

## 25139 - Digital Image Processing

### Syllabus Information

**Academic year:** 2023/24

**Subject:** 25139 - Digital Image Processing

**Faculty / School:** 301 - Facultad de Ciencias Sociales y Humanas

**Degree:** 278 - Degree in Fine Arts

**ECTS:** 6.0

**Year:**

**Semester:** Second Four-month period

**Subject type:** Optional

**Module:**

### 1. General information

"Digital Image Processing" is an elective taught in the 3rd and 4th years of Fine Arts. This subject is understood as the necessary digital laboratory that complements the "Photography and Digital Image Workshop" and a more advanced and professional vision of the "Computer Graphics" subject.

The main objective of this subject is to offer specific tools in the use of digital technology applied to two-dimensional image processing. In addition, students have the opportunity to acquire an advanced level in digital image management, which is very useful for the resolution of all those aspects related to this subject that are present in other subjects, which gives it a cross-cutting nature.

With this subject they can amplify the development of projects that require the use of image processing from an advanced and professional use.

For all these reasons, offering a subject that provides technical and artistic knowledge of the digital photographic medium is very useful to enrich and offer another possibility within the wide range of artistic visual expression.

Sustainable Development Goals (SDGs):

1. Gender Equality. 5
2. Alliances to Alliances to Achieve Objectives. 17

### 2. Learning results

Upon completion of this subject, the student will be able to:

1. Knowledge of the concepts and tools of creation in the digital image domain.
2. To be able to develop new methods of digital image management that provide great versatility to the projects carried out.
3. Competence to solve problems with initiative, autonomy and creativity based on new technologies applied to imaging.
4. Ability to communicate and transmit knowledge adequately through the image elaborated with the computer resources of this subject.
5. Advanced knowledge in the creation of digital images for the realization of professional projects in the field of visual arts.

This subject is equipped with the necessary tools for the assimilation and integration of the technical and artistic knowledge of the digital image medium.

Likewise, the methodology of the subject integrates the process of autonomous creation and practices in the classroom where criticism, reflection, discussion, initiative, autonomy and creativity prepares the student in terms of new technologies applied to the image at a level of artistic and technical practice in the professional field.

### 3. Syllabus

1. Image acquisition and digital image formation process
2. Fundamentals of digital image editing and processing of photographic images
  - a. Digital image representation methods and storage formats. Management, organization and creation of portfolios (pdf and flash) through Adobe Bridge. DNG development and image processing from Camera RAW.
3. Editing and digital image processing from Adobe Photoshop (Advanced level)
  - a. Advanced management of selection tools.
  - b. Resources and procedures. The interaction of layers in the digital image: adjustment layers.
  - c. Tools and mechanisms to extract specific features in the image: the operation of masks and intelligent objects.
4. Procedures and characteristics of HDR photographs.

5. Digital black and white processing: from digital colour images to black and white.
  - a. Luminescence methods
  - b. Tonal methods
  - c. Digital colouring procedures for photographs on B&N.
6. Creation of a digital image: digital *collage*
  - a. Procedures and tools: photomontage

#### 4. Academic activities

**THEORETICAL CLASS:** Classes taught by the teacher with the support of audiovisual material. Discussion of the proposed topics and resolution of doubts raised by the students.

Face-to-face. Note taking. Questions (20 hours)

Non-face-to-face: Study of the subject and resolution of the proposed exercises (20 hours)

**PRACTICAL CLASSES:** Completion of the practices proposed by the teacher in Digital Image Processing. Individual practices.

Face-to-face: (individual) Class participation, raising doubts, preparation of work plan and development of specific practical exercises (40 hours)

Non-face-to-face: development of individual or group work. Field and independent work, research of documentation and references, bibliography. Development of specific practices (70 hours)

#### 5. Assessment system

"Digital image processing" has a practical nature and given the technical particularities, it is necessary to follow up the learning process through the timely delivery of specific practices on the contents in order to assess the knowledge acquired.

The training method used is that of continuous evaluation where learning is enhanced. The evaluation tests are developed through specific practices that are proposed with each didactic unit.

These specific practices serve to assess the knowledge, skills, abilities and competencies of the students. In this way, a continuous formative evaluation can be carried out, which leads to a more exhaustive follow-up and helps the students to achieve the objectives set.

Practical classes will be used to work on theoretical and practical knowledge. Corrective activities such as: monitoring of practices, comments and constructive criticism are encouraged. In addition, there is the possibility of repeating the practices to achieve better results and the objectives set. Ultimately, the aim of this subject is for students to successfully achieve the training objectives with the highest possible motivation.

There are approximately 6 practices throughout the term and they are evaluated with a grade from 0 to 10. The delivery of a practice after the deadline is penalized by subtracting 20% from the final grade, in order to promote commitment and professionalism.

What is evaluated and how (out of a total of 100%/10):

- Training and diagnostic purpose or function: through direct observation (skills, abilities, competencies, evidences, attitudes): 10%/1 of the practice grade.
- Continuous or processual evaluation: through different evaluation rubrics on how are the quality indicators of attitudes, skills and knowledge: 40%/4 of the practice grade.
- Heteroevaluation: through practical exercises, specific tasks of the contents of the subject: 40% /4 of the practice grade.
- Global extension: oral exchanges such as the viewing and presentation of the work carried out, sharing, dialogues and debates: 10% /1 of the practice grade.

#### GLOBAL ASSESSMENT

##### FIRST CALL

The global test for students who have taken the continuous evaluation by handing in more than 80% of the practices and have not passed the subject or want to improve their grade will consist of:

- Students who want to improve their grades or pass the subject:
  - **Practical knowledge (100%):** the test will consist of a series of practices that encompass specific contents developed throughout the term.

The global test for students who do not undergo continuous assessment. This test will only be taken by those students who have not delivered 50% of the practices during the term and therefore, have not complied with the continuous evaluation process.

- **Practical knowledge (100%):** the test will consist of a series of practices that encompass specific contents developed throughout the term.

The grade for the test will be from **0 to 10**.

##### SECOND CALL

The global test for students in second call will be:

- **Practical knowledge (100%):** the test will consist of a series of practices that encompass specific contents developed throughout the term.

The grade for the test will be from **0 to 10**.

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#### GLOBAL TEST

*All students are entitled to a global test to pass the subject or to improve the grade obtained. Students attending the exam must be punctual on the day and at the time indicated in the exam notice, otherwise they will be considered as "No Show".*

#### SECOND CALL

*The evaluation in the second call, to which all students who have not passed the subject will be entitled, will be carried out by means of a global test to be taken during the period established for this purpose by the Governing Council in the academic calendar.*