer processes

Evaluation

General evaluation regulations

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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.

Practice 1 - 15%

Exam - 35%

Practice 2 - 15%

Final project - 35%

Review process

You can re-evaluate:

Practice 1 - 15%

Exam - 35%



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Bibliography and Resources

<https://www.3dcontentcentral.es/>
<http://www.solidworkstutorials.com/>
<http://www.traceparts.com/>

Content: 3

Brief Description:

Mastery of computer tools has become essential for the practice of design. It is no longer a merit but a requirement. It is necessary to stay up to date with the main software used in this profession.

Confrontation of the technical options of each program (text editing, illustration and photo retouching) and the symbiotic relationship that exists between them, emphasizing the compatibilities and coexistence between the programs in a theoretical and practical way.

Training Objectives:

Every design project requires the support of digital tools. A deep knowledge of computer work platforms will allow us to better manage time. We will propose formulas for automating corrections and modifications. We will optimize the formalization of concepts and the execution of originals. The necessary knowledge will be imparted so that the designer can formalize a concept, choosing the work process and the most appropriate computer applications in each context.

—
The necessary knowledge will be taught so that the student can formalize a concept, choosing the work process and computer applications both on paper and in digital format.

The assimilation of concepts common to all IT platforms and the understanding of technology as a tool and not as a goal will be promoted.

We will see the resources that each program provides us with to solve the visual problems that each project presents.

—
Increase the management capacity of a project that requires the use of several work platforms. What applications are necessary to solve it and what is the order to execute it.

Optimize production time and document construction capacity that allows for incorporating corrections with a minimum of time and a high standard of quality.

To raise the points of communion and the edges of distance between editing, illustration and photographic retouching programs

Recommendations

Have taken the Digital Representations subject. Be familiar with the use of Adobe programs.

Contents and Methodology

Brief Description:

BLOCK 1: TYPOGRAPHICAL MANAGEMENT - COMPOSITION (Adobe InDesign)

Typographic management. Control and use of typographic variables (track, kern, caps,...)

Character vs Paragraph Styles. Object Styles.

Working with word documents. Text import options. Automatic margin composition adjustments.

Editing preferences in article editor. Management of the Search/Change engine.

Layout. Master page options. Base grid creation. Grid duality in a document. Coexistence. Page modularization. Guide management, document grid.

Prepress and originals. Preliminary checks. (Links, fonts,...). Packaging options. Creation of PDF files (Portable Document File)

Interactivity Creation of buttons. Internal and external hyperlinks. Object anchors.

Insert video and audio.

BLOCK 2: VECTOR WORK - ILLUSTRATION (Adobe Illustrator)

Drawing. Standard primitives. Pencil vs. pen tool. Path editing.

Interactive calculus. Interactive painting.

Volume. Editing graphic styles. Symbol creation. Editing graphic styles. Mayas and fusions.

Special effects. Appearance attributes.

Working with filter vs effect. 3D effects. Layer mapping options

Color management. Sample types. Global vs. local.

Active color management. Management and creation of color libraries and groups.

BLOCK 3: PIXEL WORK (Adobe Photoshop + AI)

Resolution vs weight. Establishing the relationship between the weight of a file and its output resolution. Image format options and usage specifications.

Effects vs. filters. Differences between working with filters vs. effects and the impact on editing operations. Screens, color halftones. Management and control of transparencies.

Task automation. Time management. Action creation. Action group creation.

Troubleshooting

AI. Use and exploitation of the possibilities of Artificial Intelligence as a tool.

Teaching methodology:

The explanation of technical procedures will be combined with the performance of practical exercises that solidify the essence of each work platform.

The course is structured around short practical exercises, along with longer and more complex

exercises that will put into practice the concepts worked on. These exercises will incorporate knowledge and concepts presented in class.

Training activities:

Text management 50%

Carrying out exercises where specific techniques of typographic and compositional management are applied.

They will work on a list of examples of varying complexity, which can be expanded with any argumentative proposal by the student. Each group will be able to choose the environment they consider most appropriate with their topic of interest.

A first release will be made with the incorporation of text and image layout management, along with interaction options.

A second, larger project will be carried out where the management of the page sequence, creation of sections and several master pages will be worked on.

Image management (vector+pixel) 50%

Carrying out exercises where specific techniques for image management in pixel and vector versions are applied.

We will work on a list of examples of varying complexity from which the student can choose, or do their own search with examples of interest.

Partial submissions related to each specialty worked on during this part of the course will be made.

A final submission will be made with all the exercises developed throughout this part of the syllabus with the corrections and improvements made.

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.

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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.

Project 1 Delivery: 30% Text 1

Project 2 Delivery: 20% Text 2

Project 3 Delivery: 50% Image

To pass the subject, you must achieve an average of 5 in each section of the course.

Average text 5 points

Average image of 5 points

Review process

The scoring activities of the continuous assessment will be reviewed with the student who requires it.

Bibliography and Resources

Reference readings

Tschichold, Jan. *The Form of the Book. Essays on the Morality of Coog Design*. London: Lund Humphries Publishers, 1991.

Ruari-Mclean. *Manual of typography*. Madrid: Tursen Hermann Blume Ediciones, 1987

Garden, Enrique. *Twenty tips on typography and twenty things you should never do with letters*. Barcelona: Ed. Act, 2007.

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Structural package designs. Designs of structures for packaging. Amsterdam: A Pepin Press Drawing Book, 2003

Kouroudis, Giannis; Shoji, Sayuri; Lancaster, Tom. *We are talking about Packaging. If we talk about design*. Barcelona: Index Book, cop. 2005

Reference websites

Typography
<http://webtypography.net>

<http://fontstruct.fontshop.com>
<http://www.unostiposduros.com>
<http://es.letrag.com>
<http://www.typebase.com>
<http://www.glosariografico.com>
<http://www.handmadefont.com>
<http://www.bluevertigo.com.ar>
<http://www.glossyinc.com>
<http://collectui.com>

Content: 4

Brief Description:

Mastery of computer tools has become essential for the practice of design. It is no longer a merit but a requirement. It is necessary to stay up to date with the main software used in this profession.

Confrontation of the technical options of each program (text editing, illustration and photo retouching) and the symbiotic relationship that exists between them, emphasizing the compatibilities and coexistence between the programs in a theoretical and practical way.

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Every design project requires the support of digital tools. A deep knowledge of computer work platforms will allow us to better manage time. We will propose formulas for automating corrections and modifications. We will optimize the formalization of concepts and the execution of originals. The necessary knowledge will be imparted so that the designer can formalize a concept, choosing the work process and the most appropriate computer applications in each context.

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The necessary knowledge will be taught so that the student can formalize a concept, choosing the work process and computer applications both on paper and in digital format.

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We will see the resources that each program provides us with to solve the visual problems that each project presents.

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Increase the management capacity of a project that requires the use of several work platforms. What applications are necessary to solve it and what is the order to execute it.

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Recommendations

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Training activities:

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Project 2 Delivery: 20% Text 2

Project 3 Delivery: 50% Image

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Average text of 5 points

Average image of 5 points

Review process

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<http://es.letrag.com>
<http://www.typebase.com>
<http://www.glosariografico.com>
<http://www.handmadefont.com>
<http://www.bluevertigo.com.ar>
<http://www.glossyinc.com>
<http://collectui.com>

Content: 5

Brief Description:

The computer tool has become an essential technical tool for the designer, and the market demands agile and reliable use in different programs and operating systems, in the representation of space.

Training Objectives:

The ability to achieve the work and main operations of the programs, AutoCad, 3DStudio Max, Vray, Photoshop and Illustrator.

Achieve the necessary knowledge to create originals from computer work, whether it be the creation of plans, three-dimensional models, functional prototypes, etc.

Master the graphic resources of the programs for the representation of plans with communicative intent.

Control the file extensions of the programs worked on and the export and import relationships for cross-working between them and other programs.

Achieve the ability to work at scale by applying the correct units of measurement for each specific case.

The ability to create "photorealistic" quality images through the application of materials, cameras, lighting schemes, etc.

Motivation for the quality of work, order in the organization of files and presentation of design work.

Understand the importance of working with computer programs in design projects.

Learn to layout your own projects in different formats of DIN A1, A3, A4... both in graphic, written and photographic documentation.

Recommendations

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Have taken the Technical Drawing subject. Know how to apply the knowledge gained in CAD programs.

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 - 1.2 Presentation in Paper Space
 - 1.3 Layers Menu
 - 1.4 Plot : Ctb, pdf
 - 1.5 Utilities, Menus
 - 1.6 External and image references
2. 3D STUDIO MAX
 - 2.1 Generation
 - 2.1.1 Generation and Editing of Basic Volumetries
 - 2.1.2 Generation and Editing of Complex Volumetries
 - 2.2 Render: Lighting
 - 2.2.1 Indirect lighting
 - 2.2.2 Outdoor lighting
 - 2.2.3 Interior lighting
 - 2.3 Render: Mapping
 - 2.3.1 Materials
 - 2.3.2 Material libraries
 - 2.3.3 Maps
 - 2.4 Blocks
 - 2.4.1 Insertion of models: people, vegetation...etc.
 - 2.4.2 Websites for downloading models, libraries and maps
3. POST-PRODUCTION
 - 3.1 3D Studio
 - 3.2 Adobe Photoshop
4. LAYOUT
 - 4.1 AutoCAD
 - 4.2 Adobe Illustrator

Teaching methodology:

The integration of theoretical and practical knowledge will be carried out with an explanation at the beginning of each session where the contents and techniques with which to achieve the objectives of each session will be presented.

The knowledge will then be applied in a training activity of variable duration. Each activity will be

accompanied by the relevant explanations. The activities may be carried out during the course of the class (directed activities) or require the student to work independently outside the classroom (supervised and autonomous activities).

There will be a final project of an individual nature that will be carried out as a supervised and autonomous activity, and which will be submitted at the end of the course.

The training activities will be based on the application and synthesis of the computer procedures acquired in theoretical classes and seminars.

Training activities:

Theoretical Classes

ECTS: 20%

Teaching/learning methodology: Lectures: key concepts and general procedures of applied computing.

Workshop

ECTS: 30%

Teaching/learning methodology: Classroom exercises with assistance and resolution of difficulties in the application of the different resources used.

Performing exercises

ECTS: 50%

Teaching/learning methodology: Independent work: carrying out exercises on the application and synthesis of computer processes

Evaluation

General evaluation regulations

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

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

Continuous evaluation system

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

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

The evaluation criteria presented below are generic in nature. Each of the activities and exercises carried out during the course of the subject will be accompanied by specific objectives and evaluation criteria.

1. Contents

They will be assessed based on the achievement of the general objectives, through:

Autocad work 35%

3ds Max work 35%

Independent project 20%

Exams 10%

Classroom intervention

2. Procedures

They will be assessed based on the general objectives of the subject with the following parameters:

Procedure followed by the student

How he works and how he applies his knowledge

Understanding and assimilation of the contents

Physical presentation of the works

Review process

The review can be requested from the teaching staff and will be carried out according to the school

calendar.

Bibliography and Resources

Space Resources

www.autodesk.es

Websites of spaces:

www.3dsky.com (3D models)

www.evermotion.com (3D models)

www.archiproducts.com (3D models)

www.kvadrat.es (textile textures)

www.egger.com (wood textures)