



LEFKE AVRUPA ÜNİVERSİTESİ  
EUROPEAN UNIVERSITY OF LEFKE

**DEPARTMENT OF  
CONSTRUCTION TECHNOLOGIES**

*PROGRAM INFORMATION*

[www.eul.edu.tr](http://www.eul.edu.tr)

## **PROGRAM INFORMATION**

### **Program Name and Degree Awarded**

Construction Technologies, Associate degree

### **Duration of Studies**

2 years

### **Total Credits / ECTS**

68/120

### **Language of Instruction**

ENGLISH

### **Mission and Vision**

#### **Mission**

The Construction Technology Associate Degree Program is a two-year higher education program designed to train qualified intermediate workforce needed by the construction industry in both construction and post-construction service levels, in line with a philosophy of quality and service that meets contemporary expectations.

The primary objective of the program is to graduate students with an associate degree who have acquired the knowledge required by technological advancements, the ability to apply them, are familiar with materials, have knowledge of construction techniques, can use professional drawings and standards, possess the knowledge and skills to solve professional problems, and are able to utilize modern technology.

Graduates of this program are eligible to work as construction technicians. They actively participate in the construction of buildings such as dams, roads, airports, and residential buildings. They can also work as technical personnel in inspection companies, public or local governments'

natural resource, transportation/highway, construction departments, and material testing laboratories.

To graduate, students must successfully complete the program's courses (68 credits) and summer internships. Upon successful completion of the program, they will be awarded an Associate Degree in Construction Technology. Students graduating from the program can continue their education in undergraduate programs by using the DGS exam administered by ÖSYM. They may be exempted from courses taken in the associate degree program if their credits align with the undergraduate program.

### **Vision**

Our mission is to be a department that trains construction technicians who can use science and technology for the benefit of our country and humanity, who can adapt to changing world standards and innovations, who can think, question, research, have managerial skills and can compete in the international arena.

### **Program Objectives**

The European University of Lefke's Construction Technology Associate Degree Program aims to train qualified technical personnel needed by the construction industry. The program provides students with theoretical knowledge and practical skills in modern construction techniques, building materials, construction site practices, building inspection, and project management. Graduates will be equipped to work alongside civil engineers and architects to contribute to the safe, economical, and high-quality implementation of projects. Furthermore, the goal is to cultivate individuals who are adaptable to the ever-evolving technological and environmental needs of the industry, possess occupational health and safety awareness, are prone to teamwork, and adhere to professional ethical values.

## **Program Learning Outcomes**

1. Applies mathematics, science, and fundamental engineering knowledge to applications in the field of construction technology.
2. Possesses fundamental knowledge of building materials, structural elements, soil, concrete, and steel construction systems.
3. Understands legislation, regulations, and risk management related to the construction industry.
4. Can read and draw building blueprints, and effectively uses computer-aided design (CAD) software.
5. Conducts experiments in laboratory and construction site environments, analyzes and interprets technical data.
6. Performs quality control and testing of building materials and structural elements.
7. Possesses skills in planning, costing, and quantity takeoff in accordance with construction technology.
8. Takes an active role in teamwork and collaborates with diverse disciplines using communication skills.
9. Complies with professional ethics and acts with awareness of sustainability and environmental responsibility.
10. Understands the importance of lifelong learning and stays abreast of current literature and technological innovations to maintain professional development.
11. Can communicate verbally and in writing in a foreign language on topics related to the field.

## Curriculum

<b>1st Semester</b>				
<b>Course Code</b>	<b>Course Name</b>	<b>(T-A-L)C</b>	<b>ECTS</b>	<b>Course Type</b>
COMV109	MATHEMATICS	(3-0-0)3	6	Compulsory
COMV111	CHEMISTRY	(3-0-0)3	6	Compulsory
COMV121	PHYSICS I	(3-0-0)3	6	Compulsory
COMV113	CHEMISTRY LAB	(2-0-0)1	4	Compulsory
UFLE01	FOREIGN LANGUAGE ELECTIVE I (ENGLISH)	(3-0-0)3	3	Elective
UTEC01	UNIVERSITY ELECTIVE I	(3-0-0)3	5	Elective
<b>2nd Semester</b>				
<b>Course Code</b>	<b>Course Name</b>	<b>(T-A-L)C</b>	<b>ECTS</b>	<b>Course Type</b>
CNTE108	INTRODUCTION TO BUILDING SCIENCE	(2-0-0)2	7	Compulsory
CNTE112	TECHNICAL DRAWING	(3-0-0)3	7	Compulsory
UFLE02	FOREIGN LANGUAGE ELECTIVE II (ENGLISH)	(3-0-0)3	3	Elective
UFRC01	UNIVERSITY ELECTIVE I	(3-0-0)3	4	Elective
UPEC01	UNIVERSITY ELECTIVE I (PHILOSOPHY GROUP)	(3-0-0)3	5	Elective
UHTC01	HISTORY	(2-0-0)2	2	Elective
UHTC02	TURKISH	(2-0-0)2	2	Elective
<b>3rd Semester</b>				
<b>Course Code</b>	<b>Course Name</b>	<b>(T-A-L)C</b>	<b>ECTS</b>	<b>Course Type</b>
CNTE207	MATERIALS SCIENCE	(3-0-0)3	5	Compulsory
UFRC02	UNIVERSITY ELECTIVE II	(3-0-0)3	4	Elective
CNTE211	STATICS	(4-1-0)4	6	Compulsory

CNTE213	CONSTRUCTION MANAGEMENT	(3-0-0)3	6	Compulsory
CNTE215	CONSTRUCTION ECONOMY	(3-0-0)3	5	Compulsory
CNTE233	BUILDING CONSTRUCTION AND DETAILING I	(1-2-0)2	4	Compulsory
CNTE207	MATERIALS SCIENCE	(3-0-0)3	5	Compulsory
<b>4th Semester</b>				
<b>Course Code</b>	<b>Course Name</b>	<b>(T-A-L)C</b>	<b>ECTS</b>	<b>Course Type</b>
CNTE206	SURVEYING & MAPPING	(1-2-0)2	4	Compulsory
CNTE208	BUILDING MATERIALS & FINISHES	(2-0-0)2	4	Compulsory
CNTE202	STRENGTH OF MATERIALS	(4-1-0)4	6	Compulsory
UFRC03	UNIVERSITY ELECTIVE III	(3-0-0)3	4	Elective
CNTE204	CONSTRUCTION PRACTICE	(0-6-0)3	6	Compulsory
CNTE252	BUILDING CONSTRUCTION AND DETAILING II	(1-2-0)2	6	Compulsory
CNTE206	SURVEYING & MAPPING	(1-2-0)2	4	Compulsory

#### **Laboratory and Equipment Capacity (if applicable)**

1. 200 kN Capacity Fully Automatic Compressive Strength Testing Machine
2. 20 kN Capacity Fully Automatic Flexural Testing Machine
3. Steel Tensile Testing System
4. Low Frequency Fatigue and Creep Testing System
5. Soil Permeability Determination Testing Machine (Constant Head and Falling Head)
6. Rheometer for Fresh Concrete
7. Sound Insulation Testing System
8. Concrete Cover, Stirrup, and Rebar Diameter Determination Testing System
9. Rust Measurement Testing System
10. Three-Dimensional Concrete Tomography Testing System
11. Thermal Conductivity Testing System
12. Fully Automatic CBR-Marshall Testing System

13. Fully Automatic Pole Shear Testing System
14. Fully Automatic Three-Dimensional Compression Testing System (For CD, CU, UU Tests)
15. Soil Settlement Parameters Determination Testing System
16. UU Three-Dimensional Compression Determination Device
17. Uniaxial Compression Determination Device
18. Consolidation Test System
19. Standard and Modified Compression Test System
20. Viscometer
21. Liquid Limit Device
22. Cement Fineness Device
23. Borehole and CBR Molds
24. Curing System for Concrete and Cement Paste Samples
25. Shelby Molds for Collecting Undisturbed Soil Samples
26. Hobart Mixer
27. Porcelain Vessels
28. Plastic Limit Apparatus
29. Standard Glass Vessels of Various Volumes
30. Melting Pot for Sulfur Head
31. Bernoulli's Theorem Demonstration
32. Impact of a Jet
33. Orifice and FreeJet Flow
34. Energy Loss in Pipes
35. Flow Channel
36. Osborne Reynolds' Demonstration
37. Flowmeter Demonstration
38. Energy Loss in Bends
39. Free and Forced Vortices
40. Schmidt Hammer
41. Ultrasonic Testing Machine (Pundit)
42. Loading Unit
43. Caliper

44. Automatic Theodolite
45. Total Station
46. CL-2000 Chloride Field Test
47. Maturity Meter
48. Ultrasonic Testing System
49. Windsorprobe Testing System
50. GNNS (GPS) Measuring Device
51. Vicat Apparatus
52. Hand Compression Apparatus
53. Cube, Cylinder, and Beam Moulds of Various Volumes
54. Desiccator
55. Flow Table Apparatus
56. Specific Gravity Determination Test Apparatus
57. Sintering Furnace (1450 °C)
58. Standard Sieve Sets (For Coarse and Fine Aggregate Samples) and Sieve Shakers
59. Concrete Air Content Determination Apparatus
60. Vibration Table
61. Jolting Table
62. Aggregate Impact Strength Test Apparatus
63. Aggregate Crushing Test Apparatus
64. Slump Cone
65. Hydrometer Test System
66. 300 kN Capacity Fully Automatic Compressive Strength Device
67. Grinding Apparatus
68. Standard Oven
69. Los Angeles Abrasion Device
70. Compaction Factor Device
71. Vebe Device
72. Concrete Permeability Determination Test System
73. Air Compressor
74. Standard Chemicals

75. Sample Extractor
76. Le Chatier Mould
77. Steam Tank
78. Core Drilling Device
79. Tool Box
80. Pure Water Production Device

### **Career Opportunities**

Graduates of the Construction Technology Program can work as technical personnel in the construction industry. They can work as assistant construction managers, building inspection technicians, laboratory technicians, surveyors and quantity surveyors, and material tracking and quality control officers. They can work in public institutions and private companies, as well as start their own businesses. They also have the opportunity to complete their undergraduate education by continuing in related engineering programs through the Vertical Transfer Exam (DGS).

### **Contact Information**

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## **COURSE CATALOGUE DESCRIPTIONS**

### **1<sup>st</sup> Semester**

#### **COMV109 Mathematics**

Revision of basic algebra, fractions and partial fractions. Linear equations, arithmetic expressions and simplification of algebraic expressions. Operations with surds and indices. Logarithms and methods for solving logarithmic functions. Techniques for solving quadratic functions. Graph sketching for quadratic equations in Cartesian plane. Solving linear, polynomial and rational inequalities. Parallel and perpendicular lines.

#### **COMV111 Chemistry**

The aim of this course is to describe students how substances interact with one another. Students will be informed on how the atom is made up, how atoms come together to make molecules and how molecules can interact, chemical compounds, chemical bonds, chemical equations and reactions, aqueous solutions, periodic table, gases, the electronic structure of the atom and introduction to thermochemistry.

#### **COMV 121 Physics I**

This course aims to introduce the fundamental concepts of physics necessary for engineering science and to provide essential background for engineering students. The course provides deep understanding about kinematics and dynamics of one dimensional, two dimensional, circular and rotational motion. Also, the course aims to show the students the engineering applications of the course material.

#### **COMV113 Chemistry Lab**

This course contains laboratory applications related with Chemistry course (COM111). Experiments especially related with separation, stoichiometry, reactions in aqueous solutions, solution preparation and acids/bases are conducted.

### **UFLE01 Foreign Language Elective I (English)**

This course is intended for academically oriented students and it aims to bridge the gap between general and academic English. The course aims at developing the skills required for academic study, including note-taking, essay writing, as well as teaching strategies for undertaking research and dealing with unfamiliar academic vocabulary. The course also aims at teaching the features of guided writing, reading strategies such as predicting, skimming, and scanning. At the end of this course the students are expected to be able to; develop strategies, to improve the ability to comprehend complex academic texts, to develop strategies to produce more coherent writing and, make clear, appropriate, relevant notes from academic texts, and to adopt various approaches to deal with new or unknown vocabulary by practising effective use of dictionaries, and through making effective vocabulary records.

### **UTE01 University Elective I**

#### **2<sup>nd</sup> Semester**

#### **CNTE108 Introduction To Building Science**

This course provides the basic scope and vocabulary of architecture and architectural design. It covers the primary aspects of architectural knowledge, principally on architectural form, building science and basic environmental factors. Examining these primary notions in detail, it attempts to develop the ability to understand architectural products within physical interaction of climate aspects. Built on this foundation, it develops students to discuss the physical determinants of architecture and the relationship of the architectural products with their environment.

#### **CNTE112 Engineering Drawing**

This course provides basic principles on the geometric drawing and general understanding on orthographic drawing of the objects by using first or third angle projection. This course also gives students ability to use basic AutoCAD commands for the detailed 2-D drawings of engineered objects.

### **UFLE02 Foreign Language Elective II (English)**

This course is the continuation of the UFLE01 FOREIGN LANGUAGE ELECTIVE I (English) course. Similar issues are focused on as in the former course with a higher tone of language. This

course integrates all four language skills and teaches students how to integrate skills and content in real-world academic contexts. High-interest and intellectually-simulating authentic materials are used to familiarize students with academic content. The course also aims at developing the ability to participate in exchanges of information and opinions in the context of the specific field, and to write instructions, descriptions and explanations about topics in the related field. Extra importance is put on teaching student's terminology related to the specific field. (pre-requisite: UFLE01)

### **UFRC01 University Elective I**

### **UPEC01 University Elective I (Philosophy Group)**

### **UHTC01 History/Tarih**

The course provides a detailed exposure on the history of the construction of the Turkish Republic under the light of Kemal Atatürk's principles this course is designed for Turkish speaking students. COM108 is designed for non-Turkish speaking foreign students. The aim of the course is to introduce a brief history of Turkish Republic and Cyprus. Social, economic and political aspects and effects of Western Civilization on Turkey and Cyprus. Relations with Middle East.

### **UHTC02 Turkish/Türkçe**

To show the characteristics and rules of operation of Turkish language with examples; to give the students the ability and habit to express their feelings and thoughts accurately and effectively; developing vocabulary through written and oral texts; The aim of this course is to teach the rules of reading texts or the programs they listen to correctly. COM 106 course aims to provide basic Turkish reading, speaking and writing skills for international students.

## **3<sup>rd</sup> Semester**

### **CNTE207 Materials Science**

Engineering requirements of materials; the structure of matter; atomic arrangements, structural imperfection, atom movements. Mechanical properties of materials. Concepts of force, stress, deformation and strain; elastic, and plastic behavior; viscosity; rheological models. Creep, brittleness, ductility, hardness, fatigue, toughness, resilience, and damping characteristics of materials.

### **CNTE211 Statics**

Introduction to rigid body mechanics, equivalent force systems. Concepts of moment, couple, resultant. Equilibrium; Free body diagram; equations of equilibrium. Structural analysis; trusses, beams. Properties of surfaces. Area moment and centroids; moment and product of inertia; principal directions.

### **CNTE213 Construction Management**

Profile of construction sector; company and site organization. Documents in a contract file, types of contracts. General specifications for public works. Technical specifications. Working schedules; manpower and equipment requirements on the job. Quantity measurement monthly payments. Final account and payment. Safety in construction. Economical and juridical basis of construction planning. Methods of planning. Gantt charts, networks. CPM and PERT Arrow and present system. Rock drilling and blasting operations.

### **CNTE215 Construction Economy**

Engineering economy principles. Cash-flow diagrams. Time effect on money. Formulas for reflecting time effect on money. How to value money that was spent before and how to value if it will be spent in the future while comparing different alternatives at present. Interest rate, simple interest rate, compound interest rate and compounding periods. How different compounding periods affecting the total amount of interest earned from the deposit. Why different alternatives need to be compared on economical basis. What is feasibility? Comparing different alternatives, examples. Minimum rate of return, attractive rate of return. Replacement and economic life concepts and problems about replacement concept by following different evaluation techniques.

### **CNTE233 Building Construction and Detailing I**

Definition of building construction systems. Introduction to building sub-systems. Analysis of structural systems and materials. Load bearing and framed structural systems. Foundations, walls and floors. Construction site visits, studio-application works, analysing of the systems by drawing and modelling.

## **UFRC02 University Elective**

### **4<sup>th</sup> Semester**

#### **CNTE206 Surveying and Mapping**

The course understanding topographic conditions and designing accordingly is an important design constraint in architecture. This course is a theoretical and practical introduction which assist students to understand and structure their design approaches on inclined terrains.

#### **CNTE208 Building Materials & Finishes**

This course introduces the building materials and finishes and its applications both exterior and interior of buildings. It also provides environmental impact of building materials and finishes as it relates to human health and well-being, as well as their substantial benefit to the total building edifice. The course discourses the characteristics of construction materials and finishes by highlighting their appropriate application, covering topics such as building insulation materials; masonry wall; water penetration and drainage wall. It also addresses interior and exterior finishing materials; ceramic materials and ceramic products; walls and wall finishes materials; floor and floor finishing materials; materials for ceiling and ceiling finishes; window and door materials; and stair and stair finishes materials; roof and roof covering materials.

#### **CNTE202 Strength of Materials**

Simple stress and strain. Equilibrium, compatibility and constitutive relations, state of stress and state of strain with emphasis on two dimensional problems. Bending and shear stresses. Shear and bending moment diagrams by integrating and section method. Deflection of beams. Torsion of circular shafts. Combined stresses. Buckling of columns

## **UFRC03 University Elective III**

#### **CNTE204 Construction Practice**

Construction Practice covers all sorts of the construction site and office duties i.e. preparing and reading drawings, surveying, construction site management, quantity estimates, etc. Upon completion, students must submit an Official Report that is supported with evidences.

## **CNTE252 Building Construction and Detailing II**

Knowledge of building' construction components such as roofs, stairs, doors, windows. Types, materials as well as the selection of an appropriate construction component of the building. Principles of building's constructions components into practice in design. Selection of building constructions' components and their sustainable materials