LABORATORY MODULE OUTLINE ATM4

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	ATM4	**SEMESTER OF STUDY**	2nd
MODULE TITLE	**Photogrammetry**		
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	Compulsory		
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/#atm4 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:

- Knowledge of the photogrammetry method.
- Application of the photogrammetric process from the acquisition of the photos as data to the final result which is the three-dimensional model and the digital orthophoto.
- Practical practice in the techniques used in image processing in photogrammetry.
- Knowledge of the process of field mapping with special photogrammetric equipment.
- Knowledge of methodology for obtaining three-dimensional metric information.

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

Project planning and management

Respect for diversity and multiculturalism

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.) …….*	*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, *Adapting to new situations* *Decision-making* *Individual/Independent work* *Working in an interdisciplinary environment* *Environmental awareness* *Project planning and management* *Critical thinking* *Development of free, creative and inductive*	

3. MODULE CONTENT

The Laboratory course module "Photogrammetry" explains the concept of photogrammetry as a basic imaging method for the restoration and documentation of monuments and archaeological sites. It introduces the basic steps of the photogrammetric process, photogrammetric orientations, photo processing, special photogrammetric equipment and photogrammetric products. The Laser scanner and the methods of producing three-dimensional models, the Digital Terrain Model and the Digital Orthophotomap are presented. The aim of the module is to understand the method of photogrammetry as a basic method of digitization and modeling of archaeological finds, monuments and places. Students can monitor the fieldwork with special photogrammetric equipment and process the digital photos to produce the 3D model.

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), Photogrammetry software 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
In situ laboratory excersises	4
2 tutorial exercises (2 x 20 + 1 x 30 hours)	70
Final project	40

The study hours for each learning activity as well as the hours of selfdirected study are given following the principles of the ECTS.	Individual study (9 hours x 13 weeks)	117
	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 3 written assignments during the academic semester with a weighting factor of 40% in determining the final grade of the module. Mandatory live laboratory activities constitute 20% of the grade. Final semester project accounts for 40%. For further information please visit the program's webpage	

5. SUGGESTED BIBLIOGRAPHY

- *Suggested bibliography:*

- Πατιάς Π. 1991. Εισαγωγή στην φωτογραμμετρία. Εκδόσεις Ζήτη ISBN 960-431-021-6
- Αναγνωστόπουλος Χρήστος Νικόλαος 2017. Επεξεργασία Ψηφιακών Εικόνων. Αρχές και Εφαρμογές στο Πεδίο του Χώρου. Εκδόσεις Τζιόλα. ISBN 9789604186945

-Related scientific Journals: