

COURSE OUTLINE

1. GENERAL

SCHOOL	ENGINEERING		
DEPARTMENT	PRODUCT AND SYSTEMS DESIGN ENGINEERING		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	3201	SEMESTER	5
COURSE TITLE	Studio 5 – Product Design I		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
Lectures and Lab exercises		2+2	6
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Special background, skills development		
PREREQUISITE COURSES:	NONE		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK/ENGLISH		
COURSE DELIVERED TO ERASMUS STUDENTS	YES		
MODULE WEB PAGE (URL)	https://eclass.uowm.gr/		

2. LEARNING OUTCOMES

Learning outcomes
<p>The product design studios are the place where students will work in a multidisciplinary fashion applying theoretical knowledge and skills acquired by other courses so as to conceive analyze and develop innovative and viable products and systems.</p> <p>Towards that aim professional practice and design theory are fused in a process of integrated product design that places emphasis both on methodology as well as the quality of end results, while project themes are usually drafted in cooperation with the industry in an effort to link the university with society and the market.</p> <p>On successful completion of this module the learner will be able to:</p> <ul style="list-style-type: none"> • Apply the process of integrated product design with an emphasis on the validity of results of the different phases of the process. • Comprehend and analyze human activity of specified user groups in specified contexts with the aim of discovering unfulfilled human needs. • Apply methodologies of activity observation as well as field research for the collection of original research data of high validity. • Compile a complete, organized, detailed and prioritized list of design specifications that encompass all research findings. • Apply techniques and tools of physical and virtual prototyping for the evaluation and development of ideas and design solutions. • Apply principles and knowledge of ergonomics. • Balance aesthetics, functionality and technology according to a design specification. • Employ symbolism, conceptual and cultural content in design.

- Evaluate products according to design specification.

General Skills

Upon successful completion of the program students will:

- have the theoretical and practical background on the field of product and systems design engineering and the corresponding profession.
- utilize scientific knowledge to understand, analyze and solve problems.
- apply a wide range of scientific and technical knowledge concerning the design and development of products and systems.

3. COURSE CONTENTS

1. Studio 5 – Product Design I is an introduction to the process of integrated product design while the project themes and structure place prioritize concept quality and the generation of high validity data to supply the process with.
2. A condition for the above is the employment of methodologies relevant to activity observation as well as field research for the production of high validity original data that may support the identification of unmet user needs.
3. With the completion of research and analysis the user groups, the context within which they operate and the object of design have been comprehended and analyzed to sufficient depth so as to draft a complete, organized and prioritized list of design specifications that summarize research findings, form a structure for the phase of ideation and act as evaluation criteria.
4. Innovation, creativity and breadth of experimentation is the aim in the phase of ideation where student teams will employ modern as well as traditional tools to generate an extensive idea pool for the solution of all issues that have been identified with the design specifications.
5. The aim of the synthesis of integrated design proposals is balancing the influence of aesthetics, functionality and technology on the experience of the user and the investigation of alternative strategies in solving the wider problem.
6. Condition for the success of the phases of ideation and synthesis of preliminary designs is the extensive employment of physical and virtual prototyping so as to evaluate and further develop ideas and designs.
7. In the end an essential goal of the course is to familiarize students with tackling complex problems that may have multiple solutions and the necessary levels of confidence and initiative.

4. TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	In class, face to face	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	<ul style="list-style-type: none"> • Video and slide presentations via projector • Support of teaching process via the electronic platform e-class • Communication with students. 	
TEACHING METHODS	Activity	Semester workload
	Lectures	50
	Non-directed study	50
	Lab exercises	50
	Course total	150
ASSESSMENT METHODS	Lab exercise which includes:	

	<ul style="list-style-type: none">I. Homework exercisesII. Exercises in the classIII. Coursework for portfolio built <p>Final written exam which includes:</p> <ul style="list-style-type: none">i. Short-answer questionsii. Multiple choice questionsiii. Problem solving
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5. ATTACHED

- Suggested bibliography:

1. Βιβλίο [102072449]: Σχεδιασμός Προϊόντων, Κυράτσης Παναγιώτης, Ευκολίδης Νικόλαος, Μηνάογλου Πρόδρομος, Μανάβης Αθανάσιος [Λεπτομέρειες](#)
2. Βιβλίο [102071669]: Βιομηχανική Μορφοδοσία Design, Κουζέλης Αθανάσιος [Λεπτομέρειες](#)
3. Class notes