MODULE OUTLINE EPK51

1. GENERAL INFORMATION

SCHOOL	OF APPLIED ARTS AND SUSTAINABLE DESIGN		
PROGRAM COURSE	SUSTAINABLE INTERIOR DESIGN OF BUILDINGS (EPK)		
LEVEL OF STUDY	POSTGRADUATE		
MODULE CODE	EPK51	**SEMESTER OF STUDY**	1st
MODULE TITLE	**Natural and Mechanical Ventilation**		

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 21-23 hours x 13 weeks	**280-300**	**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 (due to annual duration of the module)
MODULE WEBSITE (URL)	https://www.eap.gr/en/viosimos-shediasmos/topics/#EPK51 Each module has its own space in the Learning Management System of EAP (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 Thematic Unit, students will be able to:

- calculate ventilation requirements depending on the use of indoor spaces in accordance with current regulations,
- understand the basic parameters and processes that impact natural ventilation,
- calculate various design parameters and the level of natural ventilation through the application of various methodologies,
- recognize the main equipment of mechanical ventilation installations,
- evaluate various parameters in the design of mechanical ventilation installations,
- identify appropriate technical mechanical ventilation solutions,
- calculate various design and function parameters,
- know examples of ventilation applications in various different building types.

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 • Project planning and management • Environmental awareness • Adapting to new situations • Decision-making • Individual/Independent work • Critical thinking • Group/Team work • Working in an interdisciplinary environment	

3. MODULE CONTENT

Thematic Unit EPK51 aims to present the basic principles of design in relation to the use of natural and mechanical ventilation techniques and systems in buildings, to improve indoor environmental conditions with rational use of energy. In particular, the unit aims to provide students with knowledge regarding ventilation requirements and regulations, functional principles, special systems and specialized calculations relating to natural ventilation, as well as the functional principles, the anatomy of local and central mechanical installations, automations, rational energy use, and basic calculations related to ventilation requirements and ventilation and interior environment quality.

4. TEACHING METHODS--ASSESSMENT

MODES OF DELIVERY *Face-to-face, in-class lecturing, distance teaching and distance learning etc.*	Distance education with three Group Counseling Meetings (OSS) during the academic year on weekends. Personal communication and feedback, where necessary (advisory role of SEP members)
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), 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*	

Activity	***Annual Workload***
3 OSS (x 4 hours)	12

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.*	2 tutorial exercises (2 x 30 hours)	60
	1 semester assignment	55
	Examination	3
	Individual study (21-23 hours x 13 weeks)	150-170
	Total module workload (hours)	**280-300**
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 written assignments during the academic semester which constitute a 40 percent of each student's grade, if a pass is obtained in the final or repetitive examination. Final exam grades constitute a 60 percent of the students' final course grade. For further information go to the **EAP Study Guide**.	

5. SUGGESTED BIBLIOGRAPHY

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HVAC - Natural ventilation principles (A. Bhatia, Course No: M04-038 - CED Engineering)

Natural Ventilation lectures (Z. Magyar, Budapest University of Technology and Economics, Department of Building Energetics and Building Service Engineering)

Price Industries, Engineering Guide - Natural Ventilation (2011)

ASHRAE Advanced Energy Guides

ASHRAE Indoor Air Quality Guide: Best Practices for Design

ASHRAE Standard 62.1-2022, Ventilation and Acceptable Indoor Air Quality

ASHRAE Standard 62.2-2022, Ventilation and Acceptable Indoor Air Quality in Residential Buildings

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