

## Course guide

### 804391 - TCI - Image Capture Techniques

Last modified: 26/07/2023

**Unit in charge:** Image Processing and Multimedia Technology Centre  
**Teaching unit:** 804 - CITM - Image Processing and Multimedia Technology Centre.

**Degree:** BACHELOR'S DEGREE IN DESIGN, ANIMATION AND DIGITAL ART (Syllabus 2023). (Compulsory subject).

**Academic year:** 2023    **ECTS Credits:** 6.0    **Languages:** Catalan

#### LECTURER

---

**Coordinating lecturer:** Martínez Navarro, Beatriz

**Others:** Bigas Tañà, Miquel

#### TEACHING METHODOLOGY

---

It is planned to hold theoretical class sessions and practical sessions.

Theoretical class sessions are generally divided into four activity bands:

1. Resolution of doubts regarding the exercises proposed in the previous session.
2. Review of solved exercises.
3. Explanation of new contents.
4. Explanation of the next exercise and complementary materials.

These activity bands are modulated according to the complexity of the exercises and the corresponding contents.

In addition, the contents of the first half of the subject will be taught using the difficulty-based learning methodology, as a pilot test of a teaching innovation project.

#### LEARNING OBJECTIVES OF THE SUBJECT

---

- Identify the characteristics of the various image capture instruments and relate them to the needs of a specific assignment, with the aim of optimizing resources and the result obtained.
- Correctly apply camera and lighting settings to adapt to different situations and requirements of a photographic or audiovisual production.
- Plan the most appropriate workflow in the different phases of the structure of a photographic or audiovisual production.

#### STUDY LOAD

---

Type	Hours	Percentage
Hours medium group	18,0	12.00
Self study	90,0	60.00
Guided activities	12,0	8.00
Hours large group	30,0	20.00

**Total learning time:** 150 h



## CONTENTS

---

### Topic 1 - Introduction to photographic techniques

**Description:**

- Concept of image structure
- Photographic image formation
- Technique and communication

**Full-or-part-time:** 5h

Theory classes: 2h

Self study : 3h

### Topic 2 - Photographic technics

**Description:**

- Formation of the photographic image: optical system and recording
- Camera adjustments
- Point of view and translation of the form
- Depth of field
- Motion capture

**Related activities:**

Exercises 1 to 3

**Full-or-part-time:** 35h

Theory classes: 7h

Practical classes: 7h

Self study : 21h

### Topic 3 - Image capture equipments

**Description:**

- Types of cameras
- The digital sensor
- Types of objectives
- RAW format and its processing

**Related activities:**

Exercises 1 to 4

**Full-or-part-time:** 15h

Theory classes: 6h

Self study : 9h



#### Topic 4 - Introduction to Image Quality

**Description:**

- Image Quality Concept
- Image quality attributes
- Assessment of the quality of an image
- Capture equipment and image quality
- Processing tools for optimization
- Color Management

**Related activities:**

Exercise 4

**Full-or-part-time:** 15h

Theory classes: 6h

Self study : 9h

#### Topic 5 - Pre-production and production for photomontage and CGI integration

**Description:**

- Photomontage preproduction
- Photomontage production
- Postproduction in photomontage
- Photography and CGI integration - Composition

**Related activities:**

Final Project

**Full-or-part-time:** 15h

Theory classes: 6h

Self study : 9h

#### Topic 6 - Capture of moving image

**Description:**

- The moving image: difference between film and video
- Camera adjustments for film and video
- Camera movements
- Image quality in motion
- Formats and compression systems

**Full-or-part-time:** 25h

Theory classes: 10h

Self study : 15h



### Topic 7 - Advanced photographic techniques

**Description:**

- HDR image: applications, capture and processing
- Panoramas and 360° images: applications, capture and processing
- Stereoscopy
- Photogrammetry: applications, capture and processing

**Related activities:**

Final Project

**Full-or-part-time:** 40h

Theory classes: 12h

Guided activities: 4h

Self study : 24h

## ACTIVITIES

### Exercises 1 to 4

**Description:**

They will consist of the creation of images that will pose challenges based on the content on photographic technique and capture equipment that will be worked on in the subject. There will be a practical part that will be worked on set, in groups, and a part of independent work and individual reflection. These challenges will be set with a difficulty-based learning approach, so some will be achievable and some will not.

**Specific objectives:**

Apply the concepts worked on in topics 1, 2 and 3

**Full-or-part-time:** 20h

Guided activities: 8h

Self study: 12h

### Projecte Final

**Description:**

A project will be carried out that will consist of the creation of images resulting from the integration of photographs and CGI images. In the process, it will be necessary to apply the advanced photographic techniques worked on in topic 7.

**Specific objectives:**

Work in an integrated way with the contents taught in the subject and know how to apply them correctly in the structure of the production.

**Full-or-part-time:** 25h 40m

Guided activities: 24h 40m

Self study: 1h

## GRADING SYSTEM

---

The final mark of the subject will be calculated from the following exams and exercises, applying their corresponding weightings:

- 4 practical exercises - 40% (P01-10%, P02-10%, P03-10%, P04-10%)
- 1 Partial Exam - 15%
- 1 Final Project - 35%
- Participation and learning attitude - 10%

Students who do not pass the subject through continuous assessment may sit the reassessment exam, provided they do not have a NP qualification. In this exam, the grades corresponding to the partial exam and the report of the final work (25% of the subject) will be reassessed.

## EXAMINATION RULES.

---

The practice exercises are explained and started during class time and are completed outside of the scheduled class time following the instructions given in the corresponding Practice Sheet document and the instructions given for that purpose 'have given in the part of the corresponding class.

The practical exercises will be delivered using the delivery space of the subject's classroom in the Virtual Campus, following the instructions described in the corresponding Practice Sheet document and following the indicated deadlines. Practices submitted after the deadline will not be accepted. The correct management of the documentation provided is an aspect related to the skills to be acquired and is, therefore, subject to evaluation.

The evaluation of the practices does not only entail the resolution of the proposed exercises, but also the defense of the results when the student is required to do so at the beginning of the classes.

Any incident that does not allow the practice to be resolved within the indicated period will be communicated to the corresponding teacher by means of a message via the Virtual Campus; after this communication, the pertinence or not of any cause that motivates the non-presentation of the exercise will be resolved and the alternatives will be established to complete the evaluation if the causes are justified. The reasons for non-presentation of exercises that are communicated to the teaching staff by the Head of Studies will also be considered justified.

## BIBLIOGRAPHY

---

### Basic:

- Pirenne, M.H. Óptica, perspectiva, visión en la pintura, arquitectura y fotografía. Buenos Aires: Víctor Leru, 1974.
- Freeman, Michael. The photographer's eye. Focal Press, 2013.
- Jacobson, R. E. Manual de fotografía : fotografía e imagen digital . 9a ed. Barcelona : Omega, 2002. ISBN 8428212813.
- Mercado, Gustavo. The filmmaker's eye.
- Fulford, Jason & Halpern, Gregory. The photographer's playbook. Aperture, 2014.
- Ray, Sidney F. Applied photographic optics : lenses and optical systems for photography, film, video and electronic imaging . 2nd ed. Oxford [etc.] : Focal Press, 1994. ISBN 0240513509.
- Alton, John. Painting with light. University of California Press, 1995.
- Davies, Adrian; Fennessy, Phil. Electronic imaging for photographers . 2nd ed. Oxford : Focal Press, 1996. ISBN 0240514416.
- Cox, Arthur. Óptica fotográfica : un enfoque moderno de la técnica de la definición . Barcelona : Omega, 1979. ISBN 8428205590.