

25139 - Digital Image Processing

Información del Plan Docente

Academic Year	2018/19
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	Annual
Subject Type	Optional
Module	---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The methodology followed in this course is oriented towards achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as

- Lectures. The teacher's explanation of contents supported by practical demonstrations and the implementation of the syllabus. The students' work will be supervised by the teacher in the classroom.
- Problem-Based Learning. The teacher presents professional situations and case studies, where the students should find effective solutions to their particular contexts and objectives.
- Tutorials. For a better monitoring of the learning process, students will be encouraged to use the teacher's office hours.

25139 - Digital Image Processing

4.2.Learning tasks

The course includes the following learning tasks:

1. Process of capturing images and forming digital images. (4 hours: theory / assignments, 1st week)
2. Fundamentals of the edition and digital treatment of the photographic image (12 hours: theory / assignments, 2nd to 4th week)
 - Methods of representation of the digital image and storage formats.
 - Management, organization and creation of portfolios (pdf and flash) through Adobe Bridge.
 - DNG development and image treatment from Camera RAW.

Assignment 1: editing and digital image processing: 4th week (2nd semester)

3. Editing and digital processing of the image from Adobe Photoshop (advanced level): (6 hours: theory / assignments, 5th to 6th week)
 - Advanced management of selection tools. Resources and procedures.
 - The interaction of the layers in the digital image: adjustment layers.
 - Advanced management: filters, channels, levels, curves, luminosity and color.
 - Tools and mechanisms for extracting specific features in the image: the operation of masks and intelligent objects.

Assignment 2: editing and digital image processing: 5th week (2nd semester)

4. Procedures and features of HDR photographs. (8 hours: theory / assignments 6th to 8th week). **Assignment 3: HDR: 8th week (2nd semester)**
5. Digital processing in black and white: from digital color images to black and white: (8 hours: theory / assignments, 9th to 10th week)
 - Luminosity methods.
 - Tonal methods.
 - Procedures for digital coloring of the photographs in B & N.

Assignment 4: Black and white digital: 10th week (2nd semester)

Assignment 5: Digital coloring of B & W photography 10th week (2nd semester)

6. Interaction of the infographic with the traditional artistic disciplines. (10 hours: theory / assignments, 11th to 13th week)
 - Procedures and tools of photography to drawing and digital painting:
 - Vectorization of images.
 - Line Art.
 - Digital cross-hatching.
 - Digital coloring and texturing.

Assignment 6: From photography to drawing and digital painting: 10th week (2nd semester)

4.3.Syllabus

The course will address the following topics:

1. Process of capturing images and forming digital images. (4 hours: theory / assignments, 1st week)
2. Fundamentals of the edition and digital treatment of the photographic image (12 hours: theory / assignments, 2nd to 4th week)
 - Methods of representation of the digital image and storage formats.
 - Management, organization and creation of portfolios (pdf and flash) through Adobe Bridge.
 - DNG development and image treatment from Camera RAW.
3. Editing and digital processing of the image from Adobe Photoshop (advanced level): (6 hours: theory / assignments,

25139 - Digital Image Processing

5th to 6th week)

- Advanced management of selection tools. Resources and procedures.
 - The interaction of the layers in the digital image: adjustment layers.
 - Advanced management: filters, channels, levels, curves, luminosity and color.
 - Tools and mechanisms for extracting specific features in the image: the operation of masks and intelligent objects.
4. Procedures and features of HDR photographs. (8 hours: theory / assignments 6th to 8th week).
 5. Digital processing in black and white: from digital color images to black and white: (8 hours: theory / assignments, 9th to 10th week)
 - Luminosity methods.
 - Tonal methods.
 - Procedures for digital coloring of the photographs in B & N.
 6. Interaction of the infographic with the traditional artistic disciplines. (10 hours: theory / assignments, 11th to 13th week)
 - Procedures and tools of photography to drawing and digital painting:
 - Vectorization of images.
 - Line Art.
 - Digital cross-hatching.
 - Digital coloring and texturing.

4.4.Course planning and calendar

Assignments and key dates:

- Course presentation: 1st week (2nd semester)
- Assignment 1: Editing and digital image processing: 2nd to 4th week (2nd semester)
- Assignment 2: HDR: 5th to 6th week (2nd semester)
- Assignment 3: Editing and digital image processing: 7th to 10th week (2nd semester)
- Assignment 4: Black and white digital: 11th to 13th week (2nd semester)
- Assignment 5: Digital coloring of B & W photography: 11th to 13th week (2nd semester)
- Assignment 6: From photography to drawing and digital painting: 14th to 15th week (2nd semester)

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the "Facultad de Ciencias Sociales y Humanas" website: fcs.unizar.es

4.5.Bibliography and recommended resources