

7.7 CE0721 – Architectural Design & Buildings

(1) GENERAL

SCHOOL	ENGINEERING SCHOOL		
ACADEMIC UNIT	CIVIL ENGINEERING DEPARTMENT		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	CE0721	SEMESTER	7
COURSE TITLE	Architectural Design & Buildings		
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	
	3	4	
<i>Add rows if necessary. The organization of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialized general knowledge, skills development</i>	Special Background Course		
PREREQUISITE COURSES:	No		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS			
COURSE WEBSITE (URL)	https://eclass.uniwa.gr/courses/CIV279/		

(2) LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>
<ol style="list-style-type: none"> 1. The course learning objectives are to enable the student to understand architectural design as a synthesis of science and art that must express and fulfill human needs (individual - collective, quantitative - qualitative, functional etc), as well as respond to specific building technology - know-how, infrastructural barriers, social, environmental, cultural, and economic parameters, climatic and other natural parameters. 2. To be fully aware and comprehend the approach technique of architectural research, as well as knowledge of general and specific construction science. 3. Understanding the fundamental aspects of architectural design, as well as its crucial importance as an area of synthesis of user needs with construction economics and scientific standards. Analyze and manage energy-saving challenges, climate adaptation and climate change, and building integration in its natural (nature, topography, landscape) and anthropogenic (urban, cultural) environments. Also, given the increasing professional applications on these difficulties, to manage the issues of architectural history and culture.

4. To develop synthetic ability and expression for the solution of the most common architectural issues in the context of applied manufacturing operations of the built environment, given that these issues correspond to a significant part of the physical object of the civil engineer's profession in Greece, in his professional rights as well as the civil and disciplinary responsibilities assigned to them by the legislator for each stage of work production.
5. Acquire the ability to capture / record, analyze, study, and solve practical issues that emerge in the above fields of application of the architectural act, to explore alternative approaches, and to compose the individual parameters of its analysis, through courses (lectures, practical exercises), as well as semester assignments (as well as dissertations) throughout the field of architectural research and application, in order - in collaboration in collaboration with other professions - to arrive at practical solutions according to the laws of art and science, as well as the conditions imposed by the respective socioeconomic, cultural, and legal framework.

General Competences

Taking into consideration the general competencies that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?;

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Teamwork

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional, ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative, inductive thinking

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Others...

- Data and information analysis and synthesis on the utilization of the necessary architectural options. Adaptation to new situations: Evaluation of existing techniques, the building, and its environmental data, as well as the new materials used. Observance of the natural and man-made environments.
- Decision Making: The formulation and articulation of a well-supported view on the economic and long-term viability of architectural decisions. Promotion of free, creative, and inductive thinking for developing problem-solving, with the common root of each user's needs as the primary criterion.
- Work autonomy: Understanding of legislation, protocols, and ethical considerations during the implementation process.
- Teamwork: Entails the ability to communicate, criticize - including self-criticism - and solve problems collaboratively.

(3) SYLLABUS

1. An introduction to the fundamental Architectural Design ideas and the General Building Rules, Building Regulations, out-of-plan building regulations, and unique regulatory frameworks for the preservation of the built space.
2. Analyze the objective, subjective, and conceptual needs that Architectural Design is challenged to fulfilling.
3. Introduction to the fundamentals of architectural composition and architectural design approaches.
4. Anthropometrics and Ergonomics; analysis and synthesis in house shells
5. Building design in connection to the environmental, construction, socioeconomic, and morphological aspects that influence it.
6. Environmental factors of architectural design: heat transfer in buildings, energy consumption, sun exposure, shading, ventilation, comfort, natural lighting, materials – outdoor space, build environment diversity (direction, the morphology of the urban space, micro-climate, etc.)
7. Relationships and interactions between the designer, the owner, and the builder during the construction process.
8. Urban design for disabled peoples' needs
9. Building typology (appearance, floor plan) based on location, materials and building technology, climate, economic and social characteristics, time - period, usage, and operational necessities.
10. Specifications and the study preparation procedure (preliminary study and final study).

(4) TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;">DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	<p>Face-to-face lectures, laboratory applications, open-learning courses</p>														
<p style="text-align: center;">USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<ul style="list-style-type: none"> • PowerPoint presentations, presentations of photos, images, sketches, drawings, maps, and so on, can be delivered via pc-projector • Posting of instructional materials on the Department's website and in the e-class, distribution of digital materials to students, and meetings with students via the UNIWA MsTeams or Eclass platform. <p>Communication: Announcements and instructional material on the respective website, as well as communication by email - alerted to students on the Department's website - or via e-class and MsTeams</p>														
<p style="text-align: center;">TEACHING METHODS</p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><i>Activity</i></th> <th style="text-align: center;"><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td style="text-align: center;">39</td> </tr> <tr> <td>Classwork</td> <td style="text-align: center;">31</td> </tr> <tr> <td>Preparation for Project</td> <td style="text-align: center;">20</td> </tr> <tr> <td>Personal Study</td> <td style="text-align: center;">25</td> </tr> <tr> <td>Educational outdoor activities</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Course total</td> <td style="text-align: center;">175</td> </tr> </tbody> </table>	<i>Activity</i>	<i>Semester workload</i>	Lectures	39	Classwork	31	Preparation for Project	20	Personal Study	25	Educational outdoor activities	5	Course total	175
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<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION</p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>Language of evaluation: Greek</p> <p>Theory (50%) Final written examination: 50% Final written exam (80%) including short answer questions and building problem solutions in conjunction with a progress exam (20%) or solely final written exam (100%).</p> <p>Laboratory work - Projects: 50% Weekly practice exercises (50%) and semi-annual architectural composition, recording, mapping, or research work (50%). If no semester work is assigned, the practice exercises account for 100% of the grade.</p> <p>The evaluation criteria are explained at the beginning and throughout the courses, and the relative importance of the subjects, practice exercises, and final written test criteria are highlighted.</p> <p>In order to easily comprehend these criteria, the evaluation criteria are announced while some of the best (prior) work is demonstrated when discussing how the work is developed.</p> <p>The application of these requirements is easily available and can be examined by each student, as there is a brief commentary on the deliverables of the practice exercises (per week), semester work, and competition</p>														

(5) ATTACHED BIBLIOGRAPHY

Greek Bibliography:

1. Vitrouvios, "*On Architecture*", Books I-V, published by Plethros Publications (in Greek).
2. Varelidis G., Theodorakakou - Varelidou P., "*Architectural Design*" (self-published), Athens 2010 (in Greek).
3. Varelidis K., Varelidis G., "*Guidelines for the Implementation of the Specifications for the Compilation of Private Project Studies*", Vocational Training Institute of Greek Engineers – IEKEM / TEE, Athens 2011 (in Greek).

Foreign Bibliography:

1. Jenks Ch., «*Post Modern Classicism. An Introduction*», A.D., 1998.
2. Jenks Ch., "*The Language of the Postmodern*", Issues of Space and Arts, volume 27/2002.
3. Rossi Al., "*The Architecture of the City*", published by University Studio Press Publications, 2008.
4. Zevi Br., "*The Modern Language of Architecture*", published by Nefeli Publications, 2011.