

ECTS Information Package: Degree Programme

Bachelor's degree in

# PHOTOGRAPHY

*[www.gri.ipt.pt](http://www.gri.ipt.pt)*

# A - General Description

**Programme Title** - Fotografia

**Qualification awarded** - Bachelor's degree in Photography

**Level of qualification** - First-Cycle degree, ISCED Level 5, EQF Level 6

## Specific admission requirements

### General

In order to be eligible to this bachelor's degree, students must hold the high-school diploma or legally equivalent qualification. Application can also be made through the following special entry routes:

- Students coming from the Portuguese education system through re-admission, degree change and transfer schemes;
- Holders of a Foundation Course Diploma (CET);
- Adults aged more than 23 who have passed tailor-made examinations intended to assess their ability to pursue higher education studies;
- Holders of Intermediary or Graduate degree diplomas;
- Students coming from foreign higher education.

### Specific

In order to be eligible to the bachelor's degree in Photography, students must hold the secondary school diploma or legally equivalent qualification with a minimum score of 95 points out of 200 in one of the following national examinations:

03 Drawing  
07 Physics and Chemistry  
10 Descriptive Geometry  
12 History of Arts and Culture  
11 History  
16 Mathematics

Without prejudice to the general access requirements and in accordance with IPT's internal regulations, the following applicants may be admitted to the bachelor's in Photography subject to admission quotas: applicants coming from Castelo Branco, Coimbra, Leiria, Lisboa, Portalegre and Santarém (30%).

**Specific arrangements for recognition of prior learning (formal, non-formal and informal)**General

Procedures on the recognition of credits gained in previous learning are established in the regulations for the Recognition and Validation of Qualifications and Skills of ESTT-IPT available at <http://webmanager.ipt.pt/mgallery/default.asp?obj=4536>

Specific

Not applicable.

**Qualification requirements and regulations:**

180 ECTS credits distributed across 6 curricular semesters (3 years), each with 40 weeks of full-time study (20 weeks per semester). Total study hours per year: 1620 (1 ECTS credit = 27 study hours).

The course structure comprises 6 compulsory modules per semester. In the third year there is an Optional Module in each semester.

**Profile of the program:**

The Photography program offers a high-level cultural, scientific and technical training supported by intensive practical coursework. This program has been designed so as to develop a wide range of skills that will allow an easy integration in the labour market and proceed to postgraduate, master's and doctoral studies.

**Key learning outcomes:**

Acquire sound scientific background in the several fields of study;

Develop operational skills that will allow them to apply theoretical knowledge to solve problems and be able to propose solutions and justify them;

Acquire technical research skills aiming at finding improved solutions;

Gain the ability to enhance and update their knowledge;

Develop learning skills that will allow them to undertake autonomous study.

**Occupational profiles of graduates with examples:**

Graduates in Photography have access to higher-level training based on arts, science and technology matters. Their skills will allow them to carry out projects with a good degree of autonomy in the following areas: documentary photography, photojournalism, author photography, architectural photography, publishing photography, industrial photography, fashion photography, digital post-production, colour management and printing quality control among others.

**Access to further studies:**

Upon completion of this bachelor's program, the IPT provides the students with the opportunity to proceed to the master's program in Photography.

Graduates in Photography from IPT are eligible for admission to postgraduate, master and doctoral programmes in related areas offered by other higher education institutions.

### Course structure diagram with credits

Course Title	Year	Semester	Credits
Art History and Theory 1	1	S1	4
Chemistry 1	1	S1	4
Digital Photography 1	1	S1	6
Elements of Physics	1	S1	6
History of Photography 1	1	S1	4
Photography 1	1	S1	6
Art History and Theory 2	1	S2	4
Chemistry 2	1	S2	4
Digital Photography 2	1	S2	6
History of photography 2	1	S2	4
Optics	1	S2	6
Photography 2	1	S2	6
Applied Optics	2	S1	4
Digital Photography 3	2	S1	6
Image Theory 1	2	S1	4
Photography 3	2	S1	6
Sensitometry 1	2	S1	4
Silver Printing Processes	2	S1	6
Digital Capture Systems	2	S2	4
Digital Photography 4	2	S2	6
Gold, Platinum and Pigment Printing Processes	2	S2	6
Image Theory 2	2	S2	4
Photography 4	2	S2	6
Sensitometry 2	2	S2	4
Chromogenous Processes	3	S1	6
Critique on Contemporary Photography 1	3	S1	6
Option 1 (**)	3	S1	4
Photography 5	3	S1	6
Photography Project 1	3	S1	8

(\*\*) Free Option.

### Course structure diagram with credits (cont.)

Course Title	Year	Semester	Credits
Critique on Contemporary Photography 2	3	S2	6
Digital Printing and Colour Management	3	S2	6
Emulsions	3	S2	6
Option 2 (**)	3	S2	4
Photography Project 2	3	S2	8

(\*\*) Free Option.

## **Examination regulations, assessment and grading**

### General

General assessment rules are in line with the Portuguese law and described in the Academic Regulations of ESTT-IPT available at <http://webmanager.ipt.pt/mgallery/default.asp?obj=4539>.

The licenciado degree is awarded a final grade between 10 and 20 within a 0/20 scale as well as its equivalent in the European grading scale.

### Specific

Not applicable.

## **Graduation requirements:**

### **Mode of study:**

Full- or part-time.

## **Program director or equivalente**

Director: Rui Manuel Domingos Gonçalves

Erasmus coordinator: Miguel Duarte Antunes da Silva Jorge

ECTS coordinator: Valter Nuno Garcez da Silva Ventura

## B - Description of individual course units

<b>Course unit title</b>	Art History and Theory 1
<b>Course unit code</b>	964526
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	Valter Nuno Garcez Da Silva Ventura
<b>Learning outcomes of the course unit</b>	The students should acquire visual culture that will allow them to identify and discriminate between the different creative languages across history and understand the use of image across time as a vehicle for power, spirituality and how its codes accumulated and subsist to the present day.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	Antiquity – the codification of reality, Art in the construction of empires, cosmogony. The Middle Ages - the Kingdom of Heaven in the Kingdom of Men, the power of symbols. The Modern Age - the reinvention of History, the profane and the sacred, communicating by metaphors, art as a profession. Contemporary Age - modern art for a modern world, the machine world and the industrial image.
<b>Recommended or required Reading</b>	- Gombrich, E.(1995). <i>The Story of Art</i> . Londres: Phaidon Press - Huyghe, R.(1998). <i>O Poder da Imagem</i> . Lisboa: Edições 70 - Calinescu, M.(1999). <i>As Cinco Faces da Modernidade</i> . Lisboa: Vega
<b>Planned learning activities and teaching methods</b>	Lectures.
<b>Assessment Methods and criteria</b>	Continuous assessment. One mid-term test and/or final exam.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.



## B - Description of individual course units

<b>Course unit title</b>	Chemistry 1
<b>Course unit code</b>	964529
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	Manuel Alberto Nogueira Henriques Rosa
<b>Learning outcomes of the course unit</b>	Development of capacities for the comprehension of general chemistry and its application in the graphic processes, Comprehension of the chemical variables within the process.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	1-The structure of matter 2-Chemical bonding 3-Stoichiometry 4-Chemical equilibrium 5-Oxidation and reduction 6-Organic chemistry 7-Chemistry of the black-and-white photography 8-Chemistry of the colour photography 9-Paper chemistry 10-Inks and toners chemistry.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Stroebel, L. e Compton, J. e Current, I. e Zakia, R. (2000). <i>Basic Photographic Materials and Processes</i>. Boston: Focal Press</li> <li>- Hirsch, R.(1991). <i>Photographic Possibilities – The expressive use of ideas, materials and processes</i>. Boston: Focal Press</li> <li>- Atkins, P.(1989). <i>General Chemistry</i>. Nova Iorque: Scientific American</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures and laboratory classes in which the students will learn how to manage the chemical processes variables.
<b>Assessment Methods and criteria</b>	Continuous assessment has practical and theoretical components. A minimum mark of 10 is required for both components. The final mark is the weighted average of the two components: practical (40%) and theoretical (60%)
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Digital Photography 1
<b>Course unit code</b>	964527
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Miguel Duarte Antunes Da Silva Jorge
<b>Learning outcomes of the course unit</b>	The purpose of this course is to provide the students with basic knowledge of photography that will allow them to understand the basic notions of Digital Photography, image capture and edition.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	1st semester: Processes for the creation and manipulation of digital images using the software Adobe CS5. 2nd semester: digital camera operation techniques - photometry for digital photography - colour temperature - digital noise control
<b>Recommended or required Reading</b>	- Evening, M.(2010). <i>Adobe Photoshop CS5 for Photographers</i> . New York: Focal Press
<b>Planned learning activities and teaching methods</b>	Theoretical-practical classes supported by practical exercises. Laboratory practices fostering the photographic research and student autonomy.
<b>Assessment Methods and criteria</b>	Continuous assessment: practical exercises, class performance and attendance. Theoretical/practical tests.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Elements of Physics
<b>Course unit code</b>	964530
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Rosa Brígida Almeida Quadros Fernandes
<b>Learning outcomes of the course unit</b>	Provide skills that will allow the students to relate acquired knowledge with daily phenomena. Basic concepts of physical principles for kinematics and motion dynamics.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	1- Unit Systems 2- Kinematics in one dimension• 3- Vectors 4- Kinematics in two dimensions 5- Motion dynamics 6- Energy
<b>Recommended or required Reading</b>	- Silva, C(). <i>Sebenta de Elementos de Física</i> .Acedido em 3 de junho de 2012 em <a href="http://www.e-learning.ipt.pt/course/view.php?id=646">http://www.e-learning.ipt.pt/course/view.php?id=646</a>
<b>Planned learning activities and teaching methods</b>	Lectures. Theoretical/practical classes including laboratorial practice.
<b>Assessment Methods and criteria</b>	Written test during regular examination period worth 20 points.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	History of Photography 1
<b>Course unit code</b>	964528
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	José Joaquim de Jesus Soudo
<b>Learning outcomes of the course unit</b>	The students should be able to acquire cultural, political and historical references that will allow them to watch and interpret photos; watch, interpret and identify photographers; understand and reflect about the most important events in the history of photography.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	1. Is there such a thing as a prehistory of photography 2. The 19th century 3. The Portuguese photography within History 4. And now, which photography?
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Szarkowski, J.(2007). <i>The Photographer's Eye</i>. New York: The Museum of Modern Art</li> <li>- Rosemblum, N.(1998). <i>Une histoire mondiale de la photographie</i>. : Editions Abbeville</li> <li>- Gilardi, A.(2000). <i>Storia sociale della fotografia</i>. : Ed. Bruno Mondadori</li> <li>- Sena, A.(1998). <i>História da imagem fotográfica em Portugal, 1839-1997</i>. : Porto Editora</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures supported by case study analysis and multimedia presentations
<b>Assessment Methods and criteria</b>	Two written tests (40% of the final mark)and research works (60%). A minimum mark of 10/20 in both assessment components is required to pass.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Photography 1
<b>Course unit code</b>	964525
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Marta Sicurella
<b>Learning outcomes of the course unit</b>	The students will learn the fundamentals of the photographic process, its history and present applications. On completion of the module the students should be able to operate a 35mm camera and have a good command of the basic laboratory techniques.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	Module 1: LATENT DARKENING Module 2: THE STENOPEIC CAMERA Module 3: INTRODUCTION TO THE CAMERA Module 4: PHOTOGRAPHIC TECHNIQUES AND FOCAL DISTANCES Module 5: PHOTOSENSITIVE MATERIALS Module 6: DOCUMENTARY PROJECT, CONCEPTUAL PROJECT
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Renner, E.(2008). <i>Pinhole Photography</i>. .: Focal Press</li> <li>- Adams, A.(1995). <i>The Camera</i>. .: Ansel Adams</li> <li>- Hedgecoe, J.(1991). <i>Manual do Laboratório Fotográfico</i>. Lisboa: Dinalivro</li> <li>- Langford, M.(2009). <i>Tratado de Fotografia</i>. .: Omega</li> </ul>
<b>Planned learning activities and teaching methods</b>	As the matter to be studied is mainly technological, teaching is essentially practical. In each module an exercise is proposed to be solved on an individual basis.
<b>Assessment Methods and criteria</b>	Assessment is continuous. Continuous assessment includes preparation, discussion and presentation of practical projects.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Art History and Theory 2
<b>Course unit code</b>	964532
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	Valter Nuno Garcez Da Silva Ventura
<b>Learning outcomes of the course unit</b>	The students should acquire visual culture that will allow them to identify and discriminate between the different creative languages across history and understand the use of image across time as a vehicle for power and spirituality and how its codes accumulated and subsist to the present day.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contents</b>	Antiquity – the codification of reality, Art in the construction of empires, cosmogony. The Middle Ages - he Kingdom of Heaven in the Kingdom of Men, the power of symbols. The Modern Age - the reinvention of History, the profane and the sacred, communicating by metaphors, art as a profession. Contemporary Age - modern art for a modern world, the machine world and the industrial image.
<b>Recommended or required Reading</b>	- Gombrich, E.(1995). <i>The Strory of Art</i> . Londres: Phaidon Press - Huyghe, R.(1998). <i>O Poder da Imagem</i> . Lisboa: Edições 70 - Calinescu, M.(1999). <i>As Cinco Faces da Modernidade</i> . Lisboa: Vega
<b>Planned learning activities and teaching methods</b>	Lectures.
<b>Assessment Methods and criteria</b>	Continuous assessment. One mid-term test and/or final exam.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Chemistry 2
<b>Course unit code</b>	964535
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	Manuel Alberto Nogueira Henriques Rosa
<b>Learning outcomes of the course unit</b>	Development of capacities for the comprehension of general chemistry and its application in the graphic processes, Comprehension of the chemical variables within the process.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	1-Matter structure; 2-Chemical bonding; 3-Stoichiometry; 4-Chemical equilibrium; 5-Oxidation and reduction; 6-Organic chemistry; 7-Chemistry of the black and white photography; 8-Chemistry of colour photography; 9-Paper chemistry; 10-Inks and toners chemistry.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Stroebel, L. e Compton, J. e Current, I. e Zakia, R. (2000). <i>Basic Photographic Materials and Processes</i>. Boston: Focal Press</li> <li>- Hirsch, R.(1991). <i>Photographic Possibilities – The expressive use of ideas, materials and processes</i>. Boston: Focal Press</li> <li>- Atkins, P.(1989). <i>General Chemistry</i>. Nova Iorque: Scientific American</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures and laboratory classes in which the students will learn how to manage the chemical processes variables.
<b>Assessment Methods and criteria</b>	Continuous Assessment has practical and theoretical components. A minimum mark of 10 is required for both components. The final mark is the weighted average of the two components: practical (40%) and theoretical (60%)
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Digital Photography 2
<b>Course unit code</b>	964533
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Miguel Duarte Antunes Da Silva Jorge
<b>Learning outcomes of the course unit</b>	The purpose of this course is to provide the students with basic knowledge of photography that will allow them to understand the basic notions of Digital Photography, image capture and edition.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	1st semester: Processes for the creation and manipulation of digital images using the software Adobe CS5. 2nd semester: digital camera operation techniques - photometry for digital photography - colour temperature - digital noise control
<b>Recommended or required Reading</b>	- Evening, M.(2010). <i>Adobe Photoshop CS5 for Photographers</i> . New York: Focal Press
<b>Planned learning activities and teaching methods</b>	Theoretical-practical classes supported by practical exercises. Laboratory practices fostering the photographic research and student autonomy.
<b>Assessment Methods and criteria</b>	Continuous assessment: practical exercises, class performance and attendance. Theoretical/practical tests.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.



## B - Description of individual course units

<b>Course unit title</b>	History of photography 2
<b>Course unit code</b>	964534
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	José Joaquim de Jesus Soudo
<b>Learning outcomes of the course unit</b>	The students should be able to acquire cultural, political and historical references that will allow them to watch and interpret photos; watch, interpret and identify photographers; understand and reflect about the most important events in the history of photography.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	1. Is there such a thing as a prehistory of photography 2. The 19th century 3. The Portuguese photography within History 4. And now, which photography?
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Szarkowski, J.(2007). <i>The Photographer's Eye</i>. New York: The Museum of Modern Art</li> <li>- Rosembaum, N.(1998). <i>Une histoire mondiale de la photographie</i>. : Editions Abbeville</li> <li>- Gilardi, A.(2000). <i>Storia sociale della fotografia</i>. : Ed. Bruno Mondadori</li> <li>- Sena, A.(1998). <i>História da imagem fotográfica em Portugal, 1839-1997</i>. : Porto Editora</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures supported by case study analysis and multimedia presentations
<b>Assessment Methods and criteria</b>	Two written tests (40% of the final mark)and research works (60%). A minimum mark of 10/20 in both assessment components is required to pass.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Optics
<b>Course unit code</b>	964536
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Carla Alexandra de Castro Carvalho e Silva
<b>Learning outcomes of the course unit</b>	Acquisition of physical principles associated with Theory of Light. The students will develop skills that allow them to understand the electromagnetic spectrum and interpret an object's colour. They will be provided with Optics foundations in order to understand concepts such as prisms, mirrors, lenses.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	1– Light properties and propagation. Colour analysis. 2– Fundamentals and basic laws of Geometric Optics. 3– Light refraction. 4– Spherical lenses 5– Light reflection. 6– Wave Optics
<b>Recommended or required Reading</b>	- Silva, C(). <i>Sebenta de Óptica</i> . Acedido em 3 de junho de 2012 em <a href="http://www.e-learning.ipt.pt/course/view.php?id=869">http://www.e-learning.ipt.pt/course/view.php?id=869</a>
<b>Planned learning activities and teaching methods</b>	Lectures. Theoretical/practical classes including laboratorial practice. Practical assignments in the Physics laboratory.
<b>Assessment Methods and criteria</b>	Laboratorial assignments worth 3 points (out of a 0-20 grading scale) Written test during the regular examination period worth 17 points.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Photography 2
<b>Course unit code</b>	964531
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	First Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Marta Sicurella
<b>Learning outcomes of the course unit</b>	The students will learn the fundamentals of the photographic process, its history and present applications. On completion of the module the students should be able to operate a 35mm camera and have a good command of the basic laboratory techniques.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	Module 1: LATENT DARKENING Module 2: THE STENOPEIC CAMERA Module 3: INTRODUCTION TO THE CAMERA Module 4: PHOTOGRAPHIC TECHNIQUES AND FOCAL DISTANCES Module 5: PHOTOSENSITIVE MATERIALS Module 6: DOCUMENTARY PROJECT, CONCEPTUAL PROJECT
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Renner, E.(2008). <i>Pinhole Photography</i>. .: Focal Press</li> <li>- Adams, A.(1995). <i>The Camera</i>. .: Ansel Adams</li> <li>- Hedgecoe, J.(1991). <i>Manual do Laboratório Fotográfico</i>. Lisboa: Dinalivro</li> <li>- Langford, M.(2009). <i>Tratado de Fotografia</i>. .: Omega</li> </ul>
<b>Planned learning activities and teaching methods</b>	As the matter to be studied is mainly technological, teaching is essentially practical. In each module an exercise is proposed to be solved on an individual basis.
<b>Assessment Methods and criteria</b>	Assessment is continuous. Continuous assessment includes preparation, discussion and presentation of practical projects.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Applied Optics
<b>Course unit code</b>	964542
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	Rui Manuel Domingos Gonçalves
<b>Learning outcomes of the course unit</b>	The students should be able to deal with problems and solve them for obtaining quality optical systems used in photography.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Basic knowledge of geometrical optics.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	The role of lenses in photography. Requirements for Optical photography. The formation of images using simple optical systems. The formation of images using compound lens systems - its performance. Geometric and colour aberrations. The speed of lenses. Stray light in the images. Resolving power of lenses and imaging systems. Depth of field and depth of focus
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- F. Ray, S.(2002). <i>Applied Photographic Optics</i>. New York: Focal Press</li> <li>- F. Ray, S.(1994). <i>Photographic - Lenses &amp; Optics</i>. New York: Focal Press</li> <li>- F. Ray, S.(1994). <i>Technology &amp; Imaging Science</i>. New York: Focal Press</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures exploring the concepts related with the construction of quality images. Experimental work.
<b>Assessment Methods and criteria</b>	Preparation of a work (individual or group) with presentation in class. Written examination (oral in exceptional cases).
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Digital Photography 3
<b>Course unit code</b>	964539
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Álvaro Francisco Magalhães Teixeira
<b>Learning outcomes of the course unit</b>	Students should understand the fundamental concepts of the digital photography process. They should be able to produce images based on digital processes in an effective manner maximising the resources and time available. They should be able to develop creative projects based on technical and ...
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contents</b>	Module 01 - Workflow with RAW files - Photo reports. Module 02 - Management of digital files in Adobe Bridge - Studio portrait Module 03 - Advanced edition techniques with Adobe Photoshop - Fashion and beauty production Module 04 - Production optimisation processes - bench lighting.
<b>Recommended or required Reading</b>	- Evening, M.(2010). <i>Adobe Photoshop CS5 for Photographers</i> . New York: Focal Press - Hunter, F. e Fuqua, P. <i>Light, Science &amp; Magic, An introduction to photographic lighting</i> . .: Focal Press
<b>Planned learning activities and teaching methods</b>	Theoretical/Practical classes
<b>Assessment Methods and criteria</b>	The final mark is calculated as follows: Individual reports of exercises (30%) Results obtained in the practical exercises (50%) Attendance (20%)
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Image Theory 1
<b>Course unit code</b>	964538
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	Valter Nuno Garcez Da Silva Ventura
<b>Learning outcomes of the course unit</b>	The students should acquire reflection and analysis skills concerning images and their use. They should also be able to criticise their own work based on case study analysis.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	Accumulated codes and a reflection on the era of reproducible image The Symbol, the Sign, the Icon. The photographic image regarded from a modern point of view. Image as imitation, mediation or vestige of reality. Photography and Modernity. Photography as a panoptic instrument. Image in the post-historical threshold. Narrative image: edition. Realit and Fiction. Image, Time and Memory.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Barthes, R.(1980). <i>A Câmara Clara</i>. Lisboa: Edições 70</li> <li>- Hobsbawm, E.(1998). <i>Atrás dos Tempos. O Declínio e Queda das Vanguardas</i>. Porto: Campo das Letras</li> <li>- Sontag, S.(2003). <i>Olhando o Sofrimento dos Outros</i>. Lisboa: Gótica</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures.
<b>Assessment Methods and criteria</b>	One mid-term test and/or final exam.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Photography 3
<b>Course unit code</b>	964537
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	José Joaquim de Jesus Soudo Duarte Pinto Coelho Amaral Netto
<b>Learning outcomes of the course unit</b>	Provide the students with technical and creative knowledge that will allow them to maximise available tools for multi-purpose photographic production using small- and medium-size cameras, any photosensitive support, any type of lighting and any light spectrum.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contentes</b>	Handling any type of camera and lens; perspective; magnification; depth of field; basic photometry; ISO scale; reproducibility; integrated and autonomous photometers; analogue and digital photosensitive supports; chemical and digital processing. Magnification from any support. Colour theory. Lighting sources and light modelling.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Ramos, M. e Soudo, J. (2008). <i>Manual de Técnicas Fotográficas</i>. Lisboa: Cenjor/IEFP (<a href="http://www.opac.iefp.pt">www.opac.iefp.pt</a>)</li> <li>- Soudo, J. e Ramos, M. (2008). <i>Manual de Óptica Fotográfica</i>. Lisboa: Cenjor/IEFP (<a href="http://www.opac.iefp.pt">www.opac.iefp.pt</a>)</li> <li>- Ramos, M. e Soudo, J. (2008). <i>Manual de Iluminação Fotográfica</i>. Lisboa: Cenjor/IEFP (<a href="http://www.opac.iefp.pt">www.opac.iefp.pt</a>)</li> <li>- Ramos, M. e Soudo, J. (2008). <i>Manual de Cor Fotográfica</i>. Lisboa: Cenjor/IEFP (<a href="http://www.opac.iefp.pt">www.opac.iefp.pt</a>)</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures supported by case study analysis and brainstorming.
<b>Assessment Methods and criteria</b>	Presentations, studio projects, laboratory work and fieldwork
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Sensitometry 1
<b>Course unit code</b>	964541
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	Rui Manuel Domingos Gonçalves
<b>Learning outcomes of the course unit</b>	The students should familiarise themselves with the concepts and techniques involved in the selection and handling of photosensitive materials, either chemically or physically, in order to get accurate results.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Basic knowledge of mathematics.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	Fundamental concepts - Physics and Mathematics. Natural and Artificial Light Sources. Human Eye. Sensitometry - densitometers, sensitometric results, sensitometric and Metering Applications. Photoelectric Effect and digital detector. Current colour CCD. Digital Performance. Application of the Scientific Image.
<b>Recommended or required Reading</b>	- Eggleston, J.(1990). <i>Sensitometry for Photographers</i> . New York: Focal Press - Spencer, D.(1971). <i>Applied Photography</i> . New York: Focal Press Limited
<b>Planned learning activities and teaching methods</b>	Lectures exploring the theoretical concepts related with light and the forms of capturing it. Image sensors tests - analogue and digital systems.
<b>Assessment Methods and criteria</b>	Two written examinations (oral exam in exceptional cases).
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.



## B - Description of individual course units

<b>Course unit title</b>	Silver Printing Processes
<b>Course unit code</b>	964540
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Luis Miguel Segurado Pavão Martins Paula Cristina Dias Lourenço
<b>Learning outcomes of the course unit</b>	On completion of this module the students should be familiarised with non-conventional photographic processes, have developed learning and critical skills, be able to handle with photographic chemistry and to describe procedures and materials.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	Density. Printing paper. The printing process: salt paper. The printing process: albumen. The printing process: matt albumen. The humid colloid. The dupe negative. The role of direct darkening. Printing-out paper turnings. Developing paper. Developing paper turnings.
<b>Recommended or required Reading</b>	- Crawford, W.(1979). <i>The Keepers of Light</i> . New York: Morgan & Morgan - Glafkidés, P.(1958). <i>Photographic Chemistry</i> . (Vol. 2). London: Fountain Press - Reilly, J.(1980). <i>Albumen and salted paper book</i> . New York: Light Impressions - James, C.(2007). <i>The Book of Alternative Photographic Processes</i> . New York: Delmar Cengage Learning
<b>Planned learning activities and teaching methods</b>	Lectures and laboratory classes (practice and experimentation).
<b>Assessment Methods and criteria</b>	Continuous assessment: two tests + theoretical presentation + laboratory reports.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Digital Capture Systems
<b>Course unit code</b>	964548
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	Márcio Vilela Nunes
<b>Learning outcomes of the course unit</b>	The students should be able to identify and discriminate between the different image capture systems, i.e. analogue and digital cameras.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	Describe and compare digital DSLR cameras and medium-size analogue cameras.
<b>Recommended or required Reading</b>	- Evening, M.(2010). <i>Adobe Photoshop CS5 for Photographers</i> . New York: Focal Press - Blatner, D.(2004). <i>Real World Scanning and Ralftones</i> . : Peachpit Press
<b>Planned learning activities and teaching methods</b>	
<b>Assessment Methods and criteria</b>	Continuous assessment and reports. Individual project. Theoretical and practical exam.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Digital Photography 4
<b>Course unit code</b>	964545
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Álvaro Francisco Magalhães Teixeira
<b>Learning outcomes of the course unit</b>	Students should understand the fundamental concepts of the digital photography process. They should be able to produce images based on digital processes in an effective manner maximising the resources and time available and be able to develop creative projects based on technical and ...
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	Module 01 - Workflow with RAW files - Photo reports. Module 02 - Management of digital files in Adobe Bridge - Studio portrait Module 03 - Advanced edition techniques with Adobe Photoshop - Fashion and beauty production Module 04 - Production optimisation processes - bench lighting.
<b>Recommended or required Reading</b>	- Evening, M.(2010). <i>Adobe Photoshop CS5 for Photographers</i> . New York: Focal Press - Hunter, F. e Fuqua, P. <i>Light, Science &amp; Magic, An introduction to photographic lighting</i> . .: Focal Press
<b>Planned learning activities and teaching methods</b>	Theoretical/Practical classes
<b>Assessment Methods and criteria</b>	The final mark is calculated as follows: Individual reports of exercises (30%) Results obtained in the practical exercises (50%) Attendance (20%)
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Gold, Platinum and Pigment Printing Processes
<b>Course unit code</b>	964546
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Luis Miguel Segurado Pavão Martins Paula Cristina Dias Lourenço
<b>Learning outcomes of the course unit</b>	On completion of this module the students should be familiarised with non-conventional photographic processes, have developed learning and critical skills, be able to handle with photographic chemistry and to describe procedures and materials.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	Classification of photographic processes by types. Paper sizing. Digital negatives. Printing process: gum dychromate Printing process: coal Printing process: Vandyke Printing process: cyanotype Alternative printing supports. Printing process: platinum type Printing process: crysotype
<b>Recommended or required Reading</b>	- James, C.(2007). <i>The Book of Alternative Photographic Processes</i> . New York: Delmar Cengage Learning - Scopick, D.(1991). <i>The gum bichromate book: non silver methods for photographic printmaking</i> . London: Focal Press - Rexer, L.(2002). <i>Photography's Antiquarian Avant-Garde, the new wave in old processes</i> . New York: Harry N. Abrams, Inc., Publishers - Arentz, D.(2000). <i>Platinum and Palladium Printing</i> . London: Focal Press
<b>Planned learning activities and teaching methods</b>	Lectures and laboratory classes focused on practice and experimentation.
<b>Assessment Methods and criteria</b>	Continuous assessment: two tests + theoretical presentation + laboratory assignments.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Image Theory 2
<b>Course unit code</b>	964544
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	António Martiniano Ventura
<b>Learning outcomes of the course unit</b>	This course is a reflection on the wide range of representation mechanisms, expressive, significant and communicative possibilities of image in general and photography in particular.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	1. Introduction 2. How we see pictures 3. Communication 4. The illusion of reality 5. Basic elements of an image 6. Image as visual language 7. Images as forms of expression 8. Image and reality: the perception of reality 9. Image reading: fixed image
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Almeida, B.(1995). <i>Imagem da Fotografia</i>. .: Assírio &amp; Alvim</li> <li>- Aumont, J.(1990). <i>L'Image</i>. Paris: Editions Nathan</li> <li>- Barthes, R.(1980). <i>A Câmara Clara</i>. Lisboa: Edições 70</li> <li>- Barthes, R.(1978). <i>Mitologias</i>. Lisboa: Edições 70</li> </ul>
<b>Planned learning activities and teaching methods</b>	A number of exercises are proposed that will enable the students to understand the photographic mechanisms.
<b>Assessment Methods and criteria</b>	Theoretical and practical skills will be assessed through practical projects, presentations and oral discussion both individually or as part of teams.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Photography 4
<b>Course unit code</b>	964543
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	José Joaquim de Jesus Soudo Duarte Pinto Coelho Amaral Netto
<b>Learning outcomes of the course unit</b>	Provide the students with technical and creative knowledge that will allow them to maximise available tools for multi-purpose photographic production using small- and medium-size cameras, any photosensitive support, any type of lighting and any light spectrum.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contentes</b>	Handling any type of camera and lens; perspective; magnification; depth of field; basic photometry; ISO scale; reproducibility; integrated and autonomous photometers; analogue and digital photosensitive supports; chemical and digital processing. Magnification from any support. Colour theory. Lighting sources and light modelling.
<b>Recommended or required Reading</b>	- Ramos, M. e Soudo, J. (2008). <i>Manual de Técnicas Fotográficas</i> . Lisboa: Cenjor/IEFP ( <a href="http://www.opac.iefp.pt">www.opac.iefp.pt</a> ) - Soudo, J. e Ramos, M. (2008). <i>Manual de Óptica Fotográfica</i> . Lisboa: Cenjor/IEFP ( <a href="http://www.opac.iefp.pt">www.opac.iefp.pt</a> ) - Ramos, M. e Soudo, J. (2008). <i>Manual de Iluminação Fotográfica</i> . Lisboa: Cenjor/IEFP ( <a href="http://www.opac.iefp.pt">www.opac.iefp.pt</a> ) - Ramos, M. e Soudo, J. (2008). <i>Manual de Cor Fotográfica</i> . Lisboa: Cenjor/IEFP ( <a href="http://www.opac.iefp.pt">www.opac.iefp.pt</a> )
<b>Planned learning activities and teaching methods</b>	Lectures supported by case study analysis and brainstorming.
<b>Assessment Methods and criteria</b>	Presentations, studio projects, laboratory work and fieldwork.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Sensitometry 2
<b>Course unit code</b>	964547
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Second Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	4
<b>Name of Lecturer(s)</b>	Rui Manuel Domingos Gonçalves
<b>Learning outcomes of the course unit</b>	The students should be familiar with the concepts and techniques involved in the selection and handling of photosensitive materials, either chemically or physically, in order to get the best and most accurate results.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Basics of mathematics.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	Fundamental concepts - Physics and Mathematics. Natural and Artificial Light Sources. Human Eye. Sensitometry - densitometers, sensitometric results, sensitometric and Metering Applications. Photoelectric Effect and digital detector. Current colour CCD. Digital Performance. Application of the Scientific Image.
<b>Recommended or required Reading</b>	- Eggleston, J.(1990). <i>Sensitometry for Photographers</i> . New York: Focal Press - Spencer, D.(1971). <i>Applied Photography</i> . New York: Focal Press Limited
<b>Planned learning activities and teaching methods</b>	Lectures focused on the exploration of the concepts of light and the different modes of capturing it.
<b>Assessment Methods and criteria</b>	Two written tests (oral in exceptional cases) in which knowledge and acquired skills are assessed.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Chromogenous Processes
<b>Course unit code</b>	964552
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Third Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Luis Miguel Segurado Pavão Martins Patrícia Marques Ferreira da Cunha Romão Sofia Raquel Guerra da Silva
<b>Learning outcomes of the course unit</b>	On completion of this module students should: - Understand the basics of colour photography. - Understand the most common colour print processes. - Have an overview of the historical evolution of colour processes - Have gained awareness of colour adjustment. - Be able to print in colours.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	Colour magnification. Chromogenous negatives and colour prints. Colour developing and sensitometry. The different print processes. Dominant spot colour. Colour analysis methods. History of the chromogenous process.
<b>Recommended or required Reading</b>	- Welford, S.(1971). <i>L.P.Clerc's Photography Teory and Practice, #6 Colour Processes</i> . (Vol. 6). London: Focal Press - Coe, B.(1978). <i>Color Photography, the first hundred years 1840-1940</i> . London: Ash & Grant - Wall, E.(1925). <i>The History of Three-Color Photography</i> . Boston: American Photographic Publishing Company - Friedman, J.(1968). <i>History of Color Photography</i> . London: Focal Press
<b>Planned learning activities and teaching methods</b>	Lectures exploring the theoretical contents and laboratory classes (practice and experimentation).
<b>Assessment Methods and criteria</b>	Continuous assessment: two tests, a theoretical presentation and laboratory reports. A minimum mark of 10/20 in all components is required to pass.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.



## B - Description of individual course units

<b>Course unit title</b>	Critique on Contemporary Photography 1
<b>Course unit code</b>	964551
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Third Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Duarte Pinto Coelho Amaral Netto
<b>Learning outcomes of the course unit</b>	By the conclusion of this module, the students will have an understanding of how photography evolved across time and its impact on contemporary thought, culture and art. They should be able to view photography as a photographic corpus.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable
<b>Recommended optional programme components</b>	Not applicable
<b>Course contents</b>	The evolution of the portrait in photography. New documentary practices. The inheritance of German photography and the New Objectivity. The contemporary presence of the German objectivity: the same assumptions in the construction of the photographed world? Photography and cinema. Video art. Fiction and reality, the photographic construction. Photography and Archiving.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Barthes, R.(2012). <i>A Câmara Clara</i>. .: Edições 70</li> <li>- Fried, M.(2008). <i>Why Photography Matters as Art as Never Before</i>. .: Yale University Press</li> <li>- Chevrier, J.(2006). <i>Click Doubleclick:The Documentary Factor</i>. .: Walther König</li> <li>- Liesbrock, H.(2000). <i>How You Look At It: Photographs of the 20th Century</i>. .: Distributed Art Publishers</li> </ul>
<b>Planned learning activities and teaching methods</b>	This module is delivered in the form of seminar. Students will have the opportunity to attend a series of conferences on contemporary photography related themes.
<b>Assessment Methods and criteria</b>	Assessment is based on practical assignments and its oral presentation done individually or as part of a team (70%) and a final written project (30%).
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable

## B - Description of individual course units

<b>Course unit title</b>	Photography 5
<b>Course unit code</b>	964549
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Third Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	José Joaquim de Jesus Soudo Valter Nuno Garcez Da Silva Ventura
<b>Learning outcomes of the course unit</b>	Provide the students with technical and creative knowledge that allows them to maximise available resources for multipurpose photographic production using any sort of camera, photosensitive support on any sort of lighting from any spectrum of light.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable
<b>Recommended optional programme componentes</b>	Not applicable
<b>Course contentes</b>	Medium- and large size cameras Practice with all kinds of optical media and photosensitive supports and respective chemical and computer processing. Analytical photometry. "Zone system". Colour in photography. Colour theory. Light source and spectra and photographic supports. Light control and modelling.
<b>Recommended or required Reading</b>	- Adams, A.(1995). <i>The Camera</i> . .: Little Brown & Comp.
<b>Planned learning activities and teaching methods</b>	Lectures supported by case study analysis and multimedia presentations. Practical classes: case study analysis, individual and group assignments, fieldwork, studio work, analogue and digital laboratory.
<b>Assessment Methods and criteria</b>	Continuous assessment: 3 written tests (40%) + laboratory reports (60%). A minimum mark of 10/20 in both components is required to pass.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable

## B - Description of individual course units

<b>Course unit title</b>	Photography Project 1
<b>Course unit code</b>	964550
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Third Year
<b>Semester/Trimester when the course unit is delivered</b>	First Semester
<b>Number of ECTS credits allocated</b>	8
<b>Name of Lecturer(s)</b>	José Joaquim de Jesus Soudo
<b>Learning outcomes of the course unit</b>	The students will develop individual projects which reveal their creative skills and apply taught concepts and principles. The Project should be based on a personal motivation and on a deep reflection on the its underlying theme and context.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	The students will have the opportunity to attend conferences by renowned authors/photographers and to have their work monitored in the several phases of the Project.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Mirzoeff, N.(1999). <i>An Introduction to Visual Culture</i>. .: Routledge</li> <li>- Couchot, E.(1998). <i>La technologie dans l'art: de la photographie à la réalité virtuelle</i>. .: J. Chambon</li> <li>- Virílio, P.(1988). <i>La Machine de la Vision</i>. .: Galilée</li> <li>- Rouillé, A.(2005). <i>La Photographie: Entre Document et Art Contemporain</i>. .: Gallimard</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures supported by case study analysis and multimedia presentations. Practical classes: case study analysis, individual and group assignments, fieldwork, studio work, analogue and digital laboratory.
<b>Assessment Methods and criteria</b>	The projects will be monitored (work in progress) on a regular basis. The final Project and associated report and presentation will be assessed by a panel of examiners.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Critique on Contemporary Photography 2
<b>Course unit code</b>	964555
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Third Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Duarte Pinto Coelho Amaral Netto
<b>Learning outcomes of the course unit</b>	The students should have an understanding of how photography evolved across time and its impact on contemporary thought, culture and art. They should gain critical and analysis skills in order to view photography as a photographic corpus.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contents</b>	Photography and cinema. Video art. Fiction and reality, the photographic construction. Analogies and appropriations in contemporary photography. Photography and Archiving.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Barthes, R.(2012). <i>A Câmara Clara.</i> .: Edições 70</li> <li>- Fried, M.(2008). <i>Why Photography Matters as Art as Never Before.</i> .: Yale University Press</li> <li>- Chevrier, J.(2006). <i>Click Doubleclick:The Documentary Factor.</i> .: Walther König</li> <li>- Liesbrock, H.(2000). <i>How You Look At It: Photographs of the 20th Century.</i> .: Distributed Art Publishers</li> </ul>
<b>Planned learning activities and teaching methods</b>	This module is delivered in the form of seminar. Students will have the opportunity to attend a series of conferences on contemporary photography related themes.
<b>Assessment Methods and criteria</b>	Assessment is based on practical assignments and its oral presentation done individually or as part of a team (70%) and a final written project (30%).
<b>Language of Instruction</b>	Portuguese   <b>Mentoring in English</b>
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Digital Printing and Colour Management
<b>Course unit code</b>	964557
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Third Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Sofia Raquel Guerra da Silva
<b>Learning outcomes of the course unit</b>	On completion of this module the students should be familiarised with the digital print process, be able to produce photographic proofs with accuracy and efficiency. They should be able to create a colour management system in order to control colour information from capture to printing.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable
<b>Recommended optional programme componentes</b>	Not applicable
<b>Course contentes</b>	Fundamentals of printing. Printers management and printing layout. Quality control. Introduction to project. Description and calibration of screens. Creation of colour profiles for scanners. Creation of colour profiles for digital cameras. Alignment of jet printers and ink jet printers.
<b>Recommended or required Reading</b>	- Evening, M.(2010). <i>Adobe Photoshop CS5 for Photographers</i> . New York: Focal Press
<b>Planned learning activities and teaching methods</b>	Theoretical/practical classes.
<b>Assessment Methods and criteria</b>	Class performance, attendance and critical skills. Modules 1, 2 and 3 are accompanied by practical exercises. Final mark is the average of all group assignments (30%), the written test (30%) and the final project (40%).
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable

## B - Description of individual course units

<b>Course unit title</b>	Emulsions
<b>Course unit code</b>	964556
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Third Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	6
<b>Name of Lecturer(s)</b>	Luis Miguel Segurado Pavão Martins Paula Cristina Dias Lourenço
<b>Learning outcomes of the course unit</b>	The students should understand the black-and-white photographic process, gain critical sense in order to improve their performance and be able to describe processes and materials in a rigorous manner.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme components</b>	Not applicable.
<b>Course contentes</b>	Emulsions: basic concepts. Constituents, phases and manufacturing of emulsions. The behaviour of emulsions and photographic processes. Latent image theory and special effects. Colour sensitivity of photographic emulsions. Preparation of supports.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Reed, M. e Jones, S. (2001). <i>Silver Gelatin, a User's Guide to Liquid Photographic Emulsion</i>. London: Argentum, Aurum Press Limited</li> <li>- Stroebel, L. e Compton, J. e Current, I. e Zakia, R. (2000). <i>Photographic Materials and Processes</i>. London: Focal Press</li> <li>- Wall, E.(1929). <i>Photographic Emultions, their preparation and coating on glass, celluloid and paper, experimentally and on large scale</i>. Boston: American Photographic Publishing Co.</li> <li>- White, L.(1995). <i>Infrared Photography Handbook</i>. New York: Amherst Media Inc.</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures exploring the theoretical contents and laboratory classes (practice and experimentation).
<b>Assessment Methods and criteria</b>	Continuous assessment: two tests, a theoretical presentation and laboratory reports. A minimum mark of 10/20 in all components is required to pass.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Photography Project 2
<b>Course unit code</b>	964554
<b>Type of course unit</b>	Compulsory
<b>Level of Course unit</b>	First Cycle
<b>Year of Study</b>	Third Year
<b>Semester/Trimester when the course unit is delivered</b>	Second Semester
<b>Number of ECTS credits allocated</b>	8
<b>Name of Lecturer(s)</b>	José Joaquim de Jesus Soudo
<b>Learning outcomes of the course unit</b>	This module is a follow-up to Photography Project 1 and consists in the monitoring of the projects carried out by the students.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable
<b>Recommended optional programme componentes</b>	Not applicable
<b>Course contentes</b>	The students will have the opportunity to attend conferences by renowned authors/photographers and to have their work monitored in the several phases of the Project.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Mirzoeff, N.(1999). <i>An Introduction to Visual Culture</i>. .: .</li> <li>- Couchot, E.(1998). <i>La technologie dans l'art: de la photographie à la réalité virtuelle</i>. .: J. Chambon</li> <li>- Virílio, P.(1988). <i>La Machine de la Vision</i>. .: Galilée</li> <li>- Rouillé, A.(2005). <i>La Photographie: Entre Document et Art Contemporain</i>. .: Gallimard</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures supported by case study analysis and multimedia presentations. Practical classes: case study analysis, individual and group assignments, fieldwork, studio work, analogue and digital laboratory.
<b>Assessment Methods and criteria</b>	The projects will be monitored (work in progress) on a regular basis. The final Project and associated report and presentation will be assessed by a panel of examiners.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable

