

25139 - Digital Image Processing

Syllabus Information

Academic Year: 2019/20

Subject: 25139 - Digital Image Processing

Faculty / School: 301 -

Degree: 278 - Degree in Fine Arts

ECTS: 6.0

Year: 3

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.

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)

1. Methods of representation of the digital image and storage formats.
2. Management, organization and creation of portfolios (pdf and flash) through Adobe Bridge.
3. DNG development and image treatment from Camera RAW.

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

1. Editing and digital processing of the image from Adobe Photoshop (advanced level): (6 hours: theory / assignments, 5th to 6th week)
 1. Advanced management of selection tools. Resources and procedures.
 2. The interaction of the layers in the digital image: adjustment layers.
 3. Advanced management: filters, channels, levels, curves, luminosity and color.
 4. 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)

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

1. Interaction of the infographic with the traditional artistic disciplines. (10 hours: theory / assignments, 11th to 13th week)
 1. Procedures and tools of photography to drawing and digital painting:
 2. Vectorization of images.
 3. Line Art.
 4. Digital cross-hatching.
 5. 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:

- Topic 1. MATERICO RECORDED, CUTS PARENT, OTHER PROCESSES.
 - Materico recorded. Carborundum (different grains), collagraph. Additive and subtractive techniques.
 - Substrates: Plastics, cardboard, wood, different adhesives. Incorporation of grids, ropes and other elements.
 - Dies, embossing, die cuts and perforations with drills and other means.
 - Interplay between different processes. Mixture of graphics procedures.
 - Monochrome printing and various inks.
- Topic 2. THE SCREEN: History, origin and screen printers. Screen printing in the 20th century.
 - Permeography concepts or artistic silkscreen. Stencilled. The stain colours.
 - Racks and displays. Fabrics, properties, nylon, silk, other. Topcoats and insulators. manual process, sunstroke. photographic images (photographic cliché). Insoladora. Exposure times, revealed. direct and indirect manual clichés and direct and indirect photographic clichés. Blockers.

- Silkscreen ink.
- The colour screen printing.
- Stamping strip, semi-automatic machine. Cleaners.
- Editions.
- Topic 3. MIXED MEDIA. Interplay between procedures and creative freedom.
- Additive combination recorded in size and embossed with screen printing.
 - Mixed images using the above techniques and their adaptation to personal creative idea. mixed intaglio printing, relief and screen printing. Roles and pressures.
 - Photographic silkscreen: New digital and electronic technologies applied to artistic silkscreen.
- Topic 4. END OF THE COURSE: Interaction of techniques, screen printing and additive dominance.
 - Application of course contents to the personal graphic assignment.
 - Planning and scheduling
 - Assignment presentations.

4.4.Course planning and calendar

The submission dates will be communicated in the course presentation day. Each technique includes an assignment.

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.h.unizar.es

4.5.Bibliography and recommended resources