UNIVERSITY of NICOSIA

Course Syllabus

Course Code	Course Title	ECTS Credits
ARCH-322	Building Services	4
Prerequisites	**Department**	**Semester**
-	Architecture	Spring
Type of Course	**Field**	**Language of Instruction**
Required	Architecture	English
Level of Course	**Lecturer(s)**	**Year of Study**
1st Cycle	Adonis Cleanthous	3rd
Mode of Delivery	**Work Placement**	**Corequisites**
Face to face	N/A	ARCH-302

Course Objectives:

The main objectives of the course are to:

- Present building technology, through the study of sustainable systems, HVAC, plumbing, electrical, and transportation systems
- Develop student's ability to integrate building technology into building design.
- Emphasize the technical aspects of Architecture.
- Develop student's ability to 'read' and understand technical drawings and specification documents
- Promote critical thinking capacity and utilizing knowledge of conventional building technology as a tool for further exploration and architectural invention.
- Develop student's ability to assess environmental issues related to building performance.
- Present students with the necessary tools to design creatively, concisely, and logically building services as an integral part of architecture.

Learning Outcomes:

After completion of the course students are expected to be able to:

1. Recall the main characteristics of building installations and recent technologies.
2. List the elements of the ecological cycle of building, and respond by appropriate use of building services
3. Summarize Systems, Methods, Performance, Energy Conservation, concepts from selected published projects.
4. Describe verbally and in writing the main characteristics of key sustainable building services.

5. Produce sketches and diagrams highlighting principal building services strategies.
6. Analyze the characteristics of a building's Heating, Ventilation and Air Conditioning installations.
7. Point out aspects of materials, and their qualities and assembly processes regarding desirable thermal capacity or thermal insulation, as relating to the overarching building installations concept.
8. Formulate a mature and personal stance regarding an integrative design process in terms of the technical building services, and therefore devise a unique understanding of the present state of architecture.
9. Evaluate the appropriateness of mechanical installations utilized in the implementation of the built environment as it relates to human wellbeing.

Course Content:

1. Lectures on building services as an integral part of architectural design
2. Case-study of building technology: Systems/methods/performance/energy conservation/concepts, from selected published projects
3. In-class laboratory discussions on mechanical accessory components and their integration into building-design
4. Building Performance
5. From linear to Integrated Planning
6. Comfort
7. Integrated Planning Models
8. Heating Systems
9. Primary Energy Sources
10. Heat Generating Systems
11. Thermal Energy Distribution
12. Radiators and Heating Surfaces
13. Ventilation
14. Air Conditioning
15. Refrigerating and cooling Systems
16. Water Supply
17. Building Drainage
18. Fire Protection
19. Electrical Systems
20. Installations for Buildings
21. Artificial Lighting for Buildings
22. Integrating Building Services
23. Applications towards a Technical Report

Learning Activities and Teaching Methods:

- Lectures, individual work, demonstrations, various exercises, case studies, student presentations, workshops.

Assessment Methods:

Technical Report
Final Exam
Attendance and Participation

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Advanced Building Systems	Klaus Daniels	Birkhauser	2003	3-7643-6723-

Recommended Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Constructing Architecture, Materials Processes Structures	Andrea Deplazes	Birkhauser	2005	10:3-7643-7189-7