LABORATORY MODULE OUTLINE ATM3

1. GENERAL INFORMATION

SCHOOL	OF APPLIED ARTS AND SUSTAINABLE DESIGN		
PROGRAM COURSE	Documentation and modeling of Monuments and Archaeological Sites (ATM)		
LEVEL OF STUDY	POSTGRADUATE		
MODULE CODE	ATM3	**SEMESTER OF STUDY**	2nd
MODULE TITLE	**Advanced Modeling and Photorealism**		
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**	**CREDIS**
Weekly teaching hours 19-20 hours x 13 weeks		**250**	**10 ECTS**
COURSE TYPE Compulsory, Optional, Optional mandatory	Elective		
PREREQUISITE MODULES:	None		
LANGUAGE OF INSTRUCTION AND EXAMS	Greek		
THE MODULE IS OFFERED TO ERASMUS STUDENTS	No		
MODULE WEBSITE (URL)	https://www.eap.gr/en/documentation-and-modeling-of-monuments-and-archaeological-sites-atm-thematics/#atm3 Each laboratory module has its own space in the Learning Management System of HOU (https://courses.eap.gr/login/index.php), 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:

Upon successful completion of the course module, students will be able to:

- Understanding of practices for processing and transforming 3D objects.
- Familiarity with the characteristics of the virtual camera and its placement methods in relation to space and light.
- Knowledge of the algorithms used for the virtual representation of lighting.
- Application of the basic properties of digital materials and their mapping to objects.
- Knowledge of the main parameters that determine the performance of three-dimensional objects in the digital space.

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 *Project planning and management*

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 (Other…….citizenship, spiritual freedom, social awareness, altruism etc.) …….*	*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* *……* *Introduction of innovative research*
• 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 • Working in an interdisciplinary environment • Critical thinking • Development of free, creative and inductive thinking	

3. MODULE CONTENT

The course module "Advanced Modeling and Photorealism" covers the processes of three-dimensional design on a computer by describing the relevant theories for the three-dimensional digital space, the creation of objects and their photorealistic display. The aim of the Laboratory course module is to understand the way in which we observe and work in the virtual three-dimensional space. With the successful completion of the module, the students will have acquired the necessary knowledge for the design of three-dimensional objects and their photorealistic visualization.

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. power point), 3d modeling software (i.e. Blender) Additionally, the students use office automation tools, web browsers and e-reader for digital books.
MODULE 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*	

Activity	***Annual Workload***
3 OSS (x 3 hours)	9
3 tutorial exercises (3 x 20 hours)	60
Final project	40
Individual study (11 hours x 13 weeks)	143

The study hours for each learning activity as well as the hours of selfdirected study are given following the principles of the ECTS.	**Total laboratory module workload (hours)** **250**
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*	Completion of assignments during the academic semester, and final project. Assignments/projects consist of a theory part, and an applied one. Final oral exam as part of the project submission to verify authorship of projects and establishment of the level of knowledge of those taking part in the exams. For further information go to the **EAP Study Guide**.

5. SUGGESTED BIBLIOGRAPHY

- *Suggested bibliography:*

- Ζερεφός, Σ. (2013). Ψηφιακή Απόδοση Φωτισμού: Θεωρία και Εφαρμογές. (Τόμος Γ΄). Πάτρα: ΕΑΠ.
- Σαντοριναίος, Μ., Ζώη, Σ., Δημητριάδη, Ν., Διαμαντόπουλος, Τ., Μπαρδάκος, Γ. 2015. Τα ψηφιακά εργαλεία καλλιτεχνικής έκφρασης που αφορούν στις νέες εικόνες (τριδιάστατα γραφικά). [Κεφάλαιο Συγγράμματος]. Στο Σαντοριναίος, Μ., Ζώη, Σ., Δημητριάδη, Ν., Διαμαντόπουλος, Τ., Μπαρδάκος, Γ. 2015. Από τις σύνθετες τέχνες στα υπερμέσα και τους νέους εικονικούς-δυνητικούς χώρους. Ένα εγχειρίδιο για τον καλλιτέχνη που ασχολείται με την ψηφιακή τέχνη.. [ηλεκτρ. βιβλ.] Αθήνα:Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. κεφ 8. Διαθέσιμο στο: http://hdl.handle.net/11419/6084
- Λαζαρίνης, Φ. 2015. Θεωρία Ψηφιακών Γραφικών 3Δ & Σχεδιοκίνησης. [Κεφάλαιο Συγγράμματος]. Στο Λαζαρίνης, Φ. 2015. Πολυμέσα. [ηλεκτρ. βιβλ.] Αθήνα:Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. κεφ 4. Διαθέσιμο στο: http://hdl.handle.net/11419/2050

-*Related scientific Journals:*