

ECTS Information Package: Degree Programme

Bachelor's degree in

# **DESIGN AND GRAPHIC ARTS TECHNOLOGY**

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

# A - General Description

**Programme Title** - Design e Tecnologia das Artes Gráficas

**Qualification awarded** - Bachelor's degree in Design and Graphic Arts Technology

**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

To be accepted for entry in the bachelor's degree in Design and Graphic Arts Technology one of the following national entry examinations is required:

Drawing (03); Descriptive Geometry (10); History of Culture and Arts (12)

Regional Preferences: (30% of total vacancies) Lisbon, Leiria, Portalegre, Santarém and Setúbal.

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

#### General

The policy and procedures for accreditation of prior learning are specified in the Regulations for the Recognition and Validation of Qualifications and skills of Escola Superior de 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.

### **Profile of the program:**

The Design and Graphic Arts Technology programme is designed according to a multifaceted consistent profile and covers a wide range of subjects from graphic technologies and communication design. It aims to deliver designers and top managers for institutions or enterprises involved in the design, production, management and research of graphic objects. Understanding technologies and graphic processes, management systems and methods and budgeting, information and communication technologies and multimedia is a crucial condition for the designer and graphic technician profile inherent to this academic cycle. This programme was designed so as to facilitate access, not only to the labour world, but also to second-cycle programmes of study, namely the Master's degree in Editorial Technologies from ESTT.

**Key learning outcomes:**

On completion of the bachelor's degree in Design and Graphic Arts Technology the students must have acquire the following skills:

**Academic skills:**

- Communication and representation abilities in such areas as traditional, digital, and multimedia graphics.
- Be familiar with project and work organisation methods.
- Have general knowledge of graphic culture, social sciences and exact sciences.
- Have a good command of graphic technologies.
- Have consolidated knowledge of production planning and organisation as well as quality control and management.
- Have analysis and synthesis skills in the context of communication design .
- Have professional development skills.

**Instrumental skills:**

- Understand and be able to use the various technological tools and desktop publishing software as well as software for image processing, vectorial drawing, webdesign and multimedia.
- Be able to use pre-press, press and finishing materials, processes and techniques.
- Have management and budgetary skills.

**Interpersonal skills:**

- Have interpersonal relationships and multidisciplinary work skills.
- Have leadership and cooperation abilities.
- Have creativity and initiative.
- Be able to join any graphic and design company - versatility and adaptability.

**Systemic skills:**

- Have a global overview of design and graphic technologies and the possibilities in terms of acting strategies.
- Develop technical and creative thinking and be capable of innovating and furthering knowledge.

**Occupational profiles of graduates with examples:**

- professionals for graphic companies:  
top management positions in sectors such as production, commercial, quality, planning, budgets and stocks.
- professionals for graphic design related areas: communication designer, webdesigner and multimedia designer.

**Access to further studies:**

The licenciado degree in Design and Graphic Arts Technologies allows access to postgraduate programmes according to the admission regulations established for those programmes. At the School of Technology Tomar (ESTT) this programme gives access to the Master's in Editorial Design.

### Course structure diagram with credits

Course Title	Year	Semester	Credits
Drawing	1	S1	3
Electronic Edition	1	S1	5.5
Graphic Technology	1	S1	7
History of Communication Arts	1	S1	4
Image Processing	1	S1	5
Psychology of Visual Perception	1	S1	5.5
Applied Chemistry	1	S2	5
Colour Physics	1	S2	3
Graphic Design I	1	S2	6
Image Analysis	1	S2	4.5
Photography	1	S2	4.5
Prepress	1	S2	7
Communication Ergonomics	2	S1	4
Design Theory	2	S1	4.5
Graphic Design II	2	S1	6
Marketing	2	S1	4
Printing - offset I	2	S1	7
Production Management	2	S1	4.5
Artwork	2	S2	3
Graphic Design III	2	S2	6
Multimedia Design I	2	S2	5
Packaging and Processing	2	S2	5
Printing - Offset II and Pad Printing	2	S2	6
Quality Control	2	S2	5
Digital Printing	3	S1	3
Graphic Design IV	3	S1	6
Multimedia Design II	3	S1	5
Postpress	3	S1	6
Quality Management	3	S1	4

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

Course Title	Year	Semester	Credits
Screenprinting	3	S1	6
Conservation of Graphic Documentation	3	S2	5
Final Project	3	S2	7.5
Graphic Arts - Budget cost estimate	3	S2	5
Management and Strategy	3	S2	4.5
Multimedia Design III	3	S2	5
Organizational Behaviour	3	S2	3

## **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=4538>.

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:**

Completion of the program requires successful completion of all its constituent modules.

## **Mode of study:**

Full- or part-time.

## **Program director or equivalente**

Director: Maria João Bom Mendes dos Santos

Erasmus coordinator: Rui Miguel Sardinha Proença

ECTS coordinator: Paula Alexandra Costa Leite Pinto Pereira

## B - Description of individual course units

<b>Course unit title</b>	Drawing
<b>Course unit code</b>	96441
<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>	3
<b>Name of Lecturer(s)</b>	João Manuel de Sousa Nunes Costa Rosa
<b>Learning outcomes of the course unit</b>	NA
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	NA
<b>Recommended optional programme componentes</b>	NA
<b>Course contentes</b>	NA
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- ,.(1997). <i>A Sintaxe da Linguagem Visual</i>. São Paulo: Martins Fontes</li> <li>- ,.(2006). <i>El Lenguaje Visual</i>. Barcelona: Paidós</li> <li>- ,.(1983). <i>Les images démaquillés. Approche scientifique de la communication par l'image</i>. Québec: Les Éditions Riguil Internationales</li> <li>- ,.(2008). <i>Fondations of art and design</i>. Londres: Laurence King Publishing.</li> <li>- ,.(1997). <i>A Sintaxe da Linguagem Visual</i>. São Paulo: Martins Fontes</li> <li>- ,.(2006). <i>El Lenguaje Visual</i>. Barcelona: Paidós</li> <li>- ,.(1983). <i>Les images démaquillés. Approche scientifique de la communication par l'image</i>. Québec: Les Éditions Riguil Internationales</li> <li>- ,.(2008). <i>Fondations of art and design</i>. Londres: Laurence King Publishing.</li> </ul>
<b>Planned learning activities and teaching methods</b>	NA
<b>Assessment Methods and criteria</b>	NA
<b>Language of Instruction</b>	Portuguese   <b>Mentoring in English</b>
<b>Work placement(s)</b>	NA



## B - Description of individual course units

<b>Course unit title</b>	Electronic Edition
<b>Course unit code</b>	964442
<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>	5.5
<b>Name of Lecturer(s)</b>	Rui Miguel Sardinha Proença Regina Aparecida Delfino
<b>Learning outcomes of the course unit</b>	Students should learn the key tools and concepts in the field of electronic text processing and vector drawing and be able to apply them to graphic design and technology.
<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>	- Introduction to Informatics. - Concepts of hardware and software. - Digital imaging; distinction between bitmap and vector images. - Edition and production of vector images (introduction to specific software) - Colour modes, models and systems
<b>Recommended or required Reading</b>	- ANDRADE, M.(2016). <i>Adobe Illustrator CC</i> . São Paulo: Senac - ALVES, W.(2015). <i>Adobe Illustrator CC 2015 - Ferramentas e Técnicas para Desenho</i> . São Paulo: Érica - Adobe Creative Team, .(2013). <i>Adobe Illustrator CS5: Classroom in a book</i> . San Jose: Adobe Press - LÉLIS, C.(2009). <i>Illustrator CS3 &amp; CS4 - Curso Completo</i> . Lisboa: FCA - Editora de Informática, Lda. - WOOD, B.(2018). <i>Adobe Illustrator CC Classroom in a Book (2018 release)</i> . San Francisco: CA: Pearson Education, Adobe Press - CHELIUS, C. e SCHWARTZ, R. (2018). <i>Learn Adobe Illustrator CC for Graphic Design and Illustration: Adobe Certified Associate Exam Preparation</i> . San Francisco: CA: Pearson Education, Adobe Press - TALVANES, A.(2018). <i>Adobe Illustrator CC a arte de vetorizar</i> . Rio de Janeiro: Alta Books Editora
<b>Planned learning activities and teaching methods</b>	Lectures supported by audiovisual resources. Execution of practical exercises throughout the semester. Document creation, edition and preparation.
<b>Assessment Methods and criteria</b>	Continuous assessment of practical assignments. Students who attend more than 2/3 (two thirds) of the classes and who have completed the practical assignments with a grade equal to or greater than 10 (ten) values are approved and exempted from the final evaluation under examination. Students with attendance less than 2/3 (two thirds) of the classes will be excluded from the final evaluation. The final evaluation under examination will be a practical exercise.
<b>Language of Instruction</b>	Portuguese   <b>Mentoring</b> in English
<b>Work placement(s)</b>	Not applicable

## B - Description of individual course units

<b>Course unit title</b>	Graphic Technology
<b>Course unit code</b>	964443
<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>	7
<b>Name of Lecturer(s)</b>	Regina Aparecida Delfino Vitor Dinis Carita de Jesus Paula Alexandra Costa Leite Pinto Pereira
<b>Learning outcomes of the course unit</b>	Learn the basics of the production phases in the printing industry and graphic reproduction systems. Master the engraving and etching techniques Master letterpress hand setting and typesetting techniques.
<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.Work flow of the printing industry: pre-press, printing, postpress. Orig.: image/text. 2.Conventional Printing (Letterpress and flexography, offset, gravure and Pad Print, Screen Print) and Digital Print. Print forms. 3.Technical processes of engraving: woodcut, lithograph, drypoint, intaglio, mezzotint, etching, aquatint and soft varnish. 4.Typesetting: typometry, typography and classification
<b>Recommended or required Reading</b>	- VILELA, A.(1978). <i>Cartilha das Artes Gráficas</i> . Braga: STGRAMINHO - HEITLINGER, P.(2006). <i>Tipografia, origens, formas e uso das letras</i> . Lisboa: Dinalivro - DIAS, R. e MEIRA, S. (2018). <i>Imprimere: arte e processo nos 250 anos da Imprensa Nacional</i> . . Lisboa: INCM, ESAD - BAGILHOLE, R.(1996). <i>Guia prático de Gravura</i> . Lisboa: Editorial Estampa - CATAFAL, J. e OLIVA, C. (2003). <i>A Gravura</i> . Lisboa: Editorial Estampa - DAWSON, J.(1982). <i>Guia completo de grabado e impresión - Técnicas y materiales</i> . Barcelona: H. Blume Ediciones - KIPPHAN, H.(2001). <i>Handbook of print media: technologies and production methods</i> . Heidelberg: Springer - JOHANSSON, K. e LUNDBERG, P. e RYBERG, R. (2004). <i>Manual de producción gráfica. Recetas.</i> . Barcelona: Editorial Gustave Gili - BAER, L.(2005). <i>Produção Gráfica</i> . São Paulo: Editora Senac - BARBOSA, C.(2009). <i>Manual de Produção Gráfica</i> . Parede: Principia
<b>Planned learning activities and teaching methods</b>	1.Presentation of theoretical contents using audiovisual resources. Discussion/analysis and comparison of printed items. 2.Field trip 3.Engraving: practical projects with etching. 4.Typesetting: hand setting exercises.

<b>Assessment Methods and criteria</b>	<p>Theoretical - The theoretical component will have continuous and final evaluation. Laboratory Practices (P / L) - P / L components have continuous evaluation, being considered attendance and delivery of requested exercises. Final note: is the arithmetic mean of the notes of the components. Continuous evaluation Continuous evaluation will only be carried out by frequency in the theoretical component. Students who obtain a grade equal to or greater than 10 (ten) values in each component are exempt from the final evaluation. Final evaluation The students will be admitted to the final evaluation with more than 2/3 (two thirds) of the practical / laboratory classes (P / L) and who have performed the practical exercises with a minimum grade of 10 (ten) values in each P / L component . Only final evaluation of the theoretical component will be carried out. Approval: final grade equal to or greater than 10 (ten) values, obtained by the arithmetic mean of the components.</p>
<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>	History of Communication Arts
<b>Course unit code</b>	964457
<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>	Maria Madalena Giraldes Barba Pessoa Jorge Oudinot Larcher Maria João Bom Mendes dos Santos
<b>Learning outcomes of the course unit</b>	1.become acquainted with the broad lines of design history in graphic arts including the key developments in art and communication and the various forms of graphic illustration; 2.get familiar with the major phases of the history of book; 3.Methodological aspects for preparation of a monogra
<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. Preliminaries: Communication, Language (and Languages), Symbols 2. Graphic verbal language: written and non-written 3. Art in graphic arts: general aspects; Art in time; The various forms of graphic arts (Illuminated manuscripts, Etchings, Photographs) 4. The history of book: in Antiquity; in the Middle Ages; from the fifteenth to the eighteenth century (from print revolution to Enlightenment);
<b>Recommended or required Reading</b>	- BACKHOUSE, J.(1979). <i>The Illuminated Manuscript</i> . (Vol. 1). Singapura: Hardback BOOK - BOLOGNA, G.(2000). <i>Illuminated Manuscripts, The Book Before Gutenberg</i> . (Vol. 1). Milão: London : Thames and Hudson - Svend, D.(1994). <i>Historia del Libro</i> . Madrid: Alianza Editorial - FEBVRE, L.(2000). <i>O Aparecimento do Livro</i> . Lisboa: Fundação Gulbenkian
<b>Planned learning activities and teaching methods</b>	1. More theoretical lessons, accompanied by projection of text and images that students must interpret; 2. more practical lessons, with methodological indications for the monographic work, which will be accompanied individually.
<b>Assessment Methods and criteria</b>	Students must carry out a written assessment and a monographic work (worth 50%), and may exempt each of the exam if they get an average of 10. The work should be integrated in proposals made in class and follow a calendar in your steps. At the time of examination, there will be no requirement for presentation of work, corresponding to final note to the note of the examination; safeguards, however, for students who did the job, making the average with the same if the result the benefit (worth, in this case, 50% each).
<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 Processing
<b>Course unit code</b>	964413
<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>	5
<b>Name of Lecturer(s)</b>	Mário Miguel Jesus Carvalho
<b>Learning outcomes of the course unit</b>	1) Develop specific skills in image processing software; 2) Optimize images according to the type of work; 3) Process, retouch and correct images; 4) Select and manipulate images; 5) Restore deteriorated and/or damaged images.
<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. Image Formats 2. Basic Corrections 3. Image edition, processing and retouching 4. Selection Tools 5. Image layers 6. Image manipulation 7. Advanced manipulation and retouching
<b>Recommended or required Reading</b>	- DANAHER, S.(2003). <i>Adobe Photoshop Every tool explained!</i> . London: Future Publishing Ltd - LYNCH, R.(2007). <i>The Adobe Photoshop Layers Book</i> . USA: Elsevier Ltd - BEARDSWORTH, J.(2005). <i>Photoshop Blending Modes Cookbook for Digital Photographers</i> , . East Sussex, UK: Ilex Press Limited
<b>Planned learning activities and teaching methods</b>	1. Theoretical and practical illustration of the course content. 2. Practical exercises supported by continuous monitoring
<b>Assessment Methods and criteria</b>	Continuous evaluation focuses on the ability in to use the software used in image processing through exercises developed in the context of classes. The final grade in frequency results from the arithmetic average of five exercises where the value is as follows; - 1st. and 2nd. exercises (10% each), 3rd. and 4th. exercise (20% each), 5th. exercise (40%). On exam, the evaluation is made by a realization of two-hour practical test based on some of the exercises produced during the semester.
<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>	Psychology of Visual Perception
<b>Course unit code</b>	96443
<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>	5.5
<b>Name of Lecturer(s)</b>	Isabel Maria da Cruz Ferreira
<b>Learning outcomes of the course unit</b>	-Describe the functioning of visual system. -Provide knowledge of perception organization. -Identify colour characteristics in psychological and psycho-sociological terms -Promote ability to represent the basic principles of good shape. -Promote ref
<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>	1.Conceptual delimitation 2.Perception and knowledge (visual memory and visual thinking 3.Neurophysiology of sight 4.The Gestalt theory and the fundamental laws of perceptive grouping 5.Subjective outlines and visual illusions 6.Shadows 7.Colour and colour combinations (contrast and analogy) main characteristics 8.Colour and legibility 9.Colour expression (psychological and psycho-sociological)
<b>Recommended or required Reading</b>	- ARNHEIM, R.(1994). <i>Arte e percepção visual</i> . São Paulo: Editora Arte, Arquitectura e Urbanismo. - GLEITMAN, H.(2011). <i>Psicologia</i> . Lisboa: Fundação Calouste Gulbenkian. - HELLER, E.(2017). <i>A Psicologia das Cores. Como as cores afetam a emoção e a razão</i> . São Paulo: Editorial Gustavo Gili. - ITTEN, J.(1991). <i>Art de la couleur</i> . Paris: Dessain e Tolra. - MONTCHAUD, R.(1994). <i>La couleur et ses accords</i> . Paris: Fleurus Idées.
<b>Planned learning activities and teaching methods</b>	Lectures using datashow. Theoretical-practical classes including experiments, problem solving, case study and literature review.
<b>Assessment Methods and criteria</b>	Two mid-term written tests for admission to or exemption from final examination. Examinations in approved examination periods.
<b>Language of Instruction</b>	Portuguese   <b>Mentoring in Portuguese</b>
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Applied Chemistry
<b>Course unit code</b>	96449
<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>	5
<b>Name of Lecturer(s)</b>	Marco António Mourão Cartaxo
<b>Learning outcomes of the course unit</b>	Students should understand general chemistry and its application in the graphic processes.
<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>	Theoretical component: 1-Basic structure of matter; 2-Chemical bonding; 3-Stoichiometry; 4-Chemical equilibrium; 5-Oxidation and reduction; 6-Organic chemistry. 7-Chemistry of paper, inks and toners. Pratical component: Five practical works - volume measurement; preparation and standardization of solutions; pH of the paper; study of the revelation variables.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Eldred, N.(2001). <i>Chemistry for the Graphic Arts</i>. Pittsburgh: GATF Press</li> <li>- Atkins, P.(1989). <i>General Chemistry</i>. Nova Iorque: Scientific American</li> <li>- Chang, R. e Goldsby, K. (2013). <i>Química</i>. New York: McGraw Hill</li> <li>- Ebbing, D. e Gammon, S. (2012). <i>General Chemistry</i>. Belmont: Brooks/Cole</li> </ul>
<b>Planned learning activities and teaching methods</b>	Theoretical classes where the theoretical foundations are taught. Practical classes where exercises and laboratory work are performed where the theoretical concepts studied are applied.
<b>Assessment Methods and criteria</b>	Students who do not complete the five experimental works of the curricular unit and their written reports will be excluded from the exam evaluation, and the accomplishment of these tasks is considered indispensable. In the evaluation in the period of frequency and in the period of exam will be carried out a written test with consultation of Periodic Table and Ion Table. In the evaluation in the period of frequency and in the period of exam the final classification is obtained through the weighting between the classification obtained in the written test and the classification obtained in the experimental work, 60% of which is attributed to the written test and 40% to the works. The minimum grade of the written test that allows approval is of 7 values.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Colour Physics
<b>Course unit code</b>	964410
<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>	3
<b>Name of Lecturer(s)</b>	Rosa Brígida Almeida Quadros Fernandes
<b>Learning outcomes of the course unit</b>	On completion of this course students should demonstrate to be able to solve lighting-related problems and select lighting sources as applied to light design.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	NA
<b>Recommended optional programme components</b>	NA
<b>Course contents</b>	1- Photometry concepts. 2- General features of light. 3- Processes of light interaction with matter.
<b>Recommended or required Reading</b>	<p>- Hewitt, P.(2009). <i>Física Conceitual (cap 19, 20, 26, 28 e 29)</i>. São Paulo: Bookman</p> <p>- Fernandes, R.(0). <i>sebenta teorica de fisica da cor 2012 2013</i>.Acedido em 21 de dezembro de 2014 em <a href="https://www.dropbox.com/s/i1rotsj2q2sjt70/sebenta%20teorica%20de%20fisica%20da%20cor%202012%202013.pdf?dl=0">https://www.dropbox.com/s/i1rotsj2q2sjt70/sebenta%20teorica%20de%20fisica%20da%20cor%202012%202013.pdf?dl=0</a></p> <p>- Fernandes, R.(0). <i>sebenta pratica de fisica da cor 2012 2013</i>.Acedido em 1 de dezembro de 2014 em <a href="https://www.dropbox.com/s/isatzn16nok4vbl/sebenta%20pratica%20de%20fisica%20da%20cor%202012%202013.pdf?dl=0">https://www.dropbox.com/s/isatzn16nok4vbl/sebenta%20pratica%20de%20fisica%20da%20cor%202012%202013.pdf?dl=0</a></p> <p>- Fernandes, R.(0). <i>Física da Cor IPT vibes, um PLE para servir de exemplo</i>.Acedido em 1 de dezembro de 2014 em <a href="http://www.netvibes.com/rosab#conteudos_principais">http://www.netvibes.com/rosab#conteudos_principais</a></p>
<b>Planned learning activities and teaching methods</b>	Theoretical and practical problem-solving, one group assignment with weeckly enrolment, practical light-based experiments and online and video simulations.
<b>Assessment Methods and criteria</b>	Continuous evaluation: Minimum of 2/3 attendance in planned TP classes. 5% Class development of an individual assignment related with light design (personal or course related choice). 95% Two-mid-term tests. Students will also have (as homework) self-training tests with automatic feedback in all answers. 95% Two-mid-term tests. Other epochs of evaluation: 100% multiple choice test including all subjects taught throughout the semester.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.



## B - Description of individual course units

<b>Course unit title</b>	Graphic Design I
<b>Course unit code</b>	964411
<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>	
<b>Learning outcomes of the course unit</b>	1 Master basic visual syntax 2 Acquire a comprehensive graphical visual literacy 3 Select, class and manipulate typographic elements of a graphic project 4 Design symbols 5 Bring image and text together 6 Develop corporate identity projects
<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 Introduction to graphic design: syntax and visual literacy 2 Composition 3 Shape, line, contour and filling, shape and background, texture, color 4 Choosing the right typeface 5 Characters, words, sentences, text 6 Text and Image 7 Iconic symbols 8 Corporate Identity
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Wilde, R. e Wilde, J. (2000). <i>Visual Literacy: A Conceptual Approach to Graphic Problem Solving</i>. USA: Watson-Guption Publications Inc</li> <li>- Philips, J. e Lupton, E. (2008). <i>Graphic Design: The New Basics</i>. USA: Princeton Architectural Press</li> <li>- Wong, W.(2004). <i>Diseño Grafico Digital</i>. Espanha: Editorial Gustavo Gili</li> <li>- Willberg, H.(2003). <i>Primeros Auxilios en Tipografia</i>. Espanha: Editorial Gustavo Gili</li> </ul>
<b>Planned learning activities and teaching methods</b>	1 Theoretical introduction to practical exercises 2 Short exercises 3 Project monitoring 4 Result analysis
<b>Assessment Methods and criteria</b>	Will be held throughout the semester ten exercises: the first six have a weight of one (each) on final note; the exercises seven and eight have weight three (each) on final note; and the exercises nine and ten have weight four (each) on final note. The dates of the reviews are properly set out in each of the ten statements delivered in class, and can only be delivered within these dates, unless there is a justification that constitutes the same impediment. Will only be admitted to the exam students who have developed resource, at least eight of 10 exercises set for the course unit (The examination and the resource are worth, each, 100% of the final note).
<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>	Image Analysis
<b>Course unit code</b>	96448
<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>	4.5
<b>Name of Lecturer(s)</b>	João Manuel de Sousa Nunes Costa Rosa
<b>Learning outcomes of the course unit</b>	NA
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	NA
<b>Recommended optional programme componentes</b>	NA
<b>Course contentes</b>	NA
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- , (1989). <i>Pensar la imagen</i>. Madrid: Cátedra</li> <li>- , (1996). <i>Principios de teoría General de la Imagen</i>. Madrid: Pirâmide</li> <li>- , (2002). <i>Teoría de la Imagen Periodística</i>. Madrid: Ediciones Pirâmide</li> <li>- , (1989). <i>Retorica general</i>. MadridBarcelona: Ediciones Paidós</li> </ul>
<b>Planned learning activities and teaching methods</b>	NA
<b>Assessment Methods and criteria</b>	NA
<b>Language of Instruction</b>	Portuguese   <b>Mentoring in English</b>
<b>Work placement(s)</b>	NA

## B - Description of individual course units

<b>Course unit title</b>	Photography
<b>Course unit code</b>	964444
<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>	4.5
<b>Name of Lecturer(s)</b>	António Martiniano Ventura
<b>Learning outcomes of the course unit</b>	Understand the photographic 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 contentes</b>	The Light and its qualities; The photographic record as a technique for the reproduction and dissemination of images; The photographic process and its areas of interest; The camera and its mechanisms; The image formation mechanism: perspective, framing, exposure control, focus and image sharpness;
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Hurburt, A.(1985). <i>Diseño fotográfico: interacción del diseño con la fotografía</i>. (Vol. 1). (pp. 1-127). Barcelona1: Gustavo Gili</li> <li>- Ventura, A.(0). <i>Para uma didática da imagem - Leitura e análise da imagem</i>.Acedido em10 de novembro de 2014 em <a href="https://dl.dropboxusercontent.com/u/6359651/TI%20II/Leitura_Imagem.pdf">https://dl.dropboxusercontent.com/u/6359651/TI%20II/Leitura_Imagem.pdf</a></li> <li>- Silveira Ramos, M. e Soudo, J. (0). <i>Manual de Técnicas Fotográficas</i>.Acedido em9 de novembro de 2014 em <a href="https://dl.dropboxusercontent.com/u/6359651/DTAG/I_Manual_Tec_Foto.pdf">https://dl.dropboxusercontent.com/u/6359651/DTAG/I_Manual_Tec_Foto.pdf</a></li> <li>- Melo, C.(0). <i>Manual de Fotografia Digital</i>.Acedido em9 de novembro de 2014 em <a href="https://dl.dropboxusercontent.com/u/6359651/manuais%20de%20fotografia/5_Manual_Foto_Digital.pdf">https://dl.dropboxusercontent.com/u/6359651/manuais%20de%20fotografia/5_Manual_Foto_Digital.pdf</a></li> </ul>
<b>Planned learning activities and teaching methods</b>	A set of successive exercises allow the students to reflect on three basic questions: What is photography?; What's the purpose of photography? and How does photography work?
<b>Assessment Methods and criteria</b>	As this course unit requires an active participation of the student, assessment will be on an ongoing basis. Thus, for each of the proposed Experimental Projects, developed in class, individual technical report will be requested. It will be proposed a practical work to be solved by small groups. The final grade will result from the weighted average obtained between the individual assessment, weighing 60% and the assessment in the group work, weighing 40%. The exam must include written test and the presentation of the individual reports related to the follow-up of the Experimental Projects developed in practical class.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable

## B - Description of individual course units

<b>Course unit title</b>	Prepress
<b>Course unit code</b>	964445
<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>	7
<b>Name of Lecturer(s)</b>	Rui Miguel Sardinha Proença Miguel Alexandre Pereira Sanches
<b>Learning outcomes of the course unit</b>	NA
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable
<b>Recommended optional programme componentes</b>	NA
<b>Course contentes</b>	NA
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- BAER, L.(2004). <i>Produção Gráfica</i>. S. Paulo: SENAC</li> <li>- JOHANSSON, K. e LUNDBERG, P. e RYBERG, R. (2004). <i>Manual de Producción Grafica: Recetas</i>. Barcelona: GG</li> <li>- ANTON, K. e DEJARLD, T. (2018). <i>Adobe InDesign CC Classroom in a Book (2018 release)</i>. San Francisco: Pearson Education, Adobe Press</li> <li>- KIPPHAN, H.(2001). <i>Handbook of Print Media? Technologies and Production Methods</i>. Berlin: Springer-Verlag</li> <li>- AMBROSE, G. e HARRIS, P. (2008). <i>The Production Manual, A Graphic Design Handbook</i>. Lausanne: AVA Publishing</li> <li>- FORMENTI, J. e REVERTE, S. (2008). <i>La Imagen Gráfica y su Reproducción</i>. Barcelona: Ediciones CPG</li> <li>- SEDDON, T.(2007). <i>Images: A Creative Digital Workflow for Graphic Design</i>. London: RotoVision</li> </ul>
<b>Planned learning activities and teaching methods</b>	NA
<b>Assessment Methods and criteria</b>	NA
<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>	Communication Ergonomics
<b>Course unit code</b>	964437
<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>	Maria Filipa Ferreira da Silva Pias
<b>Learning outcomes of the course unit</b>	1. In-depth understand of typography in order to be able to use it properly in each graphic product having in mind communicative accuracy; 2. understand and apply ergonomic rules for legibility and readability; 3. critically analyse graphic design according to communication principles.
<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. Typography: historical evolution of type, type classification and samples of type in use; 2. Typographic rules for legibility and readability; 3. Colour theory applied to graphic design; 4. Signage and pictograms; 5. Diagram representation; 6. Graphic design cases analysis.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Andrew, H. e Baines, P. (2002). <i>Type &amp; Typography</i>. Londres: Laurence King Publishing</li> <li>- Spiekermann, E. e Ginger, E. (2013). <i>Stop Stealing Sheep &amp; find out how type works</i>. Berkeley, EUA: Adobe press</li> <li>- Lupton, E.(2010). <i>Thinking with Type: A Critical Guide for Designers, Writers, Editors, and Students (Design Briefs)</i>. EUA: Princeton Architectural Press</li> <li>- Rayan, A.(2006). <i>Pictograms, Icons &amp; Signs: A Guide to Information Graphics</i>. Londres: Thames &amp; Hudson Ltd</li> <li>- Frutiger, A.(2001). <i>En torno a la tipografia</i>. . Barcelona: Gustavo Gili</li> <li>- UEBELE, A.(2007). <i>Signage systems &amp; information graphics. A professional sourcebook</i>. China: Thames &amp; Hudson</li> </ul>
<b>Planned learning activities and teaching methods</b>	1. Lectures supported by datashow on subjects written and prepared by the lecturer; 2. Tutorials comprising analysis of communication texts according to communication ergonomics parameters.
<b>Assessment Methods and criteria</b>	NA
<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>	Design Theory
<b>Course unit code</b>	964438
<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>	4.5
<b>Name of Lecturer(s)</b>	Maria João Bom Mendes dos Santos
<b>Learning outcomes of the course unit</b>	1. sensitizing students to the role of Design and designers in our society; 2. developing critical and interventive skills in the design area, particularly in graphic communication.
<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. Futurism, Dadaism and Surrealism; 2. Russian Suprematism and Constructivism; 3. De Stijl; 4. The Bauhaus; 5. Jan Tschichold and the New Typography; 6. Eric Gill and the Gill Sans; 7. International Typographic Style; 8. The New Wave; 9. American Modernism; 10. Retro Design; 11. The pioneers of digital design
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- BLACKWELL, .(1993). <i>La tipografia del siglo XX</i>. Madrid: Editorial Gustavo Gili</li> <li>- FRASCAR, J.(2004). <i>Communication Design, Principles, Methods and Practice</i>. New York.: Allworth Press</li> <li>- HELLER &amp; CHWAST, S.(1988). <i>From Victorian to post-modern</i>. London: Thames and Hudson</li> <li>- JULIER, G.(1997). <i>The thames &amp; Hudson dictionary of 20th century design and designers</i>. London: Thames &amp; Hudson</li> </ul>
<b>Planned learning activities and teaching methods</b>	1. Lectures supported by audiovisual resources.
<b>Assessment Methods and criteria</b>	<p>Frequency Time Evaluation: The evaluation contemplates the theoretical works developed in the classes (which are worth 50% in the final grade) and a final test (which is worth 50% in the final grade).</p> <p>Evaluation on examination or appeal: Only students who have performed at least seven theoretical works at the time of attendance will be admitted to the examination. The evaluation contemplates, in the same way as in frequency, the theoretical works developed in the classes (which are worth 50% in the final grade) and a test (which is worth 50% in the final grade).</p>
<b>Language of Instruction</b>	Portuguese   <b>Mentoring</b> in English
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Graphic Design II
<b>Course unit code</b>	964416
<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>	Vitor Dinis Carita de Jesus Maria João Bom Mendes dos Santos
<b>Learning outcomes of the course unit</b>	NA
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	NA
<b>Recommended optional programme componentes</b>	NA
<b>Course contentes</b>	NA
<b>Recommended or required Reading</b>	- SAMARA, T.(2007). <i>Grid, Construção e Desconstrução</i> . São Paulo: Cosac Naify - LESLIE, J.(2003). <i>Nuevo diseño de revistas</i> . Barcelona: Editorial Gustavo Gili - LUPTON, E.(2006). <i>Pensar com tipos</i> . São Paulo: Cosac Naify
<b>Planned learning activities and teaching methods</b>	NA
<b>Assessment Methods and criteria</b>	NA
<b>Language of Instruction</b>	Portuguese   <b>Mentoring in English</b>
<b>Work placement(s)</b>	NA

## B - Description of individual course units

<b>Course unit title</b>	Marketing
<b>Course unit code</b>	964440
<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>	Maria de Fátima Rodrigues Pedro
<b>Learning outcomes of the course unit</b>	1.Understand market players and dynamics from the point of view of marketing; 2.Become familiar with the key market research methods; 3.Develop a marketing plan including the various strategic variables; 4.Have an understanding of the peculiarities of brand management.
<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>	1. Introduction 2. Market Analysis 3. Market research 4. Explanatory consumer behaviour theories and models 5. Segmentation 6. The positioning 7. The brand 8. Marketing-Mix
<b>Recommended or required Reading</b>	- Dionísio , P. e Al, E. (2015). <i>Mercator XXI - Mercator da Língua Portuguesa - Teoria e Prática</i> . Lisboa: Publicações Dom Quixote - Dionísio, P. e Al, E. (2010). <i>Publicitor - Comunicação 360º online - offline</i> . Lisboa: Publicações Dom Quixote - Wiedemann, J.(2017). <i>The Package Design Book.</i> : Taschen - Silva, J. e DuPus, S. (2011). <i>Package Design Workbook</i> . USA: Rockport
<b>Planned learning activities and teaching methods</b>	1.Expository Lectures 2.Class debates. 3.Case study analysis.
<b>Assessment Methods and criteria</b>	Continuous evaluation: Practical work (T1) with presentation and discussion, mandatory for all group members, weighting 40%, minimum grade of 10 (ten) values; Written test (T2), weighting 60%, minimum grade of 8 (eight) values. Attendance Prize - Students who ensure a minimum attendance of 70% for teaching activities: In the test (T2) - 1 (one) value (before the weighting). The student must ensure a minimum attendance of 60%, without which will be automatically excluded from continuous assessment, having to submit to final exam. The final grade is expressed by (T1 + T2), provided that the minimum grade has been obtained in both evaluation elements. Otherwise, the final rating will be equal to the lowest of T1 or T2 ratings. Students are approved to the course if the final classification of the two assessment elements, rounded by the units, is greater than or equal to 10 (ten) values. Normal Season Exam and Improvement and Feature Exam and Improvement: Written test (100%). Students are approved to the course if the final grade, rounded to units, is greater than or equal to 10 (ten) values.
<b>Language of Instruction</b>	Portuguese   <b>Mentoring</b> in English
<b>Work placement(s)</b>	Not applicable.



## B - Description of individual course units

<b>Course unit title</b>	Printing - offset I
<b>Course unit code</b>	964446
<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>	7
<b>Name of Lecturer(s)</b>	Miguel Alexandre Pereira Sanches Paula Alexandra Costa Leite Pinto Pereira
<b>Learning outcomes of the course unit</b>	1- Students are expected to be able to perform and prepare matrix for different printing processes. 2- They should also be able to operate offset printing machinery, detect and fix problems that may occur during the printing 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- Offset machinery; 2- Preparing an offset printing equipment. 3- Produce printing material in 1, 2 and 4 colors; 4- Preparation of printing plates; 5- Quality control.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Pipes, A.(2001). <i>Production for Graphic Designers</i>. Londres: Laurence King</li> <li>- Kipphan, H.(2001). <i>Handbook of Print Media: technologies and production methods</i>. Berlin: Springer-Verlag</li> <li>- Johansson, K. e Ryberg, R. e Lundberg, P. (2011). <i>A Guide to Graphic Print Production</i>. New Jersey: Wiley &amp; Sons</li> <li>- Evans, P.(2004). <i>Forms, Folds &amp; Sizes</i>. Massachusetts: Rockport Publishing</li> <li>- Casals, R.(1987). <i>Offset: Control de calidad</i>. Barcelona: Du Pont-Howson</li> <li>- Barbosa, C.(2009). <i>Manual prático de produção gráfica</i>. Lisboa: Principia</li> <li>- Bann, D.(2007). <i>The All New Print Production Handbook</i>. New York: Watson-Guptill Publications</li> <li>- Baer, L.(1999). <i>Produção Gráfica</i>. S. Paulo: SENAC</li> <li>- Formentí, J. e Reverte, S. (2008). <i>La Imagen Gráfica y su Reproducción</i>. Barcelona: Ediciones CPG</li> <li>- Rosner, H. e Walk, H. (2000). <i>Artes Gráficas - Transferência e impressão de informações</i>. São Paulo: ABTG</li> </ul>
<b>Planned learning activities and teaching methods</b>	1- Lectures supported by audiovisual resources. 2- Hands-on practical exercises individually or as part of a team.
<b>Assessment Methods and criteria</b>	NA
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Production Management
<b>Course unit code</b>	964414
<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>	4.5
<b>Name of Lecturer(s)</b>	Henrique Joaquim de Oliveira Pinho
<b>Learning outcomes of the course unit</b>	1. An overview of the concepts, theories and methods of production management, from stocks management to production control, including the costs associated therewith; 2. Students should be able to plan production, or interpret and optimize the existing production system.
<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. Planning: planning techniques; the working method and timings; Gantt diagrams. 2. Procurement: purchasing and stock management. 3. Production: the new context of production management; maintenance; documentation in the PM; production typologies. 4. Productions costs. 5. Lean management: principles and tools. 6. Measuring the performance of a production system.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Courtois, A.(2007). <i>Gestão da produção</i>. Lisboa: Edições Lidel</li> <li>- Pinho, H.(2019). <i>Material de Apoio à UC de GP-LDTAG</i>. Tomar: IPT</li> <li>- Casals, R.(1999). <i>Organização e Gestão: Rumo à produtividade nas indústrias gráficas..</i> :: Europa-América</li> <li>- Reis, F.(2008). <i>Gestão da Produção e Operações</i>. Lisboa: Universidade Aberta</li> </ul>
<b>Planned learning activities and teaching methods</b>	1. Lectures supported by audiovisual resources; 2. Analysis of practical examples; 3. Problem solving; 4. Group work on a topic from Chapter 4; 5. Group work on topics from chapters 5 or 6.
<b>Assessment Methods and criteria</b>	Class attendance (10%) and two written mid-term tests (60%) for continuous assesment. Alternatively, one exam with 7/20 as minimum grade (70%) for final assesment. Practical assignments (30%) contributes to continuous and final assesment.
<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>	Artwork
<b>Course unit code</b>	964447
<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>	3
<b>Name of Lecturer(s)</b>	Miguel Alexandre Pereira Sanches
<b>Learning outcomes of the course unit</b>	1. Final digital files for high quality printing; 2. Best practices for typography, colour management and images; 3. Generating files for offset printing according to ISO 12647.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	NA
<b>Recommended optional programme componentes</b>	Not applicable.
<b>Course contentes</b>	1. File formats, print marks, bleed and slug; 2. Preparing images for print; 3. Fonts management; 4. Colour management; 5. Indesign Live Preflight tools; 6. Indesign package and pdf files.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- AMBROSE, G.(2010). <i>The Visual Dictionary of Pre-Press &amp; Production</i>. London: AVA Publishing</li> <li>- McCUE, C.(2014). <i>Real World Print Production with Adobe Creative Cloud</i>. San José, California: Peachpit</li> <li>- MOREIRA, L.(2009). <i>Arte-final Digital</i>. Tomar: IPT</li> <li>- SOPLON, L. e , . (2011). <i>On Print: from the screen to paper and vice versa</i>. Barcelona: Indexbook</li> <li>- GATTER, M.(2010). <i>Production for Print</i>. Londres: Laurence King Publishing</li> <li>- ESTRADA, S.(2010). <i>A Graphic Design Project from Start to Finish</i>. Barcelona: Indexbook</li> <li>- HOMANN, J.(2009). <i>Digital Color Management - Principles and Strategies for the Standardized Print Production</i>. Berlin: Springer-Verlag</li> </ul>
<b>Planned learning activities and teaching methods</b>	1. Lectures and demos supported by datashow 2. Tutorials and exercises including problem solving.
<b>Assessment Methods and criteria</b>	Continuous assessment: practical assignments (90%) and class participation (10%). Evaluation in exam: resolution of a complete practical exercise.
<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>	Graphic Design III
<b>Course unit code</b>	964422
<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>	Maria João Bom Mendes dos Santos
<b>Learning outcomes of the course unit</b>	1. Distinguish between different information systems. 2. Develop self-critical skills and a general idea of the graphic design panorama. 3. Develop quality stand-alone work
<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. Different information design systems: museums, recreational sites, natural parks, malls, schools and others. 2. Legal issues involved in information design projects.
<b>Recommended or required Reading</b>	- Garland, K.(1994). <i>Mr. Beck's Undergroun Map</i> . London: London Transport Museum - Neurath, O.(1980). <i>International Picture Language</i> . Reading: University of Reading - White, A.(2002). <i>The Elements of Graphic Design</i> . New York: Allworth Press - Jury, D.(2007). <i>O que é a Tipografia?</i> . Barcelona: Editorial Gustavo Gili
<b>Planned learning activities and teaching methods</b>	1. Lectures making use of datashow, images and audiovisual resources.
<b>Assessment Methods and criteria</b>	Will be held throughout the semester a project, to which correspond two periodic evaluations and a final in frequency or examination. Non-attendance at periodic evaluations will result in the deletion of frequency or examination.
<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>	Multimedia Design I
<b>Course unit code</b>	964420
<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>	5
<b>Name of Lecturer(s)</b>	João Manuel de Sousa Nunes Costa Rosa
<b>Learning outcomes of the course unit</b>	1. Design and implement websites. 2. Conduct design studies. 3. Develop skills in specific webdesign software. 4. Deliver a webdesign project with the use of Html and CSS.
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable.
<b>Recommended optional programme componentes</b>	Image Processing
<b>Course contentes</b>	1. Introduction to HTML and the first syntaxes 2. Introduction to CSS language 3. Getting Started with Dreamweaver 4. Webdesign project . Project definition . Development of a structure . Design studies
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- KENTIE, P.(2002). <i>Web Design, tools and techniques</i>. (pp. 1-436). USA: Peachpit Press</li> <li>- PRING, R.(2000). <i>WWW Color</i>. (pp. 1-192). New York: Watson-Guptill Publications</li> <li>- PRING, R.(2000). <i>www type</i>. (pp. 1-192). USA: Watson-Guptill Publications</li> <li>- Glenwright, J.(2000). <i>WWW Layout</i>. (pp. 1-192). USA: Watson-Guptill Publications</li> </ul>
<b>Planned learning activities and teaching methods</b>	1. Theoretical classes comprising content exploration and presentation of case studies. 2. Lab sessions including practical exercises and project monitoring.
<b>Assessment Methods and criteria</b>	Assessment (mid-term or final) consists in two practical exercises. Exercise 1 - website design Exercise 2 - website production Weighting: Project (40%); Site (60%)
<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>	Packaging and Processing
<b>Course unit code</b>	964421
<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>	5
<b>Name of Lecturer(s)</b>	Regina Aparecida Delfino
<b>Learning outcomes of the course unit</b>	Acquire and master knowledge on packaging design and technology. To be able to solve problems of design and production of packaging and promotional objects. Design and carry out packaging prototypes. Master the ArtiosCad and Studio Visualizer software.
<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>	DESIGN: Packaging definitions, packaging types. Marketing aspects. Packaging functions. Packaging design methodology. Graphic design on packaging. Sustainability and legislation. TECHNOLOGY: ArtiosCAD, Studio Visualizer software. Standardised, flexible and semi-rigid packages and labels. 3D promotional objects. Printing methods. Materials and production processes, equipment/systems.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- STEWART, B.(2007). <i>Packaging ? Manual de diseño y produccion</i>. Barcelona: Ediciones Gustavo Gili</li> <li>- MESTRINER, F.(2001). <i>Design de Embalagem. Curso Básico</i>. São Paulo: Makron Books</li> <li>- GIOVANNETTI, M.(1995). <i>El Mundo del envase. Manual para el diseño y producción de envases y embalajes</i>. Barcelona: Gustavo Gili</li> <li>- SONSINO, S.(1990). <i>Packaging. Diseño, materiales, tecnologia</i>. Barcelona: Gustavo Gili</li> <li>- BOYLSTON, S.(2009). <i>Designing Sustainable Packaging</i>. London: Laurence King Publishing</li> <li>- CAWTHRAY, R. e DENISON, E. (1999). <i>Protótipo de embalagens</i>. Lisboa: Destarte</li> <li>- MANZINI, E. e VEZZOLI, C. (2008). <i>O Desenvolvimento de produtos Sustentáveis. Os requisitos ambientais dos produtos industriais</i>. São Paulo: Edusp (Editora da Universidade de São Paulo)</li> <li>- FEFCO , E.(2007). <i>International fibreboard case code</i>. Bruxelas: FEFCO - European Federation of Corrugated Board manufactures e ESBO - European Solid Board Organization</li> <li>- SHAOQIANG, W.(2017). <i>Unpack Me Again!: Packaging Meets Creativity</i>. Barcelona: Promopress</li> </ul>
<b>Planned learning activities and teaching methods</b>	Presentation of theoretical contents and analysis of the different packaging, study visit. Execution of packaging design projects from the briefing phase to the final prototype using different materials.
<b>Assessment Methods and criteria</b>	Continuous asses.: 30% written test and 70% projects. Classification is weighted average of all grades. Examination asses.: attend. at 2/3 of the classes and min. of 10/20 on projects. Written assessment only theor. Rating min. 10 val., Weight T/P.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable.

## B - Description of individual course units

<b>Course unit title</b>	Printing - Offset II and Pad Printing
<b>Course unit code</b>	964448
<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>	Miguel Alexandre Pereira Sanches Paula Alexandra Costa Leite Pinto Pereira
<b>Learning outcomes of the course unit</b>	1- Provide in-depth knowledge of printing techniques with special emphasis to the traditional systems such as offset and pad printing. 2- To recognize, classify and master the methods of preparation of various special printing techniques.
<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- Classification of the main techniques for special printing; 2- Identification and production of prints using special prints; 3- Studies of equipment and printing plates for pad printing; 4- Preparation of consumables for pad printing.
<b>Recommended or required Reading</b>	- AMBROSE, G. e HARRIS, P. (2006). <i>Basic Design: Print &amp; Finish</i> . Londres: AVA Publishing - MORLOK, F. e BECKMANN, T. (2009). <i>Extra: Encyclopaedia of Experimental Print Finishing</i> . Basel: Birkhauser Verlag AG; Basel: Birkhauser Verlag AG - WITHAM, S.(2007). <i>Print and Production Finishes for Promotional Items</i> . Londres: Rotovision - Underconsideration, U.(0). <i>FPO - For Print Only</i> .Acedido em19 de fevereiro de 2018 em <a href="http://www.underconsideration.com/fpo">www.underconsideration.com/fpo</a>
<b>Planned learning activities and teaching methods</b>	1- Lectures supported by audiovisual resources. 2- Hands-on practical exercises individually or as part of a team.
<b>Assessment Methods and criteria</b>	In continuous evaluation, the elements described below are considered, with the following weighting: OFFSET - 50% practical work done in class with evaluation $\geq 10$ ; 25% written evaluation with evaluation $\geq 10$ ; 20% practical-theoretical work; 5% for attendance. PAD PRINTING - 50% final report with evaluation $\geq 10$ ; 45% practical work done in class with evaluation $\geq 10$ ; 5% for attendance. Students admitted to exam evaluation will have to take a written test in the Offset component (TP). Students who do not attend a minimum of 2/3 of classes or do not meet the criteria for continuous assessment are excluded from the exam evaluation. In evaluation by exam the elements described below are considered, with the following weighting: OFFSET - 50% practical work done in class with evaluation $\geq 10$ ; 30% written evaluation with evaluation $\geq 10$ ; 20% practical-theoretical work. The final grade of this unit is calculated based on the following weighting: 60% OFFSET; 40% PAD PRINTING.
<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>	Quality Control
<b>Course unit code</b>	964419
<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>	5
<b>Name of Lecturer(s)</b>	Rui da Costa Marques Sant'Ovaia Luís Miguel Alves de Oliveira
<b>Learning outcomes of the course unit</b>	Students should be able to understand the performance of the several supports in all printing process (Prepress, Press and Postpress) in order to ensure the quality in graphics work. Working with production flowcharts and apply quality control in production.
<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>	I: Fundamental principles of the paper manufacturing process and other printing materials. II: Paper characterization and quality control. Properties with implications on print process or the printed product. III: Quality control in the several phases of the printing process
<b>Recommended or required Reading</b>	- Biermann, C.(1996). <i>Handbook of pulping and papermaking</i> . San Diego: Academic Press - Kiphan, H.(2001). <i>Handbook of Print Media</i> . Berlin: Springer - Asunción, J.(2002). <i>O Papel ? Técnicas e Métodos Tradicionais de Fabrico</i> . Lisboa: Editorial Estampa - Barbosa, C.(2009). <i>Manual Prático de Produção Gráfica</i> . Lisboa: Principia
<b>Planned learning activities and teaching methods</b>	Lectures supported by oral and audiovisual media (CD, DVD, etc.) Practical and Laboratory exercise classes: group and individual assignments.
<b>Assessment Methods and criteria</b>	Written assessment test (module I). Minimum classification for exam exemption: 10 values. Continuous assessment of student lab work and final reports (module II). Continuous assessment of individual and group exercises with descriptive memory written works (module III). In both continuous evaluations it is mandatory to carry out the scheduled laboratory work (in groups of 2 or 3 students) as well as the presentation of the respective reports. The approval of the practical component implies a minimum grade of 10 values. Final Exam (module I). Final classification: 30% module I + 20% module II + 50% module III.
<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
<b>Course unit code</b>	964450
<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>	3
<b>Name of Lecturer(s)</b>	Rui Miguel Sardinha Proença Miguel Alexandre Pereira Sanches
<b>Learning outcomes of the course unit</b>	1- Acquire knowledge about digital printing (DP) processes; 2- Understand, distinguish and characterize technologies, products, raw materials and consumables; 3- Be aware of DP advantages 4- Identify types of products produced with DP 5- Operating with different DP equipment
<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- Digital Printing; 2- Fundamentals and basic components; 3- Conventional vs Digital printing; 4- Advantages of Digital Printing; 5- Various types of Digital Printing; 6- Types of print jobs.
<b>Recommended or required Reading</b>	- JOHNSON, H.(2004). <i>Digital Printing Start-Up Guide (Digital Process and Print)</i> . : Thomson, Course Technolog - JOHNSON, H.(2004). <i>Mastering Digital Printing, Second Edition (Digital Process and Print)</i> . : Muska & Lipman - KIPPHAN, H.(2001). <i>Handbook of Print Media; Technologies and Production Methods</i> . Berlim: Springer-Verlag - Mortara, B.(2009). <i>Impressão Digital: introdução e tecnologia</i> . São Paulo: Scortecci - Nickelson, J.(2017). <i>Fine Art Inkjet Printing: The Craft and Art of the Fine Digital Print</i> . San Rafael, CA, USA: Rocky Nook - Jürgens, M.(2014). <i>The Digital Print: Identification and Preservation</i> . Los Angeles, USA: Getty Publications (0). <i>Roland DG</i> . Acedido em 8 de setembro de 2018 em <a href="http://www.rolanddg.com">www.rolanddg.com</a>
<b>Planned learning activities and teaching methods</b>	1- Presentation of theoretical concepts using audiovisual media; 2- Analysis of printed graphics objects by digital process; 3- Practical exercises.
<b>Assessment Methods and criteria</b>	NA
<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>	Graphic Design IV
<b>Course unit code</b>	964426
<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>	Maria João Bom Mendes dos Santos
<b>Learning outcomes of the course unit</b>	1. Distinguish between different communication design projects. 2. Develop critical skills and have a general panorama of graphic design. 3. Be able to produce stand-alone quality work.
<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>	1. Study of typeface design. 2. Structured and analytical approaches to graphic design. 3. Making effective and substantial image judgements. 4. Pedagogical and human aspects of graphic design. 5. Graphic design projects.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Frutiger, A.(2001). <i>En torno de la tipografia</i>. Barcelona: Editorial Gustavo Gili</li> <li>- Gray, N.(1986). <i>A history of lettering</i>. Oxford: Phaidon Oxford</li> <li>- Aicher, O.(1967). <i>Sistemas de signos en la comunicación visual</i>. Barcelona: Editorial Gustavo Gili</li> <li>- Moles, A.(1990). <i>O cartaz</i>. São Paulo: Editora Perspectiva</li> </ul>
<b>Planned learning activities and teaching methods</b>	1. Lectures making use of datashow.
<b>Assessment Methods and criteria</b>	Continuous evaluation Time: Three practical projects will be held throughout the semester, which are worth 100% in the final grade (Project I, 40%; Project II, 20% and project III, 40%). Time of examination or appeal: Only students who have completed at least one work at a time of attendance will be admitted to the examination. Similarly to the time of attendance, students will have to present the three completed practical projects, which are worth 100% in the final grade (Project I, 40%; Project II, 20% and project III, 40%).
<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>	Multimedia Design II
<b>Course unit code</b>	964427
<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>	5
<b>Name of Lecturer(s)</b>	João Manuel de Sousa Nunes Costa Rosa
<b>Learning outcomes of the course unit</b>	NA
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	NA
<b>Recommended optional programme componentes</b>	NA
<b>Course contentes</b>	NA
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- SCHWARTZ, E.(2013). <i>Mobile Prototyping with Axure 7</i> . (Vol. I). (pp. -----). Birmingham: Packt Publishing</li> <li>- DALIOT, A.(2013). <i>Instant Axure RP Starter</i>. (Vol. I). (pp. -----). Birmingham: Packt Publishing</li> <li>- HACKER, W.(2013). <i>Mobile Prototyping with Axure 7</i> . (Vol. I). (pp. -----). Birmingham: Packt Publishing</li> <li>- --, U.(0). <i>Mobile Design Book of Trends 2015 &amp; 2016</i>.Acedido em31 de janeiro de 2017 em <a href="http://www.uxpin.com/studio/ebooks/mobile-ui-ux-design-trends-2015-2016/">www.uxpin.com/studio/ebooks/mobile-ui-ux-design-trends-2015-2016/</a></li> </ul>
<b>Planned learning activities and teaching methods</b>	NA
<b>Assessment Methods and criteria</b>	NA
<b>Language of Instruction</b>	Portuguese   <b>Mentoring in English</b>
<b>Work placement(s)</b>	NA

## B - Description of individual course units

<b>Course unit title</b>	Postpress
<b>Course unit code</b>	964452
<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>	Regina Aparecida Delfino
<b>Learning outcomes of the course unit</b>	Acquisition and mastery of theoretical and practical knowledge of postpress techniques, materials, equipment and industrial systems. Development of conceptual and operational planning skills in this sector.
<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>	Finishing and embellishing techniques. Components of the body of the book. Book production stages: folding, sewing and binding. Techniques concerning processed products. Techniques concerning stationery products. Techniques relating to industrial binding. Postpress techniques for commercial works. Embellishment. Materials and equipment. Die Cutting.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- KIPPHAN, H.(2001). <i>Handbook of print media: technologies and production methods</i>. Heidelberg: Springer</li> <li>- LUNARDELLI, A. e ROSSI, S. (2004). <i>Acabamentos</i>. Sao Paulo: Editora Lunardelli</li> <li>- FISHEL, C.(2007). <i>El arte de la produccion creativa. Materiales, encadernació y acabados</i>. Barcelona: Index Book S.L.</li> <li>- AMBROSE, G. e HARRIS, P. (2008). <i>Impressión y Acabados</i>. Barcelona: Parramón Ediciones</li> <li>- FALWCET-TANG, R.(2007). <i>Acabados de impressão y edicion de folletos y catálogos</i>. Barcelona: Promopress</li> <li>- MC MURTRIE, D.(1982). <i>O livro</i>. Lisboa: Fundação Caluste Gulbelkian</li> </ul>
<b>Planned learning activities and teaching methods</b>	Presentation of the theoretical contents with support of audiovisual resources, analysis of different graphical objects. Theoretical and practical classes including exercises for implementation of the concepts taught. Field trips.
<b>Assessment Methods and criteria</b>	Continuous evaluation will be carried out by theoretical frequency, which corresponds to 40% of the total grade and 60% corresponds to the practical projects carried out during the semester. In the theoretical part, a written test will be carried out. In the practical part, the students will have to develop during the semester: five individual practical exercises of prototyping and a written theoretical-practical work, individual or in group. The grade is a weighted average of the values obtained. A minimum of 10 values is considered as the theoretical frequency and practice Students who obtain a weighted average of 10 (ten) or more are exempt from the final evaluation. Students who do not attend at least 2/3 (two-thirds) of classes or have not completed the requested work or who, in doing so, obtain a grade lower than 10 (ten) values will be excluded from the continuous and final evaluation. Final evaluation Students will be admitted to the final evaluation with more than 2/3 (two-thirds) of the classes and have completed the practical projects with a minimum grade of 10 points. Only theoretical content will be examined. Approval: final mark equal to or greater than 10 (ten) values, obtained by the weighted average indicated above.

<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable

## B - Description of individual course units

<b>Course unit title</b>	Quality Management
<b>Course unit code</b>	964449
<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>	4
<b>Name of Lecturer(s)</b>	Rui da Costa Marques Sant'Ovaia Luís Miguel Alves de Oliveira
<b>Learning outcomes of the course unit</b>	Equip students with the skills to be part of organisations wishing to implement quality management systems, ISO certification or develop Total Quality Methods.
<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>	Quality concept and its evolution. Quality Tools. The Portuguese Quality System. Quality Management Systems: ISO 9000 Standards. Certification and certification bodies. Quality Audits. Quality costs. Management models for Total Quality.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Ramos Pires, A.(2004). <i>Qualidade-Sistemas de Gestão da Qualidade</i>. Lisboa: Sílabo</li> <li>- Pereira, A. e Ganhão, F. (1992). <i>A Gestão da Qualidade</i>. Lisboa: Presença</li> <li>- Capricho, L. e Lopes, A. (2007). <i>Gestão da Qualidade</i>. Lisboa: RH Ed,</li> <li>- Kolarik, W.(1995). <i>Creating Quality</i>. (Vol. 1). Singapura: McGraw-Hill International</li> <li>- Dafeo, J.(2016). <i>Juran's Quality Handbook</i>. (Vol. 1). Ohaio: McGraw-Hill Education</li> </ul>
<b>Planned learning activities and teaching methods</b>	Lectures with content presentation. Debate on the most appropriate interpretation methodologies proposed for quality assurance and management. Discussion and analysis of real cases derived from the lecturer's own professional experience
<b>Assessment Methods and criteria</b>	Continuous Assessment Class performance - 15% Written assignment (team work) - 25% Written test - 60% Exemption of exam test: weighted grade $\geq 10$ Values Students who do not participate in at least 50% of the academic time of the U.C. will be excluded from the evaluation process. Exam Class performance - 15% Written assignment (team work) - 15% Resolution, on writing and on an individual basis, of a series of problems and exploratory essays on selected topics - 70% Students with a weighted grade $\geq 10$ Values will be approved
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable

## B - Description of individual course units

<b>Course unit title</b>	Screenprinting
<b>Course unit code</b>	964451
<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>	Luís Miguel Alves de Oliveira
<b>Learning outcomes of the course unit</b>	Provide knowledge and technical expertise in the silk screen printing process using tools, machinery and miscellaneous materials inherent to 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>	Silkscreen Pre-press Printing Post-press Quality control of the production process
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- Kiphan, H.(2001). <i>Handbook of Print Media</i>. (Vol. 1). Alemanha: Springer</li> <li>- Barbosa, C.(2009). <i>Manual Prático de Produção Gráfica</i>. (Vol. 1). Lisboa: Principia</li> <li>- Stephens, J.(1996). <i>Screen Process Printing</i>. (Vol. 1). Inglaterra: Blue print</li> <li>- SEFAR, S.(2006). <i>Handbook for screen printers</i>. (Vol. 1). Suíça: Sefar Inc. Printing Division</li> <li>- Komurki, J. e Luca Bendandi, L. e Demoratti, D. (2018). <i>Mestres da Serigrafia</i>. (Vol. 1). Brasil: Editorial Gustavo Gili</li> </ul>
<b>Planned learning activities and teaching methods</b>	Theoretical/practical classes supported by audiovisual resources. Study/description of mechanisms and technologies for industrial, artisanal and artistic printing processes. Laboratory work.
<b>Assessment Methods and criteria</b>	<p>1. Continuous assessment: 1.1. Class attendance - 5% 1.2. Work carried out during classes - 65% (1st work - 10%; 2nd - 15%; 3rd - 20%; 4th - 20%) 1.3. Written test - 30% Students who do not meet the following conditions will be excluded from evaluation: Presence in 2/3 (two thirds) of the classes taught, and have performed the requested practical exercises with a evaluation equal or superior to 10 (ten) values. 2 - Exam 2.1. The Exam (written test) will be only to students who meet the requirements of point 2 of the evaluation. 2.2. Presence in class - 5% (point 1.1) 2.3. Work done during lessons - 65% (point 1.2) 2.4. Written test - 30% (will only focus on the theoretical contents of the Curricular Unit) The student-workers must combine with the teacher, at the beginning of the semester, the methodology to be adopted in the work to be done, otherwise they lose the right to attend the U.C ..</p>
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable

## B - Description of individual course units

<b>Course unit title</b>	Conservation of Graphic Documentation
<b>Course unit code</b>	964453
<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>	5
<b>Name of Lecturer(s)</b>	Paula Alexandra Costa Leite Pinto Pereira Regina Aparecida Delfino
<b>Learning outcomes of the course unit</b>	1 Study and characterise concepts related with the preservation/conservation of books and graphic documents. 2 Study and identify traditional and modern bookbinding methods.
<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 preservation/conservation of graphic documents as well as the history and technical evolution of traditional and modern bookbinding. Practice involving real exercises that will develop students' critical and reflexive skills and allow them to understand and use the technical terminology.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- BOSQUET, E.(1989). <i>Traité théorique et pratique de l'art du relieur</i>. NA: Paris</li> <li>- JOHNSON, A.(1985). <i>The practical guide to craft bookbinding</i>. London: Thames and Hudson</li> <li>- VITORINO, T. e MELO, M. e CARLYLE, L. e OTERO, V. (2016). <i>New insights into brazilwood lake pigments manufacture through the use of historically accurate reconstructions</i>. London: Taylor &amp; Francis Online</li> <li>- LIENARDY, A. e DAMME, P. (1992). <i>La désacidification de masse des livres et documents</i>. Bruxelles: Institut royal du patrimoine artistique</li> <li>- LIBRANDO, V. e MINNITI, Z. e LORUSSO, S. (2011). Ancient and modern paper characterization by FTIR and Micro-Raman spectroscopy. <i>Conservation science in cultural heritage</i>, 11,</li> </ul>
<b>Planned learning activities and teaching methods</b>	1- Lectures with the support of audiovisual resources. 2- Practical work individually or as part of a team performing tasks and solving practical problems.
<b>Assessment Methods and criteria</b>	Continuous assessment, attendance at 2/3 of the laboratory classes. Attendance 5%; coursework (65%), written test (30%). Final assessment: written exam will focus only on the theoretical component.
<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>	Final Project
<b>Course unit code</b>	964456
<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>	7.5
<b>Name of Lecturer(s)</b>	Maria Filipa Ferreira da Silva Pias
<b>Learning outcomes of the course unit</b>	1 Organize and systematize the design and implementation of a personal project promoting integration into the labour world; 2 Develop projects of areas not included in the course curriculum 3 Develop project presentations; 4 Public presentation of an assignment and/or project
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	Not applicable
<b>Recommended optional programme components</b>	Não aplicável.
<b>Course contents</b>	1 Project presentation 2 Promotion of an individual project 3 Choose appropriate formats and media 4 Proactivity in finding jobs 5 Professional ethics and contact with customers 6 Importance of oral presentation and project defense
<b>Recommended or required Reading</b>	- Myers, D.(2013). <i>The Graphic Designer's Guide to Portfolio Design</i> . New Jersey: Wiley - Hugues, P.(2010). <i>Exhibition Design</i> . Londres: Laurence King Publishing - Welsh, C.(2013). <i>Design: Portfolio: Self promotion at its best</i> . Londres: Rockport Publishers - Shaughnessy, A.(2005). <i>How to Be a Graphic Designer: Without Losing Your Soul</i> . Londres: Laurence King Publishing
<b>Planned learning activities and teaching methods</b>	1 Practical classes supported by datashow; 2 Monitoring of individual projects; 3 Guidance in the project presentation; 4 Follow-up of oral presentations.
<b>Assessment Methods and criteria</b>	The personal project is assessed in two phases (with equal weighting): 1) exhibition of an intermediate phase of the project in a public place (Artec); 2) end-of-semester final work oral presentation.
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable

## B - Description of individual course units

<b>Course unit title</b>	Graphic Arts - Budget cost estimate
<b>Course unit code</b>	964455
<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>	5
<b>Name of Lecturer(s)</b>	Luís Miguel Alves de Oliveira
<b>Learning outcomes of the course unit</b>	- Understand the main concepts of graphic budgeting. - To know methods for the accomplishment of budgets for the Graphic Industry. - Determination the production costs of a graphic work.
<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>	Pricing/cost estimating in the Printing Industry. The concept of Pricing/Cost estimating and its purpose. The variables involved in the pricing process. Raw materials and supplies for the production process.
<b>Recommended or required Reading</b>	- Kiphan, H.(2001). <i>Handbook of Print Media</i> . (Vol. 1). Alemanha: Springer - Barbosa, C.(2009). <i>Manual Prático de Produção Gráfica</i> . (Vol. 1). Lisboa: Principia - Bann, D.(2008). <i>Actualidade en la Producción de Artes Gráficas</i> . (Vol. 1). Barcelona: Blume - Baer, L.(1999). <i>Produção Gráfica</i> . (Vol. 1). S. Paulo: SENAC
<b>Planned learning activities and teaching methods</b>	Lectures - expository lessons using audiovisual resources Theoretical/practical lessons - practical work and budgeting exercises.
<b>Assessment Methods and criteria</b>	Practical exercises - 20% Written test (Frequency and Exam) - 80% Exemption from final exam: min. mark of 10 values Final exam: minimum pass mark is 10 values
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	Not applicable

## B - Description of individual course units

<b>Course unit title</b>	Management and Strategy
<b>Course unit code</b>	964454
<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>	4.5
<b>Name of Lecturer(s)</b>	Gonçalo Nuno Rodrigues Brás
<b>Learning outcomes of the course unit</b>	1. Identify the information about the environment and the company. 2. Understand and know how to apply the concepts, models and techniques. 3. Understand the different aspects of strategic analysis 4. Develop critical thinking. Decision-making.
<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. Strategy and planning fundamentals. 2. Strategic analysis. 3. Strategy formulation. 4. Matrix analysis. 5. Planning and control. 6. Strategic organization and implementation.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- ,.(2013). <i>Contemporary Strategic Analysis</i>. UK: Wiley</li> <li>- ,.(2011). <i>Gestão Estratégica</i>. Lisboa: Escolar Editora</li> <li>- ,.(2009). <i>Strategic Management A Dynamic Perspective</i>. England: Pearson Prentice Hall</li> <li>- ,.(2009). <i>Management</i>. England: Pearson Prentice Hall</li> <li>- ,.(2013). <i>Contemporary Strategic Analysis</i>. UK: Wiley</li> <li>- ,.(2011). <i>Gestão Estratégica</i>. Lisboa: Escolar Editora</li> <li>- ,.(2009). <i>Strategic Management A Dynamic Perspective</i>. England: Pearson Prentice Hall</li> <li>- ,.(2009). <i>Management</i>. England: Pearson Prentice Hall</li> <li>- ,.(2013). <i>Contemporary Strategic Analysis</i>. UK: Wiley</li> <li>- ,.(2011). <i>Gestão Estratégica</i>. Lisboa: Escolar Editora</li> <li>- ,.(2009). <i>Strategic Management A Dynamic Perspective</i>. England: Pearson Prentice Hall</li> <li>- ,.(2009). <i>Management</i>. England: Pearson Prentice Hall</li> <li>- ,.(2013). <i>Contemporary Strategic Analysis</i>. UK: Wiley</li> <li>- ,.(2011). <i>Gestão Estratégica</i>. Lisboa: Escolar Editora</li> <li>- ,.(2009). <i>Strategic Management A Dynamic Perspective</i>. England: Pearson Prentice Hall</li> <li>- ,.(2009). <i>Management</i>. England: Pearson Prentice Hall</li> </ul>
<b>Planned learning activities and teaching methods</b>	1. Lectures 2. Class debates 3. Case study analysis
<b>Assessment Methods and criteria</b>	Ongoing assessment: Two compulsory assessment components: practical work with presentation and discussion 50% weighting - minimum of ten values + Written test 50% weighting - minimum of eight values. EXAM Written test - 100%
<b>Language of Instruction</b>	Portuguese
<b>Work placement(s)</b>	not applicable

## B - Description of individual course units

<b>Course unit title</b>	Multimedia Design III
<b>Course unit code</b>	964431
<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>	5
<b>Name of Lecturer(s)</b>	João Manuel de Sousa Nunes Costa Rosa
<b>Learning outcomes of the course unit</b>	NA
<b>Mode of delivery</b>	Face-to-face
<b>Prerequisites and co-requisites</b>	NA
<b>Recommended optional programme componentes</b>	NA
<b>Course contentes</b>	NA
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- BRAHA, Y.(2011). <i>SCreative Motion Graphic Titlling for Film, Video and the Web</i>. (Vol. I). (pp. ---). Burlington: Focal Press</li> <li>- BLAZER, L.(2016). <i>Animated Storytelling. Berkeley</i>. (Vol. I). (pp. ---). Berkeley: Peachpit Press</li> <li>- BASS, J.(2011). <i>Saul Bass: A Life in Film &amp; Design</i>. (Vol. I). Londres: Laurence King Publishing</li> <li>- BEN TU SHU, S.(2015). <i>Motion Graphics in Branding</i>. (Vol. I). (pp. ---). Hong Kong: Sendpoint Publishing</li> </ul>
<b>Planned learning activities and teaching methods</b>	NA
<b>Assessment Methods and criteria</b>	NA
<b>Language of Instruction</b>	Portuguese   <b>Mentoring in English</b>
<b>Work placement(s)</b>	NA

## B - Description of individual course units

<b>Course unit title</b>	Organizational Behaviour
<b>Course unit code</b>	964433
<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>	3
<b>Name of Lecturer(s)</b>	Isabel Maria da Cruz Ferreira
<b>Learning outcomes of the course unit</b>	The students should: - acquire the basics of organizational behaviour. - acquire knowledge regarding the key organizational behavioural procedures. - develop interpersonal, teamwork and negotiation skills. - develop critical insight about organizational behaviour.
<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. Conceptual delimitation of the subject. 2. Communication (objectives, analysis, competences). 3. Motivation (motivational process, major theories and job satisfaction). 4. Leadership (major studies and results). 5. Citizenship in the organizations (the significance of justice, attitudes, personality, consequences). 6. Conflict and negotiation.
<b>Recommended or required Reading</b>	<ul style="list-style-type: none"> <li>- CAETANO, A.(2011). <i>Manual de Psicossociologia das organizações</i>. Lisboa: Escolar Editora.</li> <li>- GIBSON, J.(2006). <i>Organizações. Comportamento, estrutura e processos</i>. São Paulo: McGraw-Hill.</li> <li>- PINA e CUNHA, M.(2016). <i>Manual de comportamento organizacional e gestão</i>. Lisboa: Editora Recursos Humanos.</li> <li>- NEWSTROM, J.(2008). <i>Comportamento Organizacional. O Comportamento Humano no trabalho</i>. São Paulo: McGraw-Hill.</li> <li>- ROHRICH, O.(2014). <i>Os 11 Elementos da Motivação</i>. Lisboa: Lidel Idioma.</li> <li>- REGO, A.(2016). <i>Comunicação pessoal e Organizacional</i>. Lisboa: Editora Sílabo.</li> </ul>
<b>Planned learning activities and teaching methods</b>	Theoretical-practical classes involving oral presentation based on audiovisual resources, case study presentation/discussion, roleplay, brainstorming, practical exercises and team games.
<b>Assessment Methods and criteria</b>	- One written test allowing admission to or exemption from final examination. - Pre-established examination periods.
<b>Language of Instruction</b>	Portuguese   <b>Mentoring in Portuguese</b>
<b>Work placement(s)</b>	Not applicable.

