

5S_FO_GRA_Computer Network Technology

Qualification: Degree in Higher Artistic Education in Design in the specialties of graphic design, interior design, fashion design and product design.

Subject: Technology applied to graphic design

Type: Mandatory Training graphic design

Credits: 6 ECTS

Total hours: 150 h

Course: 3

Hours/week: 9,4 h

Semester: 5th

Face-to-face hours/week: 4 h

Language in which it is taught: Catalan / Spanish

Self-employed hours/week: 5,4 h

Prerequisites: It is recommended to have passed the subjects Photography and Digital Imaging 1-2 and Digital Tools 1-2.

1. Presentation of the subject

The subject Computer Network Technology introduces students to the principles, strategies, techniques and procedures used in the conception, design, production and publication of different types of web pages, including their different types of content (texts, graphics and multimedia).

It presents a practical approach, combining capsules of theoretical content, techniques and procedures, with the practice and carrying out of activities that are meaningful to students.

The subject has the following main objectives:

- Analyze and study real cases and adapt to technological changes in the sector.
- Work with the main tools in this field (code editors, content editing software and other online resources to generate and edit content).
- Carry out activities that cover the entire process, from conception to publication of the final product.

2. Course contents

C1. Network techniques and architecture. (Introduction)

- Network architecture. (Introduction to equipment and protocols)
- History, evolution and structure of the Network.
- Information architecture
- Configuring a website. (Directory structure and management: local / remote)

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C2. Resources for web application design.

- Code editors
- Browsers
- Testing and verification tools
- Content editing software
- Other resources / utilities (Server sources...)

C3. Language systems

C3.1. Markup languages. Graphic structuring and adjectivation with HTML5+CSS3

- 1a) Languages to structure and hierarchize content semantically: HTML5
- 1b) Languages to generate layouts, graphically attribute, and generate interactivity and/or animations: CSS3

C3.2. Introduction to programming languages*:

- 2a) Languages to generate behaviors: Javascript*

* Introduction at a very practical level, in the format of examples included within the design of a web page itself, (scrolling effects, lightbox, etc.)

C4. Web application development.

This content block is designed for teachers to decide what kind of "main / final" activity they ask the student to do.

It can be understood as a "heavy", "strong", and flexible block at the same time, which allows working on the main activity that the teacher chooses to do.

Ex: Web from scratch amb dreamweaver, Brackets, etc.

- a) Equipos profesionales
- b) Responsive publications:
 - Simple web pages (Newsletters, Homes...).
 - Websites.
- c) Information architecture: structure, navigation, interaction, content, usability, accessibility.
- d) Layout and graphic adjectivation:
 - HTML5 and CSS applied to the layout and aesthetics of different web products. (Ex: DIVS, box model, dimensions, borders, position, typographic aesthetics...)
- e) Contents: texts, images, multimedia (videos, audio, animations, others...)
- f) Adaptive, fluid, flexible design* (Responsive design). Design for different types of devices: computers, touch devices (tablets, smartphones...). Principles. Main techniques and resources.

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C5. Publishing and optimizing content in search engines (SEO, Search engine optimization)

- Content optimization techniques for search engines.
(Ex: Metadata, registration in search engines, Google SEO criteria, etc...)
- Publication: techniques, resources and procedures.
(Ex: Hire a domain, hosting, local/remote files...)

3. Skills worked on in the subject(Royal Decree 633/2010)

Transversal skills		Subject	Subject
CT-03	Solve problems and make decisions that meet the objectives of the work being carried out.	X	X
CT-12	Adapt, in conditions of competitiveness, to cultural, social and artistic changes and to the advances that occur in the professional field and select the appropriate continuing education courses.	X	X

General skills		Subject	Subject
CG-04	Have a scientific view on the perception and behavior of form, matter, space, movement and color.	X	X
CG-10	Be able to adapt to changes and industrial technological evolution.	X	X
CG-15	Know processes and materials and coordinate your own intervention with other professionals, according to sequences and degrees of compatibility.	X	X

Specific Graphic Design skills		Subject	Subject
GRA-08	Know the channels that support visual communication and use them according to the project's communication objectives.	X	X
GRA-11	Master the technological resources of visual communication.	X	X
GRA-12	Master digital technology for processing images, texts and sounds.	X	X

4. Learning outcomes

SUN	Description of the learning outcome	Skills
RA1	Identify and explain at an introductory level the different elements that make up the ecosystem of computer networks.	CG-10 CT-12 GRA-11 GRA-12
RA2	Identify, choose, install, configure and use different types of resources (hardware, software) to develop web applications.	CG-10 CT-03 · CT-12 GRA-11 GRA-12
RA3	Analyze, inspect, organize, and reproduce the basic directory structure and configuration of a website.	CG-10 CT-12 GRA-11 GRA-12
RA4	Organize and reproduce the basic configuration structure of a website.	CG-10 CT-03 · CT-12

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		GRA-11 GRA-12
RA5	Use HTML and CSS languages to semantically structure and graphically characterize web applications. Identifying, applying, analyzing, experimenting and evaluating their syntax, elements, properties, attributes, values and possibilities.	CG-10 · CG-15 CT-03 · CT-12 GRA-11 GRA-12
RA6	Use the Javascript language.	CG-10 · CG-15 CT-03 · CT-12 GRA-11 GRA-12
RA7	Plan, develop and evaluate web publications.	CG-04 · CG-15 GRA-08
RA8	Implement different types of multimedia content.	CG-04 · CG-10 · CG-15 · CT-12 GRA-08 · GRA-11 GRA-12
RA9	Generate responsive behaviors in different types of web applications.	CG-10 · CG-15 CT-03 · CT-12 GRA-11 GRA-12
RA10	Identify, apply and evaluate the main techniques and resources for publishing and optimizing content (SEO) in search engines.	CG-10 · CT-12 GRA-11 · GRA-12
RA11	Publish and maintain offline/online a basic website.	CG-10 CT-03 · CT-12 GRA-11 GRA-12

5. Teaching methodologies of the subject

Get up	Typology	Description	Apply
MD1	Conference and/or master class	The teacher presents and transmits knowledge to the entire group of students, the student has a passive role, that of a receiver.	X
MD2	Debate and/or discussion	The teacher encourages and moderates debates and/or discussions that promote reflection, critical thinking and active participation of students in the classroom.	X
MD3	Readings and/or comments	Use of selected texts or materials as a starting point to promote reflection, critical understanding and debate among students.	X
MD4	Tests and/or exams	Formal and structured activity to collect evidence on the degree of achievement of knowledge, skills or competencies by students. This can be written, oral or practical and includes a variety of formats: questionnaires, problems, open questions, practical exercises, etc.	X
MD5	Workshops and/or internships	Carrying out practical activities applied in a controlled environment, oriented towards learning through experience and/or the transfer of theoretical knowledge to real or simulated situations.	X
MD7	Case study	Analysis of situations or problems within the specialty with the aim of reflecting, analyzing and discussing different intervention or solution proposals through examples or references.	X
MD9	Guided practice	The teacher presents and transmits theoretical knowledge	X

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		applied to practical activities that take place in the classroom. The teacher guides, supervises and provides active feedback during the practice.	
MD11	Collaborative work	Joint construction of knowledge through interaction and collaboration between students. The teacher has a guiding and dynamizing role.	x

6. Training activities of the subject

Get up	Description	Duration	Percentage
AF1	Analysis and study activities of real cases.	1 to 2 weeks	0-10%
AF2	Solving exercises in the classroom	3 to 5 weeks	10-20%
AF3	Troubleshooting	4 to 5 weeks	20-30%
AF4	Practical test	1 Week	0-20%
AF5	Preparation of practical work (individual): APB	6 weeks	30-50%

7. Evaluation systems

Due to their typology and educational program, all subjects in the ESDAPC undergraduate design studies include continuous assessment as a procedure to regulate and qualify the learning achieved by students during the semester.

In the event of not achieving the level of sufficiency in the evaluation activities within the closing milestones set out in the subject's schedule, the activities not passed may be corrected and/or completed within the recovery procedure defined by the teaching staff in their schedule.

7.1 Continuous evaluation

General evaluation criteria

The ESDAPC sets some **general evaluation criteria** which are common to all teaching guides, without prejudice to the specific evaluation and grading criteria of each subject:

- Subject grading: A weighted average of the grades obtained in each of the training activities will be made in accordance with the percentages described in the teaching guide and classroom schedule. The subject will be passed with a grade of 5.0 (Pass). All assessment activities can be corrected and/or completed within the recovery procedure within the continuous assessment that the teaching staff defines in their classroom schedule.
- Class attendance is essential in order to guarantee that learning is progressive, flexible and allows feedback and adjustments in its achievement within the continuous assessment. For this reason, class attendance is mandatory. The teaching staff establishes the mechanisms to control it. The student who does not attend a minimum of 80% of the face-to-face hours of the subject loses the right to

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continuous assessment and may present for remediation outside of the continuous assessment defined in the teaching guide and classroom schedule for the subject. In cases of serious absenteeism, with attendance of less than 60% of the face-to-face hours of the subject, the student will lose the right to be evaluated and will have a grade of "Not Presented".

- The ability to organize and plan tasks is part of the learning outcomes that the student must achieve within the training process, therefore the deliverables of the evaluation activities must conform to the deadlines, the format and contents defined in the activity statement in order to be qualified. Activities submitted after the deadline, format and/or minimum content will be considered outside the continuous assessment process, will not be evaluated within it and may be resubmitted as a retake.
- In the event of a submission or exam coinciding with a force majeure situation, the student may request to submit an activity after the deadline or repeat an exam, without being considered out of continuous assessment. This submission or exam will be carried out according to the conditions and calendar determined by the teaching staff.
 - Force majeure is understood to mean: serious illness or temporary incapacity (hospitalization) of the student or a first-degree relative, coincidence with an official language level or driving license exam, inexcusable duties before the administration or death of a first- or second-degree relative. It must be requested in an argued and justified manner in the form of [generic application](#), addressed to the campus management, and must necessarily include the original with a stamp of the document proving the major cause alleged.
- The evaluation process is based on the student's personal work and presupposes the authenticity of the authorship and originality of the exercises carried out. Any act of copying and/or plagiarism or irregular use of Artificial Intelligence (AI) will result in the immediate and irrevocable suspension of the assessable activity, without the right to recovery.

However, and without contradicting these general criteria, each teacher may define other specific complementary conditions, which are included in this teaching guide.

These complementary conditions cannot in any case result in a penalty or limitation of the qualification of an activity, nor the loss of the right to recover an activity.

Specific evaluation criteria within continuous evaluation

AF1_Analysis and study activities of real cases. (0-10%) (RA1, RA3, RA4, RA7, RA10, RA12)

- Correctness and quality of the analysis (80%)
 - Relevance and quality of the reference/topic analyzed
 - Anatomical analysis (identification and description of elements)
 - Semantic analysis (function that develops the analyzed element)
 - Structural analysis (dimensions, sides)

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- SEO Analysis (Positioning)
- Formal quality of the analysis (Graphic presentation, spelling, syntactic and grammatical correction (20%))

AF2_Solving classroom exercises/problems (10-20%)

- Syntax correction, writing and structuring of the code: 60-80% (RA2, RA5, RA6, RA7, RA8, RA9, RA11, RA12)
 - Semantics
 - SEO Resources
 - Syntax
 - Contents
 - Adaptability
- Formal quality (20-30%) (RA5)
- Publication (10-20%) (RA2, RA11)
 - Directory configuration (10%)

Xelo A2,

AF3_Problem solving (20-30%)

- Syntax correction, writing and code structuring: 60-80% (RA4, RA5, RA7, RA8, RA9, RA10, RA11, RA12)
 - Semantics
 - SEO Resources
 - Syntax
 - Contents
 - Adaptability
- Formal quality (20-30%) (RA5)
- Publication (10-20%) (RA3, RA4, RA2, RA11)
 - Directory configuration

AF4_Practical test. (10-20%)

- Syntax correction, writing and structuring of the code: (60%) (RA4, RA5, RA8, RA9, RA10)
 - Semantics
 - SEO Resources
 - Syntax
 - Contents
 - Adaptability
- Publication (40%) (RA2, RA11)
 - Directory configuration (10%) (RA3,RA4)
 - Formal quality (aesthetics, composition and spelling) (30%)

AF5_Final work preparation (30-50%)

Metodologia 20% (RA2, RA3, RA4, RA7)

-Information research and analysis (10%)

-Sketches, initial proposals. Information architecture (10%)

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-Web structure, Navigation map.

-Wireframes, Layouts.

Production 50% (RA5, RA6, RA8, RA9, RA10)

Lluís Portfolio

-Semantics

-Sintaxi. Codi (HTML, CSS)

-Usability and content (Navigation, usability, aesthetic and compositional quality of the interface)

-Adaptability. Responsive behaviors.

Publication 20% (RA2, RA10, RA11)

-SEO techniques and resources (10%)

-Metadata, page titles, favicon, accessibility...etc...

-Publication (10%) (RA3, RA4)

-Correct directory structuring.

-Accommodation.

Self-study 10% (RA6)

Student contributions (Resources not worked on in the subject).

-Ex. Lightboxes, special scrolling, drop-down buttons...

-Ex. Interactive behaviors with Javascript

(!) This item can provide that 10, to the student who has been curious, restless, experimental, creative, searching for and correctly implementing resources not worked on in the subject.

Evaluation instruments within continuous evaluation

Rubrics.

Questionnaires.

Individual and/or group feedback: written or oral.

Monitoring reports.

Direct observations.

Observation records.

Self-assessment.

Co-evaluation.

7.2. Recovery

General recovery criteria

The ESDAPC sets general recovery criteria that are common to all teaching guides, without prejudice to the specific evaluation and grading criteria of each subject:

- The ESDAPC provides for a single recovery per activity. The recovery of suspended activities will be done within the deadlines defined by the teachers in their classroom schedule within the same semester. In the event that the teachers have not established a recovery calendar, students may submit the recovery activities during the last school week of the semester.

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Specific recovery criteria within continuous assessment

Resubmit suspended/undelivered/pending improvement activities

Each activity will be evaluated according to its specific continuous evaluation criteria (See criteria AF1, AF2, AF3, AF4)

Specific recovery criteria outside of continuous assessment

Specific recovery for students who are between 60% and 80% in attendance, as well as for students who have submitted activities after the deadline, format and/or minimum content:

- Re-submit suspended/not submitted activities + Conduct in-person practical and written tests
- This test includes the contents and skills of the different activities of the subject (AF1, AF2, AF3, AF4). If the test is passed, the final grade for the subject will be the average of the training activities presented. Failure to pass the practical test means failing the subject.
- Specific criteria for the different Activities: criteria AF1, AF2, AF3, AF4 (Continuous Evaluation) are applied.
- Specific criteria Practical/written recovery test: AF4 criteria (Continuous assessment)

Subject recovery instruments outside of continuous assessment

*Written and/or practical test to be completed in the classroom within a certain time. **40% practice - 60% test.***

8. Educational care within the framework of an inclusive education system

This Teaching Guide takes into account educational care within the framework of an inclusive educational system that includes two reference frames that support it:

- MISU: Universal Measures and Supports to promote personal and social development in equity and equality.
- DUA: Universal Learning Design, which allows flexible learning situations to be created based on a design that detects and minimizes the barriers of the context, from the beginning, and that considers variability.

However, to ensure freedom of thought and opportunities in relation to the gender perspective, a co-educational dynamic is carried out that avoids the predisposition of differential treatment, role attributions or assumptions of abilities determined by gender.

The MISU and DUA will be applied to all ESDAPC students. Those students in need of additional measures and support will be included through an Individualized Support Plan.

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9. Copying, plagiarism, and academic honesty

From a legal point of view, plagiarism is an infringement of copyright.

The ESDAPC NOFC describes in section 5.4 irregular conduct in the evaluation procedure, which includes copying or plagiarism in any academic activity.

10. Use of Artificial Intelligence (AI)

The ESDAPC recognizes the value of Artificial Intelligence (AI) in the educational field, while highlighting the risks it entails if it is not used ethically, critically and responsibly. The use of AI in the teaching and evaluation context is governed by the principles, criteria and recommendations established in the ESDAPC Guide to the Ethical and Responsible Use of Artificial Intelligence, which constitutes the institutional reference document in this matter.

In this sense, in each assessment activity, students will be informed about the AI tools and resources that can be used and under what conditions, recommending their use as an assistance tool during the research, analysis or conceptual exploration process, but not as a replacement for their own work or professional judgment.

For their part, students undertake to follow the instructions of the ESDAPC when carrying out the assessment activities, as well as the criteria included in the Guide for the Ethical and Responsible Use of AI. Within this framework, students must transparently cite the AI tools used and explicitly identify texts, images or other content generated with AI systems, which may not be presented as their own production.

Misuse of Artificial Intelligence can seriously affect the evaluation of assessment activities. In case of doubt, it is recommended that students consult the teacher responsible for the subject before submitting.

The specifics of the use of Artificial Intelligence in each subject—including the authorized tools, conditions of use and associated evaluation criteria— will be defined in the classroom programming, where teachers will contextualize the Teaching Guide and the Guide for the Ethical and Responsible Use of AI based on the objectives, skills and methodologies of the subject.

In all cases, students are responsible for any possible errors, omissions or biases that may be generated by the Artificial Intelligence used in the work process.

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11. Sources of information and teaching resources

Basic bibliography

Reference bibliography and other resources

- Aubry, Christophe (2021) HTML5 and CSS3: Master the standards of website creation. Cornellà de Llobregat: ENI Editions.
- Acera García, M., A. (2012). CSS3. Madrid: Anaya multimedia.
- Duckett, J. (2011). HTML & CSS: Design and Build Websites. Indianapolis, Indiana: John Wiley & Sons, Inc.
- Firdaus, T. (2013). Responsive Web Design by Example. Birmingham: Packt Publishing.
- Frain, B. (2012). Responsive Web Design with HTML5 and CSS3. Birmingham: Packt Publishing.
- Fuenmayor, E. (2003). Mouse, mouse: introduction to computer-aided graphic design. Barcelona: GG.
- Gauchat, J., D. (2012). The big book of HTML5, CSS3 and Javascript. Barcelona: Marcombo, Technical Editions.
- Goldstein, A., Lazaris, L., Weyl, E. (2011). HTML5 and CSS3. Madrid: Anaya Publishing.
- Lomas, R (2017). Learn to code now. Designs for the Web with Html, Css, and Javascript
- Lynch, P., J., Horton, S. (1992). Web style manual: basic design principles for creating websites. Barcelona: GG.
- Matarazzo, Dennis (2021) Learn the HTML5, CSS3 and JavaScript languages to create your first website. Cornellà de Llobregat: ENI Editions.
- Noguera, J (2016). The keys to mastering SEO. Publisher: CreateSpace Independent Publishing Platform.

WEBS

- Bootstrap in Spanish (2025). Get started with Bootstrap.
Online: <https://getbootstrap.esdocu.com/docs/5.3/getting-started/introduction/>
- Bootstrap (2025). Get started with Bootstrap. En línia:
<https://getbootstrap.com/docs/5.2/getting-started/introduction/>
- CodePrip (2025). Flexbox Froggy. Online: <https://flexboxfroggy.com/#ca>
- CodePrip (2025). Grid Garden. Online: <https://cssgridgarden.com/#ca>
- Digital Ocean (2025). A Complete Guide to Flexbox.
Online: <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>
- Digital Ocean (2025). A Complete Guide to Grid.
<https://css-tricks.com/snippets/css/complete-guide-grid/>
- Digital Ocean (2025). CSS Tricks. En línia: <https://css-tricks.com/>
- Google (2025). Introduction to Web Development Course: HTML and CSS.
Online: <https://skillshop.exceedlms.com/student/collection/799479-web-development-i>
- JAB i Torres, Esther (2019). HTML5 and CSS3. Online: <https://www.html6.es/>
- Manz (2025). CSS Language. Online: <https://lenguajecss.com/>
- OpenBootcamps (2025). HTML and CSS course. Online:

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<https://open-bootcamp.com/cursos/html-y-css>

- Programming Now (2025). Bootstrap 5 Now.
Online: <https://www.tutorialesprogramacionya.com/bootstrap5ya/>
- W3Schools (2025). Bootstrap 5 Get Started.
Online: https://www.w3schools.com/bootstrap5/bootstrap_get_started.php
- W3Schools (2025). Grid Layout Module. En línia: https://www.w3schools.com/css/css_grid.asp
- W3Schools (2025). HTML Tutorial. Online: <https://www.w3schools.com/html/default.asp>

Audiovisuals

Melih Bilgil. (January 5, 2009). History of the Internet. Retrieved from
<https://www.youtube.com/watch?v=9hIQjrMHTv4>

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12. Training activity sheets

ACTIVITY 1	Duration: 2 weeks	Weighting: 0 - 10%
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Activity description

Analysis and study activities of real cases.

Analysis of the structure and technologies of computer networks (Internet structure, types of servers, protocols, etc.)

Analysis of the semantic and hierarchical structure of a home, newsletter + navigation map.

Ex. This activity can be carried out taking advantage of the sessions dedicated to link creation, navigation and user experience...

Ex. Identify and analyze how the root directory and its subdirectories are organized.

Contents

C1. Network techniques and architecture. (Introduction)

-Information architecture

-Directory structure and content types

Skills

CT-12	Adapt, in conditions of competitiveness, to cultural, social and artistic changes and to the advances that occur in the professional field and select the appropriate continuing education courses.
CG-10	Be able to adapt to changes and industrial technological evolution.
GRA-11	Master the technological resources of visual communication.
GRA-12	Master digital technology for processing images, texts and sounds.

Applied teaching methodologies

MD1	Conference and/or master class	The teacher presents and transmits knowledge to the entire group of students, the student has a passive role, that of a receiver.
MD2	Debate and/or discussion	The teacher encourages and moderates debates and/or discussions that promote reflection, critical thinking and active participation of students in the classroom.
MD3	Readings and/or comments	Use of selected texts or materials as a starting point to promote reflection, critical understanding and debate among students.
MD7	Case study	Analysis of situations or problems within the specialty with the aim of

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reflecting, analyzing and discussing different intervention or solution proposals through examples or references.

Learning outcomes

RA1	Identify and explain at an introductory level the different elements that make up the ecosystem of computer networks.
RA3	Analyze, inspect, organize, and reproduce the basic directory structure and configuration of a website.
RA4	Organize and reproduce the basic configuration structure of a website.
RA7	Plan, develop and evaluate web publications.
RA10	Identify, apply and evaluate the main techniques and resources for publishing and optimizing content (SEO) in search engines.
RA12	Develop collaborative attitudes that promote and optimize teamwork

Continuous evaluation

Specific evaluation criteria within continuous evaluation

- Correctness and quality of the analysis (80%) (RA1, RA3, RA4, RA7, RA10, RA12)
 - Relevance and quality of the reference/topic analyzed
 - Anatomical analysis (identification and description of elements)
 - Semantic analysis (function that develops the analyzed element)
 - Structural analysis (dimensions, sides)
 - SEO Analysis (Positioning)
- Formal analysis quality (20%) (RA1, RA3, RA4, RA7, RA10, RA12)
 - Graphic presentation, spelling, syntactic and grammatical correction)

Evaluation instruments within continuous evaluation

- Rubric
- Checklist

Specific recovery criteria within continuous assessment

Submit pending activity for week 17

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Recovery outside of continuous assessment

Specific recovery criteria outside of continuous assessment

- Correctness and quality of the analysis (80%) (RA1, RA3, RA4, RA7, RA10, RA12)
 - Relevance and quality of the reference/topic analyzed
 - Anatomical analysis (identification and description of elements)
 - Semantic analysis (function that develops the analyzed element)
 - Structural analysis (dimensions, sides)
 - SEO Analysis (Positioning)
- Formal analysis quality (20%) (RA1, RA3, RA4, RA7, RA10, RA12)
 - Graphic presentation, spelling, syntactic and grammatical correction)

Recovery instruments outside of continuous assessment

Delivery of pending activities.

Written and/or practical tests to be completed in the classroom within a certain time.

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ACTIVITY 2	Duration: 3 - 5 weeks	Weighting: 10 - 20%
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Activity description

Solving exercises in the classroom.
Supervised activities/practices.

Contents

C2. Resources for web application design.

- Code editors
- Browsers
- Testing and verification tools
- Content editing software
- Other resources / utilities (Server sources...)

C3. Language systems

C3.1. Markup languages. Graphic structuring and adjectivation with HTML5+CSS3

- 1a) Languages to structure and hierarchize content semantically: HTML5
- 1b) Languages to generate layouts, graphically attribute, and generate interactivity and/or animations: CSS3

Skills	
CG-04	Have a scientific view on the perception and behavior of form, matter, space, movement and color.
CG-10	Be able to adapt to changes and industrial technological evolution.
CG-15	Know processes and materials and coordinate your own intervention with other professionals, according to sequences and degrees of compatibility.
CT-03	Solve problems and make decisions that meet the objectives of the work being carried out.
CT-12	Adapt, in conditions of competitiveness, to cultural, social and artistic changes and to the advances that occur in the professional field and select the appropriate continuing education courses.
GRA-08	Know the channels that support visual communication and use them according to the project's communication objectives.
GRA-12	Master digital technology for processing images, texts and sounds.

Applied teaching methodologies

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MD1	Conference and/or master class	The teacher presents and transmits knowledge to the entire group of students, the student has a passive role, that of a receiver.
MD5	Workshops and/or internships	Carrying out practical activities applied in a controlled environment, oriented towards learning through experience and/or the transfer of theoretical knowledge to real or simulated situations.
MD7	Case study	Analysis of situations or problems within the specialty with the aim of reflecting, analyzing and discussing different intervention or solution proposals through examples or references.
MD9	Guided practice	The teacher presents and transmits theoretical knowledge applied to practical activities that take place in the classroom. The teacher guides, supervises and provides active feedback during the practice.
MD11	Collaborative work	Joint construction of knowledge through interaction and collaboration between students. The teacher has a guiding and dynamizing role.

Learning outcomes

RA2	Identify, choose, install, configure and use different types of resources (hardware, software) to develop web applications.
RA5	Use HTML and CSS languages to semantically structure and graphically characterize web applications. Identifying, applying, analyzing, experimenting and evaluating their syntax, elements, properties, attributes, values and possibilities.
RA6	Use the Javascript language.
RA7	Plan, develop and evaluate web publications.
RA8	Implement different types of multimedia content.
RA9	Generate responsive behaviors in different types of web applications.
RA11	Publish and maintain offline/online a basic website.
RA12	Develop collaborative attitudes that promote and optimize teamwork

Continuous evaluation

Specific evaluation criteria within continuous evaluation

- Syntax correction, writing and structuring of the code: 60-80% (RA2, RA5, RA6, RA7, RA8, RA9, RA11, RA12)
 - Semantics
 - SEO Resources
 - Syntax
 - Contents

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- Adaptability
- Formal quality (20-30%)
- Publication (10-20%) (RA2, RA11)
 - Directory configuration (10%)

Evaluation instruments within continuous evaluation

- Rubric
- Checklist

Specific recovery criteria within continuous assessment

Submit pending activity for week 17

Recovery outside of continuous assessment

Specific recovery criteria outside of continuous assessment

- Syntax correction, writing and structuring of the code: 60-80% (RA2, RA5, RA6, RA7, RA8, RA9, RA11, RA12)
 - Semantics
 - SEO Resources
 - Syntax
 - Contents
 - Adaptability
- Formal quality (20-30%)
- Publication (10-20%) (RA2, RA11)
 - Directory configuration (10%)

Recovery instruments outside of continuous assessment

Written and/or practical tests to be completed in the classroom within a certain time.

Guia Docent del Grau en Disseny

ACTIVITY 3	Duration: 4-5 weeks	Weighting:20 - 30 %
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Activity description

Responsive layout problems with HTML5 and CSS3.

Ex. Solve more complex responsive layouts than those carried out in supervised practices. (modular layout with variable number of columns, etc.)

Contents

C3. Language systems

C3.1. Markup languages. Graphic structuring and adjectivation with HTML5+CSS3

1a) Languages to structure and hierarchize content semantically: HTML5

1b) Languages to generate layouts, graphically attribute, and generate interactivity and/or animations: CSS3

C4. Web application development.

Advanced layout with rows and columns

Relative units vs absolute units

Skills	
CG-04	Have a scientific view on the perception and behavior of form, matter, space, movement and color.
CG-10	Be able to adapt to changes and industrial technological evolution.
CG-15	Know processes and materials and coordinate your own intervention with other professionals, according to sequences and degrees of compatibility.
CT-03	Solve problems and make decisions that meet the objectives of the work being carried out.
CT-12	Adapt, in conditions of competitiveness, to cultural, social and artistic changes and to the advances that occur in the professional field and select the appropriate continuing education courses.
GRA-08	Know the channels that support visual communication and use them according to the project's communication objectives.
GRA-11	Master the technological resources of visual communication.
GRA-12	Master digital technology for processing images, texts and sounds.

Applied teaching methodologies

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MD1	Conference and/or master class	The teacher presents and transmits knowledge to the entire group of students, the student has a passive role, that of a receiver.
MD5	Workshops and/or internships	Carrying out practical activities applied in a controlled environment, oriented towards learning through experience and/or the transfer of theoretical knowledge to real or simulated situations.
MD7	Case study	Analysis of situations or problems within the specialty with the aim of reflecting, analyzing and discussing different intervention or solution proposals through examples or references.
MD9	Guided practice	The teacher presents and transmits theoretical knowledge applied to practical activities that take place in the classroom. The teacher guides, supervises and provides active feedback during the practice.
MD11	Collaborative work	Joint construction of knowledge through interaction and collaboration between students. The teacher has a guiding and dynamizing role.

Learning outcomes

RA4	Organize and reproduce the basic configuration structure of a website.
RA5	Use HTML and CSS languages to semantically structure and graphically characterize web applications. Identifying, applying, analyzing, experimenting and evaluating their syntax, elements, properties, attributes, values and possibilities.
RA7	Plan, develop and evaluate web publications.
RA8	Implement different types of multimedia content.
RA9	Generate responsive behaviors in different types of web applications.
RA10	Identify, apply and evaluate the main techniques and resources for publishing and optimizing content (SEO) in search engines.
RA11	Publish and maintain offline/online a basic website.
RA12	Develop collaborative attitudes that promote and optimize teamwork.

Continuous evaluation

Specific evaluation criteria within continuous evaluation

- Syntax correction, writing and structuring of the code: 60-80% (RA4, RA5, RA7, RA8, RA9, RA10, RA11, RA12)
 - Semantics
 - SEO Resources
 - Syntax

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- Contents
- Adaptability
- Formal quality (20-30%) (RA5)
- Publication (10-20%) (RA3, RA4, RA2, RA11)
 - Directory configuration

Evaluation instruments within continuous evaluation

- Rubric
- Checklist

Specific recovery criteria within continuous assessment

- Syntax correction, writing and structuring of the code: 60-80% (RA4, RA5, RA7, RA8, RA9, RA10, RA11, RA12)
 - Semantics
 - SEO Resources
 - Syntax
 - Contents
 - Adaptability
- Formal quality (20-30%) (RA5)
- Publication (10-20%) (RA3, RA4, RA2, RA11)
 - Directory configuration

Recovery outside of continuous assessment

Specific recovery criteria outside of continuous assessment

- Syntax correction, writing and structuring of the code: 60-80% (RA4, RA5, RA7, RA8, RA9, RA10, RA11, RA12)
 - Semantics
 - SEO Resources
 - Syntax
 - Contents
 - Adaptability
- Formal quality (20-30%) (RA5)
- Publication (10-20%) (RA3, RA4, RA2, RA11)
 - Directory configuration

Recovery instruments outside of continuous assessment

Written and/or practical tests to be completed in the classroom within a certain time.

ACTIVITY 4	Duration: 1 week	Weighting: 0 -20%
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Activity description

Practical evaluation test

Ex. Reproduce simple web page layout, (e.g. graphically interesting "Home"), that involves some type of complex or peculiar layout (multiple columns, absolute centering, background video, etc...) with HTML5 + CSS semantic structure.

Contents

C3. Language systems

C3.1. Markup languages. Graphic structuring and adjectivation with HTML5+CSS3.

1a) Languages to structure and hierarchize content semantically: HTML5.

1b) Languages to generate layouts, graphically describe, and generate interactivity and/or animations: CSS3.

Skills	
CG-04	Have a scientific view on the perception and behavior of form, matter, space, movement and color.
CG-10	Be able to adapt to changes and industrial technological evolution.
CG-15	Know processes and materials and coordinate your own intervention with other professionals, according to sequences and degrees of compatibility.
CT-03	Solve problems and make decisions that meet the objectives of the work being carried out.
CT-12	Adapt, in conditions of competitiveness, to cultural, social and artistic changes and to the advances that occur in the professional field and select the appropriate continuing education courses.
GRA-08	Know the channels that support visual communication and use them according to the project's communication objectives.
GRA-11	Master the technological resources of visual communication.
GRA-12	Master digital technology for processing images, texts and sounds.

Applied teaching methodologies

MD1	Conference and/or master class	The teacher presents and transmits knowledge to the entire group of students, the student has a passive role, that of a receiver.
MD5	Workshops and/or internships	Carrying out practical activities applied in a controlled environment, oriented towards learning through experience and/or the transfer of theoretical knowledge to real or simulated situations.
MD7	Case study	Analysis of situations or problems within the specialty with the aim of reflecting, analyzing and discussing different intervention or solution proposals through examples or references.

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MD9	Guided practice	The teacher presents and transmits theoretical knowledge applied to practical activities that take place in the classroom. The teacher guides, supervises and gives active feedback during the practice.
MD11	Collaborative work	Joint construction of knowledge through interaction and collaboration between students. The teacher has a guiding and dynamizing role.

Learning outcomes

RA4	Organize and reproduce the basic configuration structure of a website.
RA5	Use HTML and CSS languages to semantically structure and graphically characterize web applications. Identifying, applying, analyzing, experimenting and evaluating their syntax, elements, properties, attributes, values and possibilities.
RA7	Plan, develop and evaluate web publications.
RA8	Implement different types of multimedia content.
RA9	Generate responsive behaviors in different types of web applications.
RA10	Identify, apply and evaluate the main techniques and resources for publishing and optimizing content (SEO) in search engines.
RA11	Publish and maintain offline/online a basic website.
RA12	Develop collaborative attitudes that promote and optimize teamwork

Continuous evaluation

Specific evaluation criteria within continuous evaluation

- Syntax correction, writing and structuring of the code: (60%) (RA4, RA5, RA7, RA8, RA9, RA10)
 - Semantics
 - SEO Resources
 - Syntax
 - Contents
 - Adaptability
- Publication (40%) (RA10, RA11, RA12)
 - Directory configuration (10%)
 - Formal quality (aesthetics, composition and spelling) (30%)

Evaluation instruments within continuous evaluation

- Rubric
- Checklist

Specific recovery criteria within continuous assessment

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- Syntax correction, writing and structuring of the code: (60%) (RA4, RA5, RA7, RA8, RA9, RA10)
 - Semantics
 - SEO Resources
 - Syntax
 - Contents
 - Adaptability
- Publication (40%) (RA10, RA11, RA12)
 - Directory configuration (10%)
 - Formal quality (aesthetics, composition and spelling) (30%)

Recovery outside of continuous assessment

Specific recovery criteria outside of continuous assessment

- Syntax correction, writing and structuring of the code: (60%) (RA4, RA5, RA7, RA8, RA9, RA10)
 - Semantics
 - SEO Resources
 - Syntax
 - Contents
 - Adaptability
- Publication (40%) (RA10, RA11, RA12)
 - Directory configuration (10%)
 - Formal quality (aesthetics, composition and spelling) (30%)

Recovery instruments outside of continuous assessment

Written and/or practical tests to be completed in the classroom within a certain time.

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ACTIVITY 5	Duration:5 - 6 weeks	Weighting:30 - 50 %
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Activity description

Design of a website*, newsletter, site, portfolio, etc. with responsive behaviors (Structure, layout, aesthetics and content).

**Activity understood as final, main.*

The student applies and integrates all the knowledge, techniques and resources acquired in the subject to generate a responsive website.

** Activity that can be developed throughout the semester simultaneously with other types of activities or towards the end of it (e.g. last 6 weeks), progressing as the different contents are worked on. It ends with the publication of the website that is finally generated..*

Contents

C4. Web application development.

- a) Equips professionals
- b) Responsive publications:
 - Simple web pages (Newsletters, Homes...).
 - Websites.
- c) Information architecture: structure, navigation, interaction, content, usability, accessibility.
- d) Layout and graphic adjectivation:
 - HTML5 and CSS applied to the layout and aesthetics of different web products. (Ex: DIVS, box model, dimensions, borders, position, typographic aesthetics...)
- e) Contents: texts, images, multimedia (videos, audio, animations, others...)
- f) Adaptive, fluid, flexible design* (Responsive design). Design for different types of devices: computers, touch devices (tablets, smartphones...). Principles. Main techniques and resources.

C5. Publishing and optimizing content in search engines (SEO, Search engine optimization)

Skills	
CG-04	Have a scientific view on the perception and behavior of form, matter, space, movement and color.
CG-10	Be able to adapt to changes and industrial technological evolution.
CG-15	Know processes and materials and coordinate your own intervention with other professionals, according to sequences and degrees of compatibility.

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CT-03	Solve problems and make decisions that meet the objectives of the work being carried out.
CT-12	Adapt, in conditions of competitiveness, to cultural, social and artistic changes and to the advances that occur in the professional field and select the appropriate continuing education courses.
GRA-08	Know the channels that support visual communication and use them according to the project's communication objectives.
GRA-11	Master the technological resources of visual communication.
GRA-12	Master digital technology for processing images, texts and sounds.

Applied teaching methodologies

MD5	Workshops and/or internships	Carrying out practical activities applied in a controlled environment, oriented towards learning through experience and/or the transfer of theoretical knowledge to real or simulated situations.
MD6	Presentations and/or defenses	Publicly presenting the results of a work, project or research in front of an audience.
MD7	Case study	Analysis of situations or problems within the specialty with the aim of reflecting, analyzing and discussing different intervention or solution proposals through examples or references.
MD8	Project work	Project or problem based on the real or professional world that needs to be solved independently or in a group.
MD9	Guided practice	The teacher presents and transmits theoretical knowledge applied to practical activities that take place in the classroom. The teacher guides, supervises and gives active feedback during the practice.

Learning outcomes

RA2	Identify, choose, install, configure and use different types of resources (hardware, software) to develop web applications.
RA3	Analyze, inspect, organize, and reproduce the basic directory structure and configuration of a website.
RA4	Organize and reproduce the basic configuration structure of a website.
RA5	Use HTML and CSS languages to semantically structure and graphically characterize web applications. Identifying, applying, analyzing, experimenting and evaluating their syntax, elements, properties, attributes, values and possibilities.
RA6	Use the Javascript language.
RA7	Plan, develop and evaluate web publications.
RA8	Implement different types of multimedia content.
RA9	Generate responsive behaviors in different types of web applications.
RA10	Identify, apply and evaluate the main techniques and resources for publishing and optimizing content (SEO) in search engines.

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RA11	Publish and maintain offline/online a basic website.
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Continuous evaluation

Specific evaluation criteria within continuous evaluation

Proposal for weighted criteria

Metodologia (20%) (RA2, RA3, RA4, RA7)

- Information research and analysis (10%)
- Sketches, initial proposals. Information architecture (10%)
 - Web structure, Navigation map.*
 - Wireframes, Layouts.*

Production (50%) (RA5, RA6, RA8, RA9, RA10)

- Semantics
- Sintaxi. Codi (HTML, CSS)
- Usability and content (Navigation, usability, aesthetic and compositional quality of the interface)
- Adaptability. Responsive behaviors.

Publication (20%) (RA2, RA10, RA11)

- SEO techniques and resources (10%)
 - Metadata, page titles, favicon, accessibility...etc...*
- Publication (10%) (RA3, RA4)
 - Correct directory structuring.*
 - Accommodation.*

Self-learning (10%) (RA6)

Student contributions (Resources not worked on in the subject).

- Ex. Lightboxes, special scrolling, drop-down buttons...*
- Ex. Interactive behaviors with Javascript*

(!) This item can provide that 10, to the student who has been curious, restless, experimental, creative, searching for and correctly implementing resources not worked on in the subject.

Evaluation instruments within continuous evaluation

- Rubric
- Checklist

Specific recovery criteria within continuous assessment

Same criteria as those for Continuous Assessment A5

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Recovery outside of continuous assessment

Specific recovery criteria outside of continuous assessment

Same criteria as those for Continuous Assessment A5

Recovery instruments outside of continuous assessment

Written and/or practical tests to be completed in the classroom within a certain time.