COURSE MODULE OUTLINE

1. GENERAL INFORMATION

SCHOOL	SCHOOL OF APPLIED ARTS AND SUSTAINABLE DESIGN		
PROGRAM COURSE	LIGHTING DESIGN		
LEVEL OF STUDY	POSTGRADUATE		
COURSE UNIT CODE	SFP61	**YEAR OF STUDY**	2nd
COURSE TITLE	ARCHITECTURAL LIGHTING DESIGN AND SIMULATION APPLICATIONS		
INDEPENDENT TEACHING ACTIVITIES *in case credits are awarded for separate components/parts of the course, e.g. in lectures, laboratory exercises, etc. If credits are awarded for the entire course, give the weekly teaching hours and the total credits*		**HOURS**	**CREDITS**
Weekly teaching hours: 18-19 hours per week X 30 weeks		560	20 ECTS
Add rows if necessary. The organization of teaching and the teaching methods used are described in detail under section 4			
COURSE TYPE Compulsory, Optional, Optional mandatory	Optional mandatory		
PREREQUISITE COURSES:	SFP50 + SFP51		
LANGUAGE OF INSTRUCTION AND EXAMS:	GREEK		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No (due to annual duration of the module)		
COURSE WEBSITE (URL)	https://www.eap.gr/en/light-design/topics/#s61 Each module has its own space in the Learning Management System of EAP (http://study.eap.gr), with controlled access (use of code) for students and teaching staff.		

2. LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate (certain) level, which students will acquire upon successful completion of the course, are described in detail. It is necessary to consult:

APPENDIX A

- *Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework.*
- *Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and*

APPENDIX B

- *Guidelines for writing Learning Outcomes*

Upon successful completion of SFP61, students will be able to:

- Design environmental lighting to achieve the desired character or atmosphere,
- Analyze the layers of lighting of a room,
- Communicate their lighting design ideas,
- Analyze the influence of light on human physiology and psychology,
- Create a three-dimensional model and apply digital light sources,
- Categorize light sources according to their qualitative properties,
- Calculate the colors that will occur from the blending of colored lights,
- Understand the differences between the various digital sources of Light,
- Use shadows as part of their lighting design,
- Apply digital materials and textures to 3D models.

General Competences

Taking into consideration the general competences that students/graduates must acquire (as those are described in the Diploma Supplement and are mentioned below), at which of the following does the course attendance aim?

Search for, analysis and synthesis of data and information by the use of appropriate technologies,
Adapting to new situations
Decision-making
Individual/Independent work
Group/Team work
Working in an international environment
Working in an interdisciplinary environment
Introduction of innovative research
Project planning and management
Respect for diversity and multiculturalism
Environmental awareness
Social, professional and ethical responsibility and sensitivity to gender issues
Critical thinking
Development of free, creative and inductive thinking ……
(Other…….citizenship, spiritual freedom, social awareness, altruism etc.) …….

Search for, analysis and synthesis of data and information by the use of appropriate technologies,
Environmental awareness
Adapting to new situations
Decision-making
Individual/Independent work

Group/Team work Critical thinking Development of free, creative and inductive thinking Introduction of innovative research Working in an interdisciplinary environment

3. COURSE MODULE CONTENT

This C.M. includes:
- Designing for natural lighting-shading
- Lighting design theories
- Effect of lighting on humans
- Interior lighting design
- Exterior/building facade lighting design
- General lighting plan
- Ways of presenting a lighting design
- 3D design and photorealism
- Lighting simulation

The purpose of this Course Module is to provide students with the skills they need to design the lighting in any interior or exterior space, taking into account the spatial characteristics of this space and the needs of the project. Special mention is made of the methods of representation and presentation of lighting and the way of communicating a study.

Students learn to work in an interdisciplinary environment using a range of software for lighting analysis acquiring all the skills required in a lighting study. With the introduction of two group written assignments and the interdisciplinary background of the students, interdisciplinarity in dealing with a lighting study is ensured, while at the same time the necessary climate of communication between the different specialties is formed.

C.M. Subject Matter:

- Architectural lighting design
- Lighting and color synthesis
- Human factors in lighting
- Architectural analysis and design through digital representation-lighting simulation

4. TEACHING METHODS--ASSESSMENT

MODES OF DELIVERY *Face-to-face, in-class lecturing, distance teaching and distance learning etc.*	Distance education with five Group Counseling Meetings (OSS) during the academic year on weekends.
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY *Use of ICT in teaching, Laboratory Education, Communication with students*	We use: Remote meetings tools (cisco Webex), Presentation software (e.g. PowerPoint), Optionally specialized software in the subjects under study (Autocad, Rhino3D, SketchUp, 3ds

	MAX, Dialux Evo, Relux, Twinmotion, Photoshop) Additionally, the students use office automation tools, web browsers and e-reader for digital books.
COURSE DESIGN *Description of teaching techniques, practices and methods: Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, Internship, Art Workshop, Interactive teaching, Educational visits, projects, Essay writing, Artistic creativity, etc.* *The study hours for each learning activity as well as the hours of selfdirected study are given following the principles of the ECTS.*	

Activity/Method	***Annual workload***
5 OSS (* 4 hours)	20
Preparation of Assignments (4 assignments * 20 hours)	80
Examination	3
Individual study	457
Total workload (hours)	**560**

STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS *Detailed description of the evaluation procedures:* *Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice tests, short- answer questions, open-ended questions, problem solving, written work, essay/report, oral exam, presentation, laboratory work, other……etc.* *Specifically defined evaluation criteria are stated, as well as if and where they are accessible by the students.*	Students are assigned to submit four (4) written assignments during the academic year. The average grade of the four (4) written assignments, weighted at 30%, is taken into consideration for the calculation of the final grade. The grade of written assignments is activated only with a score equal to or above the pass level (≥5) in the final or resit exams. The grade of the final or the resit exams shall be weighted at 70 % for the calculation of the final grade. Students have the right to participate in the final/resit exams if (a) at least 50% of the potentially excellent grade has been obtained when adding the total of the four (4) assignments and (b) at least three (3) of the four (4) written assignments have been submitted. All the criteria are posted, both in each written assignment (in the LMS http://study.eap.gr), as well as in the general regulation of HOU at: https://www.eap.gr/wp-content/uploads/2022/03/kanonismos-spoudwn-isxys-apo-to-didaktiko-etos-2022-2023.pdf

5. SUGGESTED BIBLIOGRAPHY:

- Suggested bibliography

Tregenza P., Wilson W. Daylighting. Routledge. 2011

HOU Publications:

Volume A: "Applied Lighting Design", HOU, Patras
Volume C': "Digital representation of lighting – Theory and applications", HOU, Patras

Other books
Supplementary Books
licht.wissen: the licht.de series of publications, http://www.licht.de/
Light Pollution a Global Discussion http://www.lightpollutiondiscussion.net

licht.wissen: the licht.de series of publications, http://www.licht.de/
SynthLight Handbook A.Tsangrassoulis, A. Synnefa, A.Jacobs, M.Wilson, J.Solomon, M. Fontoynont, W.Pohl, A. Zimmermann http://new-learn.info/learn/packages/synthlight/handbook/index.html
RELUX, manual
Instructions for using a calculation program https://support.relux.com/en/support/solutions
Instructions for using a calculation program https://reluxnet.relux.com/en/tutorials.html
Dialux evo, manual,
https://www.dial.de/fileadmin/documents/dialux/DIALux_downloads/DIALux%20evo%20manual.pdf
Technical Guides from Greek technical Chamber Lighting

Greek Energy Legislation for Buildings