



EUROPEAN UNIVERSITY OF LEFKE

**DEPARTMENT OF
CIVIL ENGINEERING**

PROGRAMME HANDBOOK

2026

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Civil Engineering Department

The Civil Engineering (CE) Department was founded in 1991 under the Faculty of Engineering and admitted its first students in Fall 1991-1992 academic year. The department is recognized by the Higher Education Council of Turkey (YÖK). The department offers formal education in English. The CE department has been accredited by MÜDEK since 2016.

The program follows a curriculum with 156 credits (240 ECTS) that lasts for 8 semesters. The credits of the courses are expressed in terms of both the credit system and the European Credit Transfer System (ECTS). In the current credit system, for each course and in each semester, the evaluation criteria are determined by the lecturer, which is acknowledged by the department. The lecturer decides on the appropriate weighting applied to each assessment element of the course, e.g. exams, coursework, laboratory work, presentations, projects and course participation. The students completing the program are awarded a Bachelor of Science degree in Civil Engineering.

Our diploma explicitly states the length of the education (4 years) and the degree awarded. The CE Department academic year includes two semesters, Fall and Spring, each lasting at least 14 weeks. The academic calendar to be used in conjunction with the program is determined every year by the University Senate. Some classes may be re-offered during the summer, namely Summer School. The purpose of the Summer School is to offer classes to those students who have taken the offered course before but failed, who have not taken the offered course before, and/or who are having to retake some courses to raise their CGPA. Summer School has a compressed 7-week duration, where the weekly class hours have been doubled.

The CE Department engineering program is a program supported by practical, laboratory, and internship studies, as well as theoretical teaching. In this way, students are given the ability to use the theoretical knowledge they have acquired in solving real-life problems. The CE Department uses Civil Engineering laboratories. Our laboratories include Materials Laboratory, Geotechnics Laboratory, Hydraulics Laboratory and Surveying Laboratory.

Vision:

Our mission is to be a department that educates Civil Engineers 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.

Mission:

Our mission is to train highly qualified Civil Engineers who are needed by the public and private sectors, who are in line with the requirements of the age, who have the ability to learn and research independently, and who can produce creative solutions.

Objectives and Learning Outcomes of the CE Department

The aim of the Civil Engineering Undergraduate Programme is to provide students with strong theoretical foundations and practical skills in civil engineering, while fostering their creativity and ability to research, analyze, plan, design, and implement engineering solutions. The programme seeks to educate competent, innovative, and responsible civil engineers who can effectively apply modern engineering principles and tools to solve complex infrastructure problems. In addition, the department aims to develop graduates who are ethical, environmentally conscious, inquisitive, entrepreneurial, open to lifelong learning, and capable of working effectively both independently and as part of multidisciplinary teams. The programme also prepares students to be competitive professionals who can contribute successfully to sustainable development and to the advancement of civil engineering practice at national and international levels.

The CE Department has been accredited by MÜDEK since 2016 and has also been awarded the EUR-ACE label. MÜDEK (the Association for Evaluation and Accreditation of Engineering Programs in Turkey) has been a full signatory member of the Washington Accord (WA) since June 15, 2011. Consequently, engineering programs accredited by MÜDEK are recognized as equivalent by other WA signatory countries, including the USA, Canada, the UK, and Japan.

The program outcomes are periodically reviewed and updated within a four-year cycle, taking into account academic–student meetings, graduate correspondence, sector and consultancy surveys, alumni feedback, and the views of all relevant stakeholders. The educational objectives are reviewed on a similar basis. An intended qualifications profile has been established in line with the department’s vision and mission and is reflected in the educational objectives and eleven defined program outcomes.

These program outcomes and educational objectives are publicly available on the University website at:

<https://www.eul.edu.tr/en/academic/faculties/faculty-of-engineering/insaat-muhendisligi/>

EO1 : Be competitive candidates in the civil engineering field, capable of holding positions of employment in local, national and international companies; or be able to work in the public sector as a field engineer, construction site manager, supervisor, etc.; or be capable of establishing their own company for the purposes of offering, e.g., consultancy, auditing or management services

EO2: Provide practical solutions to problems by applying their knowledge of modelling and their ability to design, develop and implement in at least one of the key areas in civil engineering: construction, construction materials, geotechnical engineering, transportation engineering and hydraulic engineering

EO3: Adopt lifelong learning as a core principle in their working life, keep up to date with the latest developments in their field and maintain a demonstrable commitment to continued professional development

EO4: Be able to successfully undertake postgraduate research work in order to make a positive contribution to the R&D requirements of industry.

Program Learning Outcomes

The Program Outcomes for the Civil Engineering Department at the European University of Lefke are listed below. Students graduating from the program should have:

- 1. Engineering Knowledge:** Knowledge of mathematics, science, basic engineering, computer computing and subjects specific to the relevant engineering discipline; Ability to use this information in solving complex engineering problems.
- 2. Problem Analysis:** The ability to define, formulate and analyze complex engineering problems using basic science, mathematics and engineering knowledge and taking into account the UN Sustainable Development Goals relevant to the problem under consideration.
- 3. Engineering Design:** Ability to design creative solutions to complex engineering problems; The ability to design complex systems, processes, devices or products to meet current and future requirements, taking into account realistic constraints and conditions.
- 4. Use of Techniques and Tools:** The ability to select and use appropriate techniques, resources and modern engineering and informatics tools, including estimation and modeling, for the analysis and solution of complex engineering problems, while being aware of their limitations.
- 5. Research and Investigation:** Ability to use research methods, including literature research, designing and conducting experiments, collecting data, analyzing and interpreting results, to investigate complex engineering problems.
- 6. Part(s):**
 - i. Global Impact of Engineering Practices:** Information about the effects of engineering practices on society, health and safety, economy, sustainability and environment within the scope of the UN Sustainable Development Goals.
 - ii. Awareness of the legal consequences of engineering solutions.**
- 7. Ethical Behavior:** Acting in accordance with engineering professional principles, knowledge about ethical responsibility; Awareness of acting impartially, without discrimination on any issue, and being inclusive of diversity.
- 8. Individual and Team Work:** Ability to work effectively individually and as a team member or leader in intradisciplinary and multidisciplinary teams (face-to-face, remote or hybrid).

9. Oral and Written Communication: The ability to communicate effectively verbally and in writing on technical issues, taking into account the various differences of the target audience (such as education, language, profession).

10. Part(s):

- i. **Project Management:** Knowledge of business practices such as project management and economic feasibility analysis.
- ii. **Awareness about entrepreneurship and innovation.**

11. Lifelong Learning: Lifelong learning skill that includes being able to learn independently and continuously, adapting to new and developing technologies, and thinking inquisitively about technological changes.

Curriculum

The CE curriculum is systematically designed to enable students to progressively and smoothly achieve the intended competence profile. The Department recognizes that the acquisition of core engineering skills requires a strong foundation in fundamental sciences, mathematics, and engineering computation.

The updated education program comprises 53 courses with a total of 156 credits and 240 ECTS. The detailed curriculum structure is presented in Table 1. In addition to compulsory courses, the CE curriculum includes nine technical elective courses and two social elective courses. Each semester, students select technical electives according to the specialized fields they wish to pursue.

The curriculum also incorporates mandatory summer trainings, during which students are required to complete two separate internships, each consisting of 20 working days. These internships must include both office and site training, carried out under the supervision of a certified engineer, enabling students to gain practical, real-world professional experience.

Table 1. The CE Department Curriculum

CIVIL ENGINEERING							
1st Year Fall				1st Year Spring			
	COURSE CODE AND NAME	CREDIT	ECTS		COURSE CODE AND NAME	CREDIT	ECTS
1	COMN191 ACADEMIC ENGLISH I	(3, 0) 3	3	9	COMN108 HISTORY	(2, 0) 2	2
2	COMN111 CHEMISTRY	(3, 0) 3	4	10	COMN192 ACADEMIC ENGLISH II	(3, 0) 3	3
3	ENGG117 COMPUTING FOUNDATIONS	(3, 1) 4	6	11	COMN122 PHYSICS II	(3, 0) 3	5
4	CVEN119 INTRODUCTION TO PROFESSION	(2, 0) 0	2	12	CVEN112 ENGINEERING DRAWING	(3, 2) 4	6
5	ENGG111 CHEMISTRY LAB	(0, 2) 1	2	13	ENGG122 PHYSICS II LAB	(0, 2) 1	2
6	ENGG121 PHYSICS I LAB	(0, 2) 1	2	14	MATH109 LINEAR ALGEBRA	(3, 0) 3	5
7	ENGG131 PHYSICS I	(3, 0) 3	4	15	MATH110 CALCULUS II	(3, 2) 4	7
8	MATH101 CALCULUS I	(3, 2) 4	7				
		19	30			20	30
2nd Year Fall				2nd Year Spring			
	COURSE CODE AND NAME	CREDIT	ECTS		COURSE CODE AND NAME	CREDIT	ECTS
16	COMN106 TURKISH	(2, 0) 2	2	22	CVEN202 STRENGTH OF MATERIALS	(4, 0) 4	6
17	CVEN201 SURVEYING	(3, 2) 4	7	23	CVEN206 DYNAMICS	(4, 0) 4	5
18	CVEN207 MATERIALS SCIENCE	(2, 3) 3	6	24	CVEN208 MATERIALS OF CONSTRUCTION	(2, 2) 3	5
19	CVEN211 STATICS	(4, 0) 4	6	25	LEUXX2 UNIVERSITY ELECTIVE II	(3, 0) 3	4
20	LEUXX1 UNIVERSITY ELECTIVE I	(3, 0) 3	4	26	MATH224 ENGINEERING MATHS	(3, 0) 3	5
21	MATH201 ORDINARY DIFFERENTIAL EQUATIONS	(3, 2) 4	5	27	MATH226 PROBABILITY & STATISTIC METHODS	(3, 0) 3	5
		20	30			20	30
3rd Year Fall				3rd Year Spring			
	COURSE CODE AND NAME	CREDIT	ECTS		COURSE CODE AND NAME	CREDIT	ECTS
28	CVEN300 SUMMER TRAINING I	(0, 1) 0	1	34	CVEN302 TRANSPORTATION AND TRAFFIC ENGINEERING	(3, 2) 4	7
29	CVEN301 SOIL MECHANICS	(3, 2) 4	6	35	CVEN304 STRUCTURAL ANALYSIS II	(4, 0) 4	7
30	CVEN303 STRUCTURAL ANALYSIS I	(4, 0) 4	7	36	CVEN306 FOUNDATION ENGINEERING	(3, 0) 3	6
31	CVEN307 FLUID MECHANICS	(4, 1) 4	7	37	CVEN308 HYDROMECHANICS	(3, 0) 3	6
32	ENGG413 ENGINEERING ECONOMICS	(3, 0) 3	5	38	CVEL02 TECHNICAL ELECTIVE II	(3, 0) 3	4
33	CVEL01 TECHNICAL ELECTIVE I	(3, 0) 3	4				
		18	30			17	30
4th Year Fall				4th Year Spring			
	COURSE CODE AND NAME	CREDIT	ECTS		COURSE CODE AND NAME	CREDIT	ECTS
39	CVEN402 SUMMER TRAINING II	(0, 1) 0	1	46	CVEN450 GRADUATION PROJECT II	(0, 9) 5	5
40	CVEN403 REINFORCED CONCRETE FUNDAMENTALS	(3, 0) 3	5	47	ENGG434 ENGINEERING ETHICS	(3, 0) 3	5
41	CVEN405 FUNDAMENTALS OF STEEL DESIGN	(3, 0) 3	5	48	CVEL05 TECHNICAL ELECTIVE V	(3, 0) 3	4
42	CVEN415 CONSTRUCTION MANAGEMENT	(3, 0) 3	4	49	CVEL06 TECHNICAL ELECTIVE VI	(3, 0) 3	4
42	CVEN417 WATER RESOURCES ENGINEERING	(3, 0) 3	5	50	CVEL07 TECHNICAL ELECTIVE VII	(3, 0) 3	4
43	CVEN419 GRADUATION PROJECT I	(0, 1) 1	2	51	CVEL08 TECHNICAL ELECTIVE VIII	(3, 0) 3	4
44	CVEL03 TECHNICAL ELECTIVE III	(3, 0) 3	4	52	CVEL09 TECHNICAL ELECTIVE IX	(3, 0) 3	4
45	CVEL04 TECHNICAL ELECTIVE IV	(3, 0) 3	4				
		16	30			23	30



DEPARTMENT OF CIVIL ENGINEERING

COURSE CATALOGUE DESCRIPTIONS

Course Name	English I
Course Level	Undergraduate
Course Code	COMN191
Semester	Fall
Person Responsible for the course	Mehmet Mert
Lecturer	Mehmet Mert
Language	English
Relation to Curriculum	Undergraduate degree program
Type of teaching, expected class size	Online
Workload	<ol style="list-style-type: none"> 1. Lectures: 4 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 30 hours
Credit Points - ECTS	3 Credit Points – 3 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	
Catalogue Descriptions/Content	This course introduces the main grammatical structures to the students and helps them to develop their listening, speaking, reading and writing skills as well as vocabulary and pronunciation. The students are provided with clear rules and example sentences. The lessons contain high-frequency vocabulary that the students are likely to come across during their studies and future their future careers
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> 1. The students will be able to understand and use English structures accurately to express themselves. 2. The students will be able to learn and use the vocabulary learnt during the lessons.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Final Examination
Media Employed	Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. English File, Intermediate Plus, Student's Book, Christina Latham- Koenig, et al, Oxford University Press, Third Edition <p>Supporting:</p> <ol style="list-style-type: none"> 1. English File, Pre-Intermediate Plus, Workbook, Christina Latham- Koenig, et al, Oxford University Press, Third Edition

Course Name	Chemistry
Course Level	Undergraduate
Course Code	COMN111
Semester	Spring
Person Responsible for the course	Assist. Prof. Dr Saltuk Pirgalioglu
Lecturer	Assist. Prof. Dr Saltuk Pirgalioglu
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 1 st semester
Type of teaching, expected class size	Face to face lectures, <100 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total exercises and Examination Preparation time: 39 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	
Catalogue Descriptions/Content	The aim of this course is to describe to 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 solution the s, periodic table, gases, the electronic structure of the atom and introduction to thermochemistry.
Course Learning Outcomes	On successful completion of the course, the student will be able to <ol style="list-style-type: none"> (1) understand and carryout calculations on properties of Substances (2) learn atomic structure and naming of compounds (3) learn mole concept, balancing equations, stoichiometry (4) carry out calculations on aqueous reactions (5) learn ideal gasses, gas mixtures and gas properties (6) understand electronic configurations and covalent bonding (7) learn basic principles of thermochemistry
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination 2 • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. William L. Masterton, Cecile N. Hurley, Chemistry Principles and Reactions, 8th edition Cengage Learning, 2016 Supporting: <ol style="list-style-type: none"> 1. Raymond Chang and Kenneth Goldsby, General Chemistry: The Essential Concepts 7th Edition, 2014

Course Name	Physics I
Course Level	Undergraduate
Course Code	ENG131
Semester	Fall
Person Responsible for the course	Assist. Prof. Dr. Nemika Cellatoğlu
Lecturer	Assist. Prof. Dr. Nemika Cellatoğlu
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 1 st semester
Type of teaching, expected class size	Face-to-face lectures, <250 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 90 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	None
Catalogue Descriptions/Content	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.
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> (1) an ability to translate, interpret and extrapolate important scientific models and laws governing classical mechanics, (2) an ability to demonstrate critical thinking and problem solving skills in the area of physics, (3) an ability to perform mathematical modeling of basic problems and establish their analytic solutions in field of classical mechanics, (4) an understanding of the connection of course material to real life applications.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In-class exercises • Midterm Examination 1 • Midterm Examination 2 • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Physics for Scientists and Engineers with Modern Physics, 9th edition, (2012) Raymond Serway, John W. Jewet 2. Fundamentals of Physics, 10th edition (2013) Halliday and Resnick,

Course Name	Computing Foundations
Course Level	Undergraduate
Course Code	COMP 117
Semester	Fall
Person Responsible for the course	
Lecturer	Assoc. Prof. Dr. Ezgi Deniz Ülker
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 1 st semester
Type of teaching, expected class size	Open Access, online <200 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 70 hours
Credit Points - ECTS	4 Credit Points – 6 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Introduction to general problem-solving concepts, algorithms and applications. Computer terminology, units, number systems. Steps in problem-solving. Problem solution, pseudocode, algorithms, flowcharts, data types, control structures. History of computers and programming. A simple C program layout, syntax and rules. C language basics, native types, identifiers, declarations, variables, expressions, assignments. Basic console input and output functions. Operators, unary, binary, mathematical, relational, equality and logical, precedence and associativity rules, type conversions and casting. Statements, flow of control. Sequential structure. Selective structure, if-else statement. Repetitive structure, while loop, do-while loop. Tracing a C code.
Course Learning Outcomes	On successful completion of this course, all students will have developed knowledge and understanding of: <ol style="list-style-type: none"> 1. Able to understand programming and computing concepts 2. Ability to analyze a problem to extract requirements and constraints 3. Develop an ability to solve a simple and develop algorithms for complex problems 4. Ability to trace programs 5. Knowledge of C programming language
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In class exercises • Midterm Examination • Laboratory Works • Final Examination
Media Employed	Moodle for Lecture video, lecture note sharing. MS Teams for online lectures
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. Maureen Sprankle, “Problem Solving and Programming Concepts”, Pearson Prentice Hall, 2006, ISBN: 0-13-119459-3 Supporting: <ol style="list-style-type: none"> 1. Marshall Brain, “The Basics of C Programming”, 2013.

Course Name	Introduction to Profession
Course Level	Undergraduate
Course Code	CVEN119
Semester	Fall
Person Responsible for the course	Inst. Hasan Dilek
Lecturer	Inst. Hasan Dilek
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 1 st semester
Type of teaching, expected class size	Face-to-face lectures, <35 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 1 Lecture hour per week 2. Self-Study: 2 hours per week 3. Total Exercises and Project Preparation time: 69 hours
Credit Points - ECTS	0 Credit Points – 2 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	None
Catalogue Descriptions/Content	An orientation course to provide counsel to the student on the major areas of Civil Engineering, including information on the typical activity of civil engineers, integrated course sequences and content, and an introduction to the faculty. Historical, aesthetic and environmental considerations in civil engineering. Professional engineering practice and codes of ethics.
Course Learning Outcomes	On successful completion of the course, students should be able to: <ol style="list-style-type: none"> (1) Understand the importance of civil engineering. (2) Define sub-disciplines of civil engineering and their responsibilities. (3) Acknowledge the recent construction techniques, entrepreneurship and sustainable solutions in the construction industry.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Term Project
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. Spence, W.P., 2006, "Construction Materials, Methods and Techniques", 2nd ed., Thomson Delmar Learning 2. McCuen, R.H., Ezzell, E.Z. and Wong. M., 2011, "Fundamentals of Civil Engineering", CRC Press 3. Hansen, K.L. and Zenobia, K.E., 2011, "Civil Engineer`s Handbook of Professional Practice, John Wiley and Sons

Course Name	Chemistry Laboratory
Course Level	Undergraduate
Course Code	ENGG111
Semester	Fall
Person Responsible for the course	Assist. Prof. Dr Devrim ÖZDAL
Lecturer	Assist. Prof. Dr Devrim ÖZDAL
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 1 st semester
Type of teaching, expected class size	Face to face lectures, >150 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 2 Lecture hours per week 2. Self-Study: 1 hour per week 3. Total Exercises and Examination Preparation time: 18 hours
Credit Points - ECTS	1 Credit Point – 2 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the experiment to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	This course has been specially designed as an intensive introduction to the techniques of experimental chemistry. Laboratory safety and regulations, Molarity, Solution preparation, Calculation of density, distillation, Separation methods, precipitation reaction, acid-base titration, thermochemistry.
Course Learning Outcomes	<p>All students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> (1) develop skills in collecting and managing data in order to express their results in a precise and reliable quantitative or qualitative form in the lab. reports (2) use basic apparatus, apply experimental methodologies in the chemistry laboratory setting and Demonstrate the basic laboratory safety concepts (3) To gain ability to calculate the concentration of solution and learn preparation of solution experimentally (4) To understand separation techniques and apply them in laboratory (5) an understanding of thermodynamics laws, enthalpy and free energy concepts (6) To observe precipitation reaction experimentally and calculate percentage yield of experiments (7) Defining acids and bases and conduct acid-base titration experiment (8) To calculate density of materials.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In laboratory exercises • Midterm Examination • Final Examination • Lab. Report writing
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. the European University of Lefke Chemistry Lab. Manual, 2021. <p>Supporting:</p> <ol style="list-style-type: none"> 1. William L. Masterton, Cecile N. Hurley, Chemistry Principles and Reactions, 8th edition Cengage Learning, 2016. 2. Ralph Petrucci, Geoffrey Herring, Jeffry Madura, Carey Bissonnette, General Chemistry: Principles and Modern Applications, 11th edition, 2017.

Course Name	Physics I Lab
Course Level	Undergraduate
Course Code	ENGG121
Semester	Fall
Person Responsible for the course	Mehmet Burhan
Lecturer	Mehmet Burhan
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 1 st semester
Type of teaching, expected class size	Face to face lectures, <200 Students
Workload	<ol style="list-style-type: none"> 1. Theoretical: 1 Lecture hour per week (First 3 weeks) 2. Laboratory: 2 Lecture hours per week 3. Self-Study: 2 hours per week 4. Total Exercises and Examination Preparation time: 41 hours
Credit Points - ECTS	1 Credit Points – 2 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	Along with Physics-1
Catalogue Descriptions/Content	This course is directed to PHYS103-Physics I. The aim course is providing a medium for students to see the experimental applications of kinematics and dynamics of one dimensional, two dimensional, circular and rotational motion. The course supports students to validate the underlying theory through experiment and observation.
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> (1) nature of science and scientific method (2) the ability to apply knowledge/skills to real world settings by identifying possible sources of error and implementing techniques that enhance precision. (3) an ability to demonstrate critical thinking and problem solving skills in the area of physics, (4) teamwork skills/ ability to collaborate by working in groups on a laboratory experiment. (5) written communication ability by reporting verbally the experimental data, results, and assessment of reliability.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Laboratory Work • Lab Report • Midterm Examination 1 & 2 • Final Examination
Media Employed	Whiteboard and Projection in class, Moodle and MS Teams for sharing video and lecture notes
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. EUL Physics Lab Booklet <p>Supporting:</p> <ol style="list-style-type: none"> 1. Serway, Physics for Scientists and Engineers with Modern Physics, 9/e

Course Name	Calculus I
Course Level	Undergraduate
Course Code	MATH101
Semester	Fall
Person Responsible for the course	Prof. Dr. Yönel Kırsal
Lecturer	Prof. Dr. Yönel Kırsal
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 1 st semester
Type of teaching, expected class size	Face-to-face lectures, <250 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 80 hours
Credit Points - ECTS	4 Credit Points – 7 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	None
Catalogue Descriptions/Content	Fundamentals of calculus and its applications for engineers. The conceptual and visual representation of limits, continuity, differentiability, and tangent line approximations for functions at a point. Applying the power rule, product rule, quotient rule and chain rule to functions explicitly and implicitly for finding derivatives. Applying the fundamental theorem of calculus to evaluate definite integrals. Performing accurately improper integrals, definite and indefinite integration, integration by parts, substitution, and inverse trigonometric substitution.
Course Learning Outcomes	<p>On successful completion of the course, the student should:</p> <ol style="list-style-type: none"> (1) learn the Cartesian coordinates system, understand function evaluation, graph functions, recall composite functions, odd-even functions, the domain-range concept of the functions, and trigonometric functions; (2) understand conceptual and visual representation of limits, continuity, differentiability, and tangent line approximations for functions at a point; (3) apply the power rule, product rule, quotient rule and chain rule to functions explicitly and implicitly for finding derivatives; (4) apply the Fundamental Theorem of calculus to evaluate definite integrals, and calculate the area between the curves; (5) perform accurate substitution method, improper integrals, integration by parts, and inverse substitution.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In-class exercises • Midterm Examination 1 • Midterm Examination 2 • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Calculus: A Complete Course 8th Edition (2013), Robert A. Adams, Christopher Essex 2. Calculus 8th Edition (2016), James Stewart

Course Name	History
Course Level	Spring
Course Code	COMN108 / ORTK108
Semester	Fall
Person Responsible for the course	Assoc. Prof. Dr. Osman Erciyas
Lecturer	Assoc. Prof. Dr. Osman Erciyas
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 2 nd semester
Type of teaching, expected class size	Pre-recorded Videos, Online Lectures, <700 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 1 Online hour per week 2. Self-Study: 2 hours per week 3. Total Exercises and Examination Preparation time: 30 hours
Credit Points - ECTS	2 Credit Points – 2 ECTS
Requirements according to the examination regulations	-
Pre-requisites	-
Catalogue Descriptions/Content	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.
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> 1. Analyzes the developments after World War I and the attitude of Mustafa Kemal and his friends in the face of these developments. 2. Understanding the Turkish Foreign Policy of the Atatürk Era. 3. They will have basic information about the political developments in Turkey and the world during and after the Second World War. 4. To have general information about the History of Cyprus.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Final Examination
Media Employed	Moodle for lecture note and video sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Lewis, Bernard, The Emergence of Modern Turkey, London, 1967. <p>Supporting:</p> <ol style="list-style-type: none"> 1. Kinross, Patrick, Atatürk The Rebirth of a Nation, A Phoenix Giant Paperback Publishing, London, 1998. 2. Luke, Harry, Cyprus Under The Turks 3. Oberling, Pierre, The Road To Bellapais, USA, 1982. 4. Denktash, Rauf R, The Cyprus Triangle, The Office of the Turkish Republic of Northern Cyprus, New York, 1988.

Course Name	English II
Course Level	Undergraduate
Course Code	COMN192
Semester	Fall
Person Responsible for the course	Mehmet Mert
Lecturer	Mehmet Mert
Language	English
Relation to Curriculum	Undergraduate degree program
Type of teaching, expected class size	Online
Workload	<ol style="list-style-type: none"> 1. Lectures: 4 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 30 hours
Credit Points - ECTS	3 Credit Points – 3 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	
Catalogue Descriptions/Content	This course introduces the main grammatical structures to the students and helps them to develop their listening, speaking, reading and writing skills as well as vocabulary and pronunciation. The students are provided with clear rules and example sentences. The lessons contain high-frequency vocabulary that the students are likely to come across during their studies and future their future careers
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> 1. The students will be able to understand and use English structures accurately to express themselves. 2. The students will be able to learn and use the vocabulary learnt during the lessons.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Final Examination
Media Employed	Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. English File, Intermediate Plus, Student's Book, Christina Latham-Koenig, et al, Oxford University Press, Third Edition <p>Supporting:</p> <ol style="list-style-type: none"> 2. English File, Pre-Intermediate Plus, Workbook, Christina Latham-Koenig, et al, Oxford University Press, Third Edition

Course Name	Physics II
Course Level	Undergraduate
Course Code	COMN122
Semester	Spring
Person Responsible for the course	Assist. Prof. Dr. Nemika Cellatoğlu
Lecturer	Assist. Prof. Dr. Nemika Cellatoğlu
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 1 st semester
Type of teaching, expected class size	Face-to-face lectures, <250 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 90 hours
Credit Points - ECTS	3 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	None
Catalogue Descriptions/Content	This course aims to introduce fundamental concepts of physics for engineering science and to provide essential background for engineering students. The course provides deep understanding of thermodynamics, electricity and magnetism. Also, the course aims to show the students the engineering applications of the course material.
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> (1) An ability to translate, interpret and extrapolate important scientific models and laws governing thermodynamics, electricity and magnetism. (2) An ability to demonstrate critical thinking and problem solving skills in the area of physics (3) An ability to perform mathematical modeling of basic problems and establish their analytic solutions in field of thermodynamics, electric and magnetism (4) An understanding of the connection of course material to engineering applications
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In-class exercises • Midterm Examination 1 • Midterm Examination 2 • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Physics for Scientists and Engineers with Modern Physics, 9th edition, (2012) Raymond Serway, John W. Jewet 2. Fundamentals of Physics, 10th edition (2013) Halliday and Resnick,

Course Name	Engineering Drawing
Course Level	Undergraduate
Course Code	CVEN112
Semester	Spring
Person Responsible for the course	Inst. Hasan Dilek
Lecturer	Inst. Hasan Dilek
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 2 nd semester
Type of teaching, expected class size	Face to face lectures, <40 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 6 hours per week 3. Total Exercises and Examination Preparation time: 50 hours
Credit Points - ECTS	4 Credit Points – 6 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	Computing Foundations
Catalogue Descriptions/Content	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
Course Learning Outcomes	<p>Upon successful completion of the course, the student should be able to:</p> <ol style="list-style-type: none"> 1. An ability to draw technical figures using drawing instruments 2. An understanding of geometric construction, drawing of tangents to circle arcs and drawing of circle tangent 3. An understanding of orthographic drawing, drawing objects by using first or third angle projection. 4. An ability to draw architectural and civil engineering plans and provide detailed 2-D drawings with appropriate fittings 5. An ability to draw section plans of 2-D drawings
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In-class test • Midterm Examination • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Shah, M.B. & Rana, B.C. (2007) "Engineering Drawing", 3rd. Ed., 2007 2. Madsen D.A., Shumaker T.M., Turpin J.L. and Stark C., "Engineering Drawing and Design", 2nd Ed, 1996. 3. Yasim, N. (2013) "Introduction to AutoCAD 2014 for Civil Engineering Applications", SDC publications

Course Name	Physics II Lab
Course Level	Undergraduate
Course Code	ENGG122
Semester	Spring
Person Responsible for the course	Mehmet Burhan
Lecturer	Mehmet Burhan
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 2 nd semester
Type of teaching, expected class size	Face to face lectures, <200 Students
Workload	<ol style="list-style-type: none"> 1. Theoretical: 1 Lecture hour per week (First 3 weeks) 2. Laboratory: 2 Lecture hours per week 3. Self-Study: 2 hours per week 4. Total Exercises and Examination Preparation time: 41 hours
Credit Points - ECTS	1 Credit Points – 2 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	Along with Physics-2
Catalogue Descriptions/Content	This course is directed with Physics II. The aim of course is providing a medium for students to see the experimental applications of thermodynamics, electricity and magnetism. The course supports students to validate the underlying theory through experiment and observation
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> (1) Conduct experimental investigations of simple electric, magnetic and thermodynamic phenomena. (2) Carry out measurements utilizing appropriate techniques and safety practices. (3) Practice record keeping of experimental work and data graphing. (4) Analyze data using simple statistics and compare the results with the relevant theory (5) Write a lab report including a summary explaining the theoretical background and major experimental achievements and findings."
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Laboratory Work • Lab Report • Midterm Examination 1 & 2 • Final Examination
Media Employed	Whiteboard and Projection in class, Moodle and MS Teams for sharing video and lecture notes
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. EUL Physics Lab Booklet <p>Supporting:</p> <ol style="list-style-type: none"> 1. Serway, Physics for Scientists and Engineers with Modern Physics, 9/e

Course Name	Linear Algebra
Course Level	Undergraduate
Course Code	MATH104
Semester	Spring
Person Responsible for the course	Mehmet Burhan
Lecturer	Mehmet Burhan
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 2 nd semester
Type of teaching, expected class size	Face to face lectures, <200 Students
Workload	<ol style="list-style-type: none"> 1. Theoretical: 1 Lecture hour per week (First 3 weeks) 2. Laboratory: 2 Lecture hours per week 3. Self-Study: 2 hours per week 4. Total Exercises and Examination Preparation time: 41 hours
Credit Points - ECTS	3 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	
Catalogue Descriptions/Content	This course is a branch of mathematics that studies systems of linear equations and the properties of matrices. The course covers matrix theory and linear algebra, emphasizing topics useful in other disciplines.
Course Learning Outcomes	<p>At the conclusion of the course, students should be able to</p> <ol style="list-style-type: none"> 1. demonstrate knowledge and understanding of the basic elements of linear algebra 2. apply results and techniques from linear algebra to solve simple engineering problems
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In class exercises • Midterm Examination 1 & 2 • Final Examination
Media Employed	Whiteboard and Projection in class, Moodle and MS Teams for sharing video and lecture notes
Reading List/ Recommended Text Book	<p>Main: EUL Linear Algebra Lecture Notes</p> <p>Supporting: Elementary Linear Algebra w/ Supplement Applications (Howard Anton, Chris Rorres)</p>

Course Name	Calculus II
Course Level	Undergraduate
Course Code	MATH110
Semester	Spring
Person Responsible for the course	Prof. Dr. Yönal Kırsal
Lecturer	Prof. Dr. Yönal Kırsal
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 2 nd semester
Type of teaching, expected class size	Face-to-face lectures, <250 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 80 hours
Credit Points - ECTS	4 Credit Points – 7 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	MATH101
Catalogue Descriptions/Content	Techniques of integration, integration by parts, trigonometric substitution, integration of rational functions, and integration of trigonometric integrals. Application of integrals, areas between curves, volume, volumes by slicing, volumes by cylindrical shells, arc length, area of a surface of revolution, moments and centre of mass. Parametric equations, curves defined by parametric equations, calculus with parametric equations, derivation, area and arc length calculations. Polar coordinates, plotting with polar coordinates, derivation and integration with polar coordinates. Sequences, series, integral tests and estimates of the sum.
Course Learning Outcomes	On successful completion of the course, the student will be able to: <ol style="list-style-type: none"> (1) evaluate an integral by the method of substitution; (2) use integrals to calculate areas between curves, volumes, work, and the average value of a function; (3) evaluate integrals, using the techniques of integration by parts, using trigonometric identities and trigonometric substitution, and using partial fractions; (4) evaluate the two types of improper integrals; (5) use integrals to find the arc length and area of a surface of revolution; (6) use integrals in applications to physics and engineering; (7) describe curves in parametric form and polar coordinates; (8) determine whether or not a sequence of real numbers converges; (9) test a series for convergence or divergence, using the integral, ratio, root, and comparison tests.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In-class exercises • Midterm Examination 1 • Midterm Examination 2 • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. Calculus: A Complete Course 8th Edition (2013), Robert A. Adams, Christopher Essex 2. Calculus 8th Edition (2016), James Stewart

Course Name	Turkish
Course Level	Undergraduate
Course Code	COMN106
Semester	Fall
Person Responsible for the course	Assoc. Prof. Dr. Osman Erciyas
Lecturer	Assoc. Prof. Dr. Osman Erciyas
Language	Turkish
Relation to Curriculum	Undergraduate degree program, Compulsory, 2 th semester
Type of teaching, expected class size	Open access course, <150 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 2 Lecture hours per week 2. Self-Study: 8 hours per week 3. Total Exercises and Examination Preparation time: 30 hours
Credit Points - ECTS	2 Credit Points – 2 ECTS
Requirements according to the examination regulations	
Pre-requisites	-
Catalogue Descriptions/Content	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.
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> 1. Explains and exemplifies the phonological properties of Turkish 2. Explains and exemplifies the structures of Turkish. 3. Explains and exemplifies the sentence properties of Turkish 4. Reads and evaluates different text types 5. Compares different text types
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Open Access (Course Notes and Videos on the Moodle) • Midterm Examination • Final Examination
Media Employed	Moodle for Lecture notes and videos sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Birsen Çankaya ve diğerleri. Easy Turkish Course. İstanbul: Fono Yayınları, 2006. <p>Supporting:</p> <ol style="list-style-type: none"> 1. Kurtuluş Öztopçu. Elementary Turkish. İstanbul, 2006. 2. Doğan Günay, Özdan Fidan ve diğerleri, Yabancılar İçin Türkçe Ders Kitabı + Alıştırma Kitabı, Papatya Yay., Ankara: 2013.

Course Name	Surveying
Course Level	Undergraduate
Course Code	CVEN201
Semester	Fall
Person Responsible for the course	Instr. Asli Bardak
Lecturer	Instr. Asli Bardak
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 3 rd semester
Type of teaching, expected class size	Face to face lectures, <75 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Laboratory: 2 Lecture hours per week 3. Self-Study: 6 hours per week 4. Total Exercises and Examination Preparation time: 30 hours
Credit Points - ECTS	3 Credit Points – 7 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Introduction. Understanding scale. Differential levelling. Rise and fall. Height of collimation method. Distance measurements. Total Stations and Theodolites. Traverse surveys. Angular measurements. Stadia survey. Area computations. Earthwork Quantities. Contour lines.
Course Learning Outcomes	On successful completion of the course, students should be able to understand: <ol style="list-style-type: none"> 1. Simple mathematics (geometry and trigonometry) for surveying calculations 2. Get engaged with surveying tools 3. Perform calculations for levelling 4. Perform calculations for traversing
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Fieldwork practical • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. Uren, J. & Price, B. (2010) Surveying for Engineers, 5th Ed. Palgrave Macmillan, UK. 2. Schofield, W. & Breach, M. (2007) Engineering Surveying, 6th Ed., Elsevier Ltd., Oxford. 3. W. Irvine & F. Maclenan (2006) Surveying for Construction, 5th Ed., McGraw Hill Education

Course Name	Materials Science
Course Level	Undergraduate
Course Code	CVEN207
Semester	Fall
Person Responsible for the course	Prof. Dr. Ertuğ Aydın
Lecturer	Prof. Dr. Ertuğ Aydın
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 3 rd semester
Type of teaching, expected class size	Face to face lectures, < 90 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Homework: 1 Lecture hours per week 3. Self-Study: 6 hours per week 4. Total Exercises and Examination Preparation time: 42 hours
Credit Points - ECTS	3 Credit Points – 6 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	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.
Course Learning Outcomes	<p>On successful completion of this course, all students will able to:</p> <ol style="list-style-type: none"> 1. Knowledge of computational materials science 2. the ability to integrate understanding of the scientific and engineering principles 3. Understand the stress-strain diagrams, fatigue and creep properties of materials 4. analyze and understand the deformation of materials under time and temperature
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Homework • Midterm Examination • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. William D. Callister, Jr., An Introduction to Materials Science and Engineering, John Wiley & Sons, Inc., 2020 2. Smith, W. F., Principles of Materials Science and Engineering, 2018, 3. Van Vlack, L. H., Materials Science for Engineers, 2018 4. William D. Callister, Jr. & David G. Rethwisch, Callister's Materials Science and Engineering 10th Edition, 2020

Course Name	Statics
Course Level	Undergraduate
Course Code	CVEN211
Semester	Fall
Person Responsible for the course	Instr. Hasan Dilek
Lecturer	Instr. Hasan Dilek
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 3 rd semester
Type of teaching, expected class size	Face-to-face lectures, <85 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 4 Lecture hours per week 2. Self-Study: 5 hours per week 3. Total Exercises and Examination Preparation time: 45 hours
Credit Points - ECTS	4 Credit Points – 6 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	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.
Course Learning Outcomes	On successful completion of this course, all students will able to: <ol style="list-style-type: none"> 1. recognize the basic assumptions in structural mechanics 2. understand the different loading systems 3. define different supports and reactions at supports 4. recognize the basics of static equilibriums 5. define the center of gravity of structures
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In-class exercises • Midterm Examination • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. Hibbeler, R.C., 2017, "Engineering Mechanics - Statics", 14th Ed. In SI Units, Prentice-Hall, Singapore 2. Beer, F., Johnston, E.R., and Cornwell, J.P. , 2013, "Vector Mechanics for Engineers Statics and Dynamics", 10th Ed., McGraw-Hill

Course Name	Ordinary Differential Equations
Course Level	Undergraduate
Course Code	MATH201
Semester	Fall
Person Responsible for the course	Assist. Prof. Dr Salih Karanfil
Lecturer	Assist. Prof. Dr Salih Karanfil
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 4 th semester
Type of teaching, expected class size	Face to face lectures, <65 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 4 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 30 hours
Credit Points - ECTS	4 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	MATH101 Calculus 1
Catalogue Descriptions/Content	Definition and classification of differential equations. Solution of first order linear differential equations, initial value problems, homogeneous differential equations, non-homogeneous differential equations, separation of variables, exact differential equations, integrating factors, the method of undetermined coefficient, Bernoulli equations, higher order differential equations, Systems of linear differential equations with constant coefficients, Cauchy Euler equations, Laplace transforms and properties of Laplace Transforms.
Course Learning Outcomes	On successful completion of this course, all students will have developed knowledge and understanding of: <ol style="list-style-type: none"> 1. Identify types of differential equations 2. Solving first order differential equations 3. Solving higher order differential equations 4. Solving Inhomogeneous linear systems 5. Basics of Laplace Transforms
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In class exercises • Midterm Examination 1 • Midterm Examination 2 • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. S.L ROSS, Introduction to Ordinary Differential Equations, 4th Edition, John Wiley & Sons, 1989 Supporting: <ol style="list-style-type: none"> 1. Polking, Bogges, Arnold, “Differential Equations”, Pearson Education, 2006 2. EDWARDS & PENNY, Elementary Differential Equations, 6th Edition Pearson Education, 2013.

Course Name	Strength of Materials
Course Level	Undergraduate
Course Code	CVEN202
Semester	Spring
Person Responsible for the course	Instr. Asli Bardak
Lecturer	Instr. Asli Bardak
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 1 st semester
Type of teaching, expected class size	Face-to-face lectures, <95 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 5 hours per week 3. Total Exercises and Examination Preparation time: 40 hours
Credit Points - ECTS	4 Credit Points – 6 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	None
Catalogue Descriptions/Content	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.
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> 1. An ability to determine stress and strain 2. An ability to determine bending stress 3. An ability to determine shear stress
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Term Project • Midterm Examination • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Beer F.P., Johnston E.R. & DeWolf J.T., 2012, "Mechanics of Materials", 3rd Ed, McGraw Hill, the USA 2. Hibbeler R.C., 2012, "Mechanics of Materials" 6th Ed., Prentice Hall, the USA

Course Name	Dynamics
Course Level	Undergraduate
Course Code	CVEN206
Semester	Spring
Person Responsible for the course	Asst. Prof. Dr. İbrahim Bay
Lecturer	Asst. Prof. Dr. İbrahim Bay
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 4 th semester
Type of teaching, expected class size	Face to face lectures, <70 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 4 Lecture hours per week 2. Self-Study: 5 hours per week 3. Total Exercises and Examination Preparation time: 30 hours
Credit Points - ECTS	4 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Kinematics of particles and rigid bodies absolute motion, relative motion. Kinetics of particles equation of motion, work-energy and impulse-momentum. Systems of particles. Kinetics of rigid bodies Euler's equation, plane motion of rigid bodies, kinetic energy of rigid bodies. Introduction to the dynamics of vibrating systems.
Course Learning Outcomes	On successful completion of this course, all students will have: <ol style="list-style-type: none"> 1. Understand behaviour of particles in motion, 2. Engage to the use of force and acceleration theories, 3. Apply of work and energy concept, 4. Understand impulse and momentum theories, 5. Understand basics of vibrations.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Homeworks • Midterm Examination 1 • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. Hibbeler, R.C., 2010, "Engineering Mechanics - Dynamics", 12th Ed. In SI Units, Prentice-Hall, Singapore. 2. Beer, F., Johnston, E.R., and Cornwell, J.P. , 2009, "Vector Mechanics for Engineers Statics and Dynamics", 9th Ed., McGraw-Hill

Course Name	Materials of Construction
Course Level	Undergraduate
Course Code	CVEN208
Semester	Spring
Person Responsible for the course	Asst. Prof. Dr. Şevket Can Bostancı
Lecturer	Asst. Prof. Dr. Şevket Can Bostancı
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 4 th semester
Type of teaching, expected class size	Face to face lectures, <80 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 2 Lecture hours per week 2. Laboratory: 2 Lecture hours per week 3. Self-Study: 5 hours per week 4. Total Exercises and Examination Preparation time: 40 hours
Credit Points - ECTS	4 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Cement production, cement types, aggregates, metal, bituminous materials, clay products, timber, building stones, lime, and gypsum. Constituents, theories of mix design, principal steps in production, physical and mechanical and mechanical properties of concrete.
Course Learning Outcomes	<p>On successful completion of this course, all students will have:</p> <ol style="list-style-type: none"> 1. Understand the cement types and their physical, chemical and mechanical properties 2. Understand the Physical and Mechanical Properties of Aggregates and related tests 3. Recognize the fresh cement based materials (cement paste and concrete) and related tests 4. Recognize the hardened cement based materials (cement paste and concrete) and related tests 5. Gain an experience for Mix Design Calculations
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Laboratory Work • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Neville, A.M and Brooks, J.J. ‘Concrete Technology’, Published by Pearson Education Limited, Harlow, England, 2010 2. Neville, A. M. ‘Neville on Concrete: An Examination of Issues in Concrete Practice’, Second Edition, 2006. 3. Neville, A.M, “Properties of Concrete”, Fourth Ed., Prentice-Hall, 2003 4. Mehta, P.K., and Monteiro, P.J.M., 2001. Microstructure, Properties and Materials, 2nd edition, 239 pp.

Course Name	Engineering Mathematics
Course Level	Undergraduate
Course Code	MATH224
Semester	Spring
Person Responsible for the course	Assist. Prof. Dr Saltuk Pirgalioglu
Lecturer	Assist. Prof. Dr Saltuk Pirgalioglu
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 4 th semester
Type of teaching, expected class size	Face to face lectures, <100 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 4 hours per week 3. Total Homework, exercises and Examination Preparation time: 45 hours
Credit Points - ECTS	3 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	MATH101 Calculus 1
Catalogue Descriptions/Content	The concept of numerical error, solution of nonlinear equations with root finding. Solution of linear systems of equations using software packages. Direct and iterative methods for the solution of linear algebraic equations. Polynomial interpolation (Lagrange and Newton polynomials) and extrapolation. Curve fitting for least squares line and polynomial fitting with data linearization method. Numerical differentiation, numerical integration with quadrature formulas and their error analysis. Numerical solution of ordinary differential equations.
Course Learning Outcomes	On successful completion of the course, students should have gained: <ol style="list-style-type: none"> (1) an ability to recognize the difference between analytical and numerical solutions (roundoff and truncation errors), (2) knowledge of bracketing and open methods to solve root of equation problems, (3) an ability to solve simultaneously sets of linear algebraic equations using Naive Gauss Elimination, (4) ability to differentiate the fundamental difference between regression and interpolation and to solve the numerical method problems, (5) ability to solve numerical differentiation, ordinary differential equations and integration problems. (6) Having knowledge of complex numbers (7) ability to solve optimization problems
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Homework • Midterm Examination 2 • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. S.C.Chapra, Raymond P Canale, Numerical Methods for Engineers, 7th Edition, McGrawHill, 2015 Supporting: <ol style="list-style-type: none"> 1. S.C.Chapra Applied Numerical Methods with Matlab for Engineers and Scientists, 4th Edition, McGrawHill, 2018 2. John. H. Mathews, Kurtis D. Fink, Numerical Methods Using MATLAB, 4th Edition Pearson Prentice Hall, 2004 3. James Stewart, Calculus, 8th Ed. Cengage, 2015

Course Name	Probability and Statistic Methods
Course Level	Undergraduate
Course Code	MATH226
Semester	Spring
Person Responsible for the course	Assist. Prof. Dr Semih Oğuzcan
Lecturer	Assist. Prof. Dr Semih Oğuzcan
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 4 th semester
Type of teaching, expected class size	Face to face lectures, >65 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 35 hours
Credit Points - ECTS	3 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Basic probability laws, Random variables, Operations on Random Variables, Multiple random variables, Operations on multiple random variables, Sampling distributions, distribution functions, continuous distribution functions, Gaussian distribution and its properties and applications, Gaussian Q-function and its applications, Important discrete distributions, Simple discrete distributions (binomial, hypergeometric, combination, permutation)
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> 1) Understand basic concepts in probability including combinatorics, independence, conditional probability and Bayes rule. 2) Compute probabilities by modelling sample spaces and applying rules of permutations and combinations, additive and multiplicative laws and conditional probability. 3) Solve basic problems arising in engineering that involve discrete and continuous probability distributions. 4) Construct the probability distribution of a random variable, based on a real-world situation, and use it to compute expectation and variance. 5) Use statistical concepts such as means, variances and various types of graphs to analyse datasets, and sampling distributions.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination 1 • Final Examination • Quiz 1
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Sheldon Ross, “Introduction to Probability and Statistics for Engineers and Scientists”, Elsevier, Academic press, ISBN 10: 0-12-370483-9. <p>Supporting:</p> <ol style="list-style-type: none"> 1. R. E. Walpole, R. H. Myers, S. L. Myers and K. E. Ye, “Probability & Statistics for Engineers and Scientists”, Prentice-Hall, 2011. 2. G. Tyler Miller, Scott Spoolman, «Environmental Science», 15th Edition, Cengage Learning, 2016.

Course Name	Free Elective
Course Level	Undergraduate
Course Code	LEUXX1
Semester	Fall
Person Responsible for the course	
Lecturer	
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 4 th semester
Type of teaching, expected class size	Open Access, online <75 Students
Workload	1.
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	
Course Learning Outcomes	On successful completion of this course, all students will have developed knowledge and understanding of: 1.
Study and examination requirements and forms of examination	•
Media Employed	Whiteboard, Projector and Moodle for Lecture video links, lecture note sharing. MS Teams for recording the lectures.
Reading List/ Recommended Text Book	Main: ii.

Course Name	Summer Training I
Course Level	Undergraduate
Course Code	CVEN300
Semester	Fall
Person Responsible for the course	Assoc. Prof. Dr. Şevket Can Bostancı
Lecturer	Assoc. Prof. Dr. Şevket Can Bostancı
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 5 th semester
Type of teaching, expected class size	Open Access, online <80 Students
Workload	Logbook and Technical report preparation time 30 hours
Credit Points - ECTS	0 Credit Points – 1 ECTS
Requirements according to the examination regulations	Civil Engineering students are required to take part in industrial work/organizations relating to their fields of study. This is required as part of the fulfilment of the degree program. Students are required to complete a total 20 consecutive working days of office work for Summer Training I after completing their either second or third year.
Pre-requisites	-
Catalogue Descriptions/Content	Preparing of standard engineering drawings. Surveying. Construction materials. Quantity estimates.
Course Learning Outcomes	At the end of this course student will be able to: <ol style="list-style-type: none"> 1. learn roles in organisation charts and their responsibilities 2. gain practical experience relevant to their field, 3. improve knowledge in office environment, 4. develop an understanding in professional customs and practices, 5. develop communication and correspondence skills, 6. learn to behave ethically with health and safety in mind.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Technical report • Training log book
Media Employed	-
Reading List/ Recommended Text Book	-

Course Name	Soil Mechanics
Course Level	Undergraduate
Course Code	CVEN301
Semester	Fall
Person Responsible for the course	Assoc. Prof. Dr. Şevket Can Bostancı
Lecturer	Assoc. Prof. Dr. Şevket Can Bostancı
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 5 th semester
Type of teaching, expected class size	Face to face lectures, <60 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 6 hours per week 3. Total Exercises and Examination Preparation time: 59 hours
Credit Points - ECTS	3 Credit Points – 6 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Introduction to engineering problems involving soils. Basic characteristics of soils, classification and compaction of soils. Principle of effective stress. Permeability and flow of water (seepage) in soils. Shear strength of soils. Slope stability. Lateral earth pressure theories. Consolidation theory.
Course Learning Outcomes	On successful completion of this course, all students will have developed knowledge and understanding of: <ol style="list-style-type: none"> 1. Explain the basic soil mechanic concepts 2. Define the problems related to soil mechanics 3. Perform laboratory work 4. Define solution for problems in geotechnical projects 5. Understand the concept of lateral earth pressure concept 6. Define methods for slope stability analysis
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Laboratory Practicals • Midterm Examination • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. R. F. Craig, Soil Mechanics, 7th Edition, Taylor & Francis, 2004 2. L. Evett, Soils and Foundations, Prentice HALL, 2008 3. Fundamentals of Geotechnical Engineering, 3. Edition. Braja Das 2008

Course Name	Structural Analysis I
Course Level	Undergraduate
Course Code	CVEN303
Semester	Fall
Person Responsible for the course	Asst. Prof. Dr. Ali Sadeghpour
Lecturer	Asst. Prof. Dr. Ali Sadeghpour
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 5 th semester
Type of teaching, expected class size	Face to face lectures, <75 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 6 hours per week 3. Total Exercises and Examination Preparation time: 63 hours
Credit Points - ECTS	4 Credit Points – 7 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	Statics
Catalogue Descriptions/Content	Unsymmetrical bending, shear center. Definition, classification, idealisation and modelling of structure. Analysis of statically determinate structures, including beams, frames and arches. Analysis of cables. Work and energy principles and their application in deformation analysis of structures. Force method of structural analysis.
Course Learning Outcomes	<p>On successful completion of this course, all students will have developed knowledge and understanding of:</p> <ol style="list-style-type: none"> 1. To be able to perform structural calculations 2. To be able to perform Shear Force-Bending Moment diagrams 3. To be able to calculate influence lines in beams, frames and trusses 4. To be able to calculate the deflection in statically determinate structures
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In class exercises • Midterm Examination 1 • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. S Hibbeler R.C.; Structural Analysis, SI edition; Prentice Hall, 2012 ISBN-13: 978-0-13-257053-4 ISBN-10:0-13-257053-X 2. Leet, K.M. And Uang C.M. Fundamentals of Structural Analysis, McGraw Hill, 2011 3. Kassimali, Aslam, Structural Analysis, 2010

Course Name	Fluid Mechanics
Course Level	Undergraduate
Course Code	CVEN307
Semester	Fall
Person Responsible for the course	Asst. Prof. Dr. İbrahim Bay
Lecturer	Asst. Prof. Dr. İbrahim Bay
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 5 th semester
Type of teaching, expected class size	Face-to-face lectures, <65 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 4 Lecture hours per week 2. Self-Study: 6 hours per week 3. Lab work: 1 hours per week 4. Examination Preparation time: 75 hours
Credit Points - ECTS	4 Credit Points – 7 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Definitions, physical properties. Hydrostatics, forces on plane and curved surfaces, buoyancy, hydrostatics in moving and rotating containers. Lagrangian and Eulerian descriptions, derivatives, rate of deformation, flow lines. System and control volume approach, Reynolds transport theorem, principles of conservation of mass, momentum and energy, Bernoulli equation. Dimensional analysis.
Course Learning Outcomes	At the end of this course student will be able to: <ol style="list-style-type: none"> 1. apply mathematical knowledge to engineering for fluid mechanics 2. understand fundamentals of fluid mechanics 3. use the bouyancy and stability theorems 4. apply equations for hydrostatic problems 5. calculate properties of fluid flow using energy equations 6. find out the force applied by a flow.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Project • Midterm Examination • Lab practicals • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture notes, quiz
Reading List/ Recommended Text Book	<ol style="list-style-type: none"> 1. Mott, R.L., 2006, "Applied Fluid Mechanics", 6th Ed. in SI Units, Prentice Hall, Singapore 2. Munson, B.R., Young, D.F. and Okiishi, T.H., 2005, "Fundamentals of Fluid Mechanics", 5th Ed., John Wiley and Sons Inc., Canada 3. Potter, M.C. and Wiggert, D.C., 2001, "Mechanics of Fluids", 3rd Ed., CL Engineering., the USA

Course Name	Engineering Economics
Course Level	Undergraduate
Course Code	ENGG413
Semester	Fall
Person Responsible for the course	Assisr. Prof. Dr Saltuk Pirgalioglu
Lecturer	Assisr. Prof. Dr Saltuk Pirgalioglu
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 5 th semester
Type of teaching, expected class size	Face to face lectures, <75 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 4 hours per week 3. Total Exercises and Examination Preparation time: 20 hours
Credit Points - ECTS	3 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	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.
Course Learning Outcomes	At the end this course, the student will be able to: <ol style="list-style-type: none"> (1) understand the some of the basic principles of economy, (2) understand and analyze the methods of comparing engineering projects' alternatives, (3) understand and analyze time effect on money by introducing interest rate, (4) evaluate how to make depreciation analysis, (5) evaluate how to investigate replacement concept.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In class exercises • Midterm Examination 1 & 2 • Laboratory Work • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Main: <ol style="list-style-type: none"> 1. Leland T. Blank, Anthony Tarquin, Engineering Economy 8th Edition, Mc Graw Hill (2018) (Textbook). 2. William G. Sullivan, Elin M. Wicks, C. Patrick Koelling, Engineering Economy 16th Edition Pearson (2015) (Reference)

Course Name	Transportation and Traffic Engineering
Course Level	Undergraduate
Course Code	CVEN302
Semester	Spring
Person Responsible for the course	Asst. Prof. Dr. Cumhuri Aydın
Lecturer	Asst. Prof. Dr. Cumhuri Aydın
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 6 th semester
Type of teaching, expected class size	Face-to-face lectures, <70 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 4 Lecture hours per week 2. Self-Study: 5 hours per week 3. Projects and Examination Preparation time: 60 hours
Credit Points - ECTS	4 Credit Points – 7 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Detailed study of transportation planning process. Inventory of existing travel demand. Different types of O-D studies, analysis and model building. Trip generation, trip distribution model split and trip assignment techniques, forecasting and plan evaluation. Vehicle, highway and travel facts. Vehicle operation characteristics. Stopping and passing sight distance. Zero line application, simple horizontal curve, compound and reverse curves, transition length and super elevation. Basic definitions and computations of level of service. Setting out circular and transition curves. Earthwork volumes.
Course Learning Outcomes	<p>At the end of this course student will be able to:</p> <ol style="list-style-type: none"> 1. understand the concept of transportation engineering and the modes of transportation 2. understand and analyze highway design elements. 3. understand how to deal with horizontal and vertical design fundamentals. 4. evaluate how to measure the basic traffic stream variables (flow, speed, density). 5. evaluate capacity and level of service concepts for freeways and for multilane highways
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Projects • Midterm Examination • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture notes, quiz
Reading List/ Recommended Text Book	<ul style="list-style-type: none"> • Principles of Highway Engineering and Traffic Analysis; F. L. Mannering; S. Wahsburn, 5th Edition, Wiley. • Transportation Engineering & Planning, C.S. Papacostas, P.D. Prevedouros.

Course Name	Structural Analysis II
Course Level	Undergraduate
Course Code	CVEN304
Semester	Spring
Person Responsible for the course	Asst. Prof. Dr. Ali Sadeghpour
Lecturer	Asst. Prof. Dr. Ali Sadeghpour
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 6 th semester
Type of teaching, expected class size	Face to face lectures, <95 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 4 Lecture hours per week 2. Self-Study: 6 hours per week 3. Total Exercises and Examination Preparation time: 50 hours
Credit Points - ECTS	4 Credit Points – 7 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	CVEN303
Catalogue Descriptions/Content	Introduction to structural analysis. Displacement methods slope deflection, moment distribution, special topics. Stiffness method, derivation of element stiffness matrices, assembly procedures. Computerized implementation of the stiffness method and use of instructional programs. Large scale structural analysis. Influence lines and moving loads.
Course Learning Outcomes	<p>On successful completion of the course, students should be able to:</p> <ol style="list-style-type: none"> 1. to understand statical indeterminacy and adopt an appropriate structural analysis technique 2. Possess an understanding of the physical response of structures to various loads 3. To identify the kinematic indeterminacy of structures 4. perform basic calculations to determine redundant forces and displacements 5. Appreciate the difference between idealised structures, models and real structures
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Quizzes • Midterm Examination • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Hibbeler R.C.; Structural Analysis, SI edition; Prentice Hall, 2019 10th edition. 2. Leet, K.M. And Uang C.M. Fundamentals of Structural Analysis, McGraw Hill, 2017 3. Kassimali, Aslam, Structural Analysis, 2018- Pearson 4. Ghali, A., Neville, A.M., and Brown, T.G., Structural Analysis: A Unified Classical and Matrix Approach, CRC Press, 2017

Course Name	Foundation Engineering
Course Level	Undergraduate
Course Code	CVEN306
Semester	Spring
Person Responsible for the course	Assoc. Prof. Dr. Şevket Can Bostancı
Lecturer	Assoc. Prof. Dr. Şevket Can Bostancı
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 6 th semester
Type of teaching, expected class size	Face to face lectures, <65 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 6 hours per week 3. Total Exercises and Examination Preparation time: 45 hours
Credit Points - ECTS	3 Credit Points – 6 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Site investigations, retaining structures, excavations, shallow foundation design, bearing capacity, settlement, stress distribution in soils, initial settlement, consolidation settlement, permissible settlement, deep foundation design, bearing capacity, types of piles, ground improvement.
Course Learning Outcomes	<p>On successful completion of the course, students should be able to:</p> <ol style="list-style-type: none"> 1. Understand the material behavior and site characterization, 2. Design and Analysis of deep and shallow foundations, 3. Utilize knowledge in soil mechanics to perform various types of engineering calculations
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination 1 • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Birand, A., (2002). CE366 Foundation Engineering 1, METU 2. Atkinson, J., (2007), The Mechanics of Soils and Foundation, 2nd edition, Taylor and Francis 3. Das, M.B., (2006), Principles of Geotechnical Engineering, 6th edition, Cengage Learning 4. Craig, R.F., (1997), Soil Mechanics, 6th edition, E&FN Spon

Course Name	Hydromechanics
Course Level	Undergraduate
Course Code	CVEN308
Semester	Spring
Person Responsible for the course	Assist. Prof. Dr. İbrahim Bay
Lecturer	Assist. Prof. Dr. İbrahim Bay
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 6 th semester
Type of teaching, expected class size	Training, <80 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 2 Lecture hours per week 2. Laboratory practicals: 2 Lecture hours per week 3. Self-Study: 6 hours per week Total Exercises and Examination Preparation time: 60 hours
Credit Points - ECTS	3 Credit Points – 6 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Introduction. General Characteristics of Flow in Closed Conduits. Fully Developed Flow in Closed Conduits. Computation of Flow in Single Pipes. Non-uniform Flow in Closed Conduits. Pipes in Series and Pipes in Parallel. Branching Pipes. Hydraulics Operation of Pumped Discharge Lines. Gravity Pipelines. General Characteristics of Open Channel Flow and Uniform Flow. Specific-Energy Concept and Critical Flow. Rapidly Varied Flow. Specific Force Concept. Conjugate Depths. Gradually Varied Flow. Design of Open Channels for Uniform Flow.
Course Learning Outcomes	<p>On successful completion of the course, the student will:</p> <ol style="list-style-type: none"> 1. strengthen the fluid mechanics knowledge, 2. understand the hydraulics concept, 3. gain confidence on pipe flow, flow in pipes in series and pipes in parallel, network systems, 4. understand the open channels concept 5. calculate water levels in an open channel before and after hydraulic jumps, and when physical properties of the channel varies 6. design the best hydraulic section for open channels
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Project • Laboratory practicals • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<ol style="list-style-type: none"> 1. Altınbilek, D. et.al., 2006, "Hydromechanics, Lecture Notes", METU, Ankara 2. Günyaktı, A. & Günyaktı, A., 2020, "Hydromechanics", Nobel, Ankara 3. Akan, A.O., 2006, "Open Channel Hydraulics", Butterworth-Heinemann, Elsevier, Canada

Course Name	Summer Training II
Course Level	Undergraduate
Course Code	CVEN402
Semester	Fall
Person Responsible for the course	Assoc. Prof. Dr. Şevket Can Bostancı
Lecturer	Assoc. Prof. Dr. Şevket Can Bostancı
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 7 th semester
Type of teaching, expected class size	Face to face lectures, <75 Students
Workload	Logbook and Technical report preparation time 30 hours
Credit Points - ECTS	0 Credit Points – 1 ECTS
Requirements according to the examination regulations	Civil Engineering students are required to take part in industrial work/organizations relating to their fields of study. This is required as part of the fulfilment of the degree program. Students are required to complete a total 20 consecutive working days of site work for Summer Training II after completing their third year.
Pre-requisites	-
Catalogue Descriptions/Content	Subjects available Surveying, quantity and cost estimates. Construction materials. Site applications. Reinforced concrete, structural, hydraulic and highway design. Preparing standard engineering drawings.
Course Learning Outcomes	At the end of this course student will be able to: 1. improve knowledge about roles in organisation charts and their responsibilities 2. gain practical experience relevant to their field, 3. improve knowledge in construction site environment, 4. develop an understanding in professional customs and practices, 5. improve communication and correspondence skills, 6. learn to behave ethically with health and safety in mind.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Technical report • Training log book
Media Employed	-
Reading List/ Recommended Text Book	-

Course Name	Graduation Project I
Course Level	Undergraduate
Course Code	CVEN419
Semester	Fall
Person Responsible for the course	Assoc. Prof. Dr. Şevket Can Bostancı
Lecturer	Assoc. Prof. Dr. Şevket Can Bostancı
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 7 th semester
Type of teaching, expected class size	Face-to-face lectures, <40 Students
Workload	1. Self-Study: 3 hours per week 2. Total Exercises and Preparation time: 98 hours
Credit Points - ECTS	1 Credit Point – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the meetings and submit the proposal on time.
Pre-requisites	-
Catalogue Descriptions/Content	Final-year Civil Engineering students are required to undertake and present a graduation project in two consecutive courses (Graduation Project I & II) under the supervision of a faculty member assigned by the Department. This course serves as a preparatory stage for Graduation Project II and aims to introduce students to the methodologies and approaches necessary for the successful completion of their final project. Students are expected to select a project topic within one of the Civil Engineering disciplines (such as Materials, Structures, Transportation, Construction Management, or Hydraulics), conduct a comprehensive literature review, and develop a structured project proposal outlining the objectives, methodology and proposed tasks. The course is designed to foster independent research skills and enable students to apply the theoretical knowledge and practical experience gained throughout the undergraduate program. Students must prepare a written report and a poster, either individually or as part of a small team, demonstrating their ability to plan, analyze, and communicate an engineering project effectively.
Course Learning Outcomes	At the end of this course student will be able to: 1. Gain theoretical knowledge on the literature review on the area of interest 2. Improve technical writing and research skills 3. Identify specific objectives of the project 4. Perform preliminary research on specific tasks 5. Perform writing technical report 6. Prepare poster on the given project
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Project technical report • Poster Preparation • Meetings
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	1. Euroean University of Lefke (2022) How to Write a Technical Report. Lecture Notes. 2. Beer, D.F, McMurrey, D.A. (2005) A guide to writing as an engineer. New York: Wiley.

Course Name	Reinforced Concrete Fundamentals
Course Level	Undergraduate
Course Code	CVEN403
Semester	Fall
Person Responsible for the course	Asst. Prof. Dr. Ali Sadeghpour
Lecturer	Asst. Prof. Dr. Ali Sadeghpour
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 6 th semester
Type of teaching, expected class size	Face to face lectures, < 80 Students
Workload	Lectures: 3 Lecture hours per week Self-Study: 5 hours per week Total Exercises and Examination Preparation time: 35 hours
Credit Points - ECTS	3 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	Structural Analysis I
Catalogue Descriptions/Content	Concept of design Structures. Limit state theory, concept of safety, definition of reinforced concrete element. Criterion of failure of axial loading. Section under binding and axial load, cracking and limit states. Stress distribution of compression zone of concrete. Bending combined with axial loading. Internal forces. Equilibrium equations. Design tables and curves for a rectangular section. Providing safety for shear in columns and beams. Providing safety for shear in columns and beams. Design of Beams and Frames. Torsion. Bond, anchorage, splices of reinforcement. Ductility. Beam-column joints. Design specifications. Slabs with beams. One way slabs. Two-way slabs. Design specifications.
Course Learning Outcomes	At the end this course, the student will be able to: 1. Analyze and Design reinforced concrete beams following structural principles, 2. Calculate and Distribute Loads effectively in reinforced concrete beams, 3. Apply Design Procedures in compliance with current code requirements.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Quiz • Project work • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<ul style="list-style-type: none"> • D. Darwin, C. W. Dolan, and A. H. Nilson, Design of Concrete Structures, 15th Edition, McGraw Hill, 2016 • James K. Wight, Reinforced concrete Mechanics and design, 7th Edition • Building Code Requirements for Structural Concrete (ACI 318M-22) • Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE 7-22)

Course Name	Fundamentals of Steel Design
Course Level	Undergraduate
Course Code	CVEN405
Semester	Fall
Person Responsible for the course	Asst. Prof. Dr. İbrahim Bay
Lecturer	Asst. Prof. Dr. İbrahim Bay
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 7 th semester
Type of teaching, expected class size	Face to face lectures, < 70 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 7 hours per week 3. Total Exercises and Examination Preparation time: 30 hours
Credit Points - ECTS	3 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	
Catalogue Descriptions/Content	General concepts in design. Design methods, loads (dead, live, wind, snow and earthquake), codes, safety, and serviceability. Behavior of steel structures. Tension members, compression members, beams, beam-columns, types and behavior of connections in steel structures, bolted and welded connections. Introduction to computer aided design using SAP 2000-Educational.
Course Learning Outcomes	<p>At the end this course, the student will be able to:</p> <ol style="list-style-type: none"> 1. gain basic knowledge about steel structures and their mechanical properties, 2. determine the design capacity of basic steel structural members, 3. determine the design capacity of bolted and welded steel connections, 4. understand integrated analysis and design of structural steel members 5. understand engineering principles underlying the specifications for the design of various structural steel components
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<ul style="list-style-type: none"> • Lecture notes • W. T. Segui, 2007, "Steel Design", 4th Ed., Cengage Learning. • E. Gylord and j. Shallmayor, 2010, "Design of Steel Structures", 3rd Ed., Prentice Hall. • C.G. Salmon and J.E. Johnson, 2010, "Steel Structures: Design and Behaviour", 4th Ed., Pearson.

Course Name	Construction Management
Course Level	Undergraduate
Course Code	CVEN415
Semester	Fall
Person Responsible for the course	Asst. Prof. Dr. Cumhuri Aydın
Lecturer	Asst. Prof. Dr. Cumhuri Aydın
Language	English
Relation to Curriculum	Undergraduate degree program, Compulsory, 8 th semester
Type of teaching, expected class size	Face-to-face lectures, <65 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 60 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	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.
Course Learning Outcomes	<p>At the end this course, the student will be able to:</p> <ol style="list-style-type: none"> 1. understand the concept of construction planning and management 2. prepare organisations and management charts 3. explain how to install a construction site 4. Schedule a construction project 5. how to approach cash flow calculations for construction projects
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Quiz • Project • Midterm Examination • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Construction Engineering and Management, METU Lecture Notes 2. Walker, A., 2007, "Project Management in Construction ", 5th ed., Blackwell Publishing, Singapore

Course Name	Water Resources Engineering
Course Level	Undergraduate
Course Code	CVEN417
Semester	Fall
Person Responsible for the course	Asst. Prof. Dr. İbrahim Bay
Lecturer	Asst. Prof. Dr. İbrahim Bay
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 7 th semester
Type of teaching, expected class size	Face-to-face lectures, <65 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 4 hours per week 3. Total Exercises and Examination Preparation time: 20 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the meetings, attend the presentation and submit the report on time.
Pre-requisites	-
Catalogue Descriptions/Content	Classification of dams, types of spillways, crest gates, outlet works, uses, quantities, characteristics and quality of water. Treatment and distribution systems. Soil water relationships, irrigation methods, drainage flow and land drainage, culverts and bridge waterways, hydroelectric power plants, turbines.
Course Learning Outcomes	<p>On successful completion of the course, students should be able to:</p> <ol style="list-style-type: none"> 1. be capable to understand water resources and their management, 2. understand sustainability of water resources, 3. be able to design and calculate and control structures like reservoir, dam, spillway, 4. be able to understand rainwater harvesting and management,
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Project • Midterm Examination • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<ol style="list-style-type: none"> 1. Melih, A.M., 2006, "Applied Water Resources Engineering", 3rd Ed., METU Press, Ankara, Turkiye 2. Davis, Mackenzie L., 2010, "Water and Wastewater Engineering", Design Principles and Practice, Mc Graw Hill, the USA 3. Chin, D.A., 2006, "Water Resources Engineering", Prentice Hall, 2007

Course Name	Graduation Project II
Course Level	Undergraduate
Course Code	CVEN450
Semester	Spring
Person Responsible for the course	Assoc. Prof. Dr. Şevket Can Bostancı
Lecturer	Assoc. Prof. Dr. Şevket Can Bostancı
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 8 th semester
Type of teaching, expected class size	Face-to-face lectures, <65 Students
Workload	1. Self-Study: 3 hours per week 2. Total Exercises and Preparation time: 301 hours
Credit Points - ECTS	5 Credit Points – 10 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the meetings, attend the presentation and submit the report on time.
Pre-requisites	CVEN419
Catalogue Descriptions/Content	This is the capstone course for students in civil engineering. It is designed to bring together the knowledge and skills learnt in the major engineering courses and the minor or further specialization option. Students may work as an individual but they are highly encouraged to work on an interdisciplinary project as part of a group. Students are expected to submit a detailed final report which documents the design, implementation and testing that also needs to be presented to the jury consisting Academic Members.
Course Learning Outcomes	On successful completion of the course, students should be able to: 1. Ability to apply knowledge and understanding of fundamental sciences and specialized civil engineering concepts and theories to design and develop in civil engineering subject area, 2. Demonstrate knowledge and understanding of codes of practices, safety regulations and assessment methods (simulations, experimental practices), propose designs in civil engineering subject area and of their limitations, 3. Ability to use modern tools or facilities to validate innovations and recent developments in laboratories or real-life case scenarios, 4. Ability to manage time and resources effectively while conducting civil engineering projects, 5. Ability to work individually or in inter-disciplinary teams in a harmonized manner to find solutions for the proposed problem, 6. Ability to write technical reports and to defend the studied engineering project using appropriate presentation skills, modern techniques and facilities, 7. Demonstrate awareness of the key aspects of professional, ethical and social responsibilities linked to management of civil engineering activities, decision making and judgment formulation.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Project + report • Project Presentation • Poster Preparation • Meetings
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	1. Euroean University of Lefke (2022) How to Write a Technical Report. Lecture Notes. 2. Beer, D.F, McMurrey, D.A. (2005) A guide to writing as an engineer. New York: Wiley.

Course Name	Engineering Ethics
Course Level	Undergraduate
Course Code	ENGG434
Semester	Spring
Person Responsible for the course	Prof. Dr. Ertuğ Aydın
Lecturer	Prof. Dr. Ertuğ Aydın
Language	English
Relation to Curriculum	The undergraduate degree program, Compulsory, 8 th semester
Type of teaching, expected class size	Face-to-face lectures, <210 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 45 hours
Credit Points - ECTS	3 Credit Points – 5 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	None
Catalogue Descriptions/Content	Ethics and professionalism, moral reasoning, moral frameworks, ethical theories, commitment of safety, risks, workplace responsibilities, honesty, equal opportunity: non-discrimination, confidentiality and conflicts of interest, environmental ethics, green engineering, sustainable development, dilemma resolution, professional rights, whistleblowing. Code of ethics: The Institute of Electrical and Electronics Engineers, American Institute of Chemical Engineers, American Society of Civil Engineers, Software Engineering. Basic ethics training. Engineering professional training, job responsibilities and professionalism, labor law and ethics. Case studies on the topics of engineering professional ethics, labor safety, and environmental protection. Computers and ethics, data protection, computer failures. Global issues.
Course Learning Outcomes	<p>On successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Develop comprehension of professional and ethical responsibilities of engineers, including code of ethics of professional societies. 2. Be able to address and resolve problems arising from questionable practice 3. Develop critical thinking skills and professional judgement and understand practical difficulties of bringing about change 4. Develop a professional ethical identity to carry forward in their working life 5. Ability to recognize the existence of ethical issues
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Presentation • Midterm Examination • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Mike W. Martin and Roland Schinzinger., "Ethics in Engineering", fourth edition, 2005 2. Jr. Charles E. Harris, "Engineering Ethics: Concepts and Cases", 5th Edition, Wadsworth Publishing, 2013 3. Charles E. Harris Jr., Michael S. Pritchard., Michael J. Rabins., "Engineering Ethics: Concepts and Cases", 4th Edition, Wadsworth Publishing, 2008 4. Herman T. Tavani, "Ethics and Technology: Controversies, Questions, and Strategies for Ethical Computing", 4th Edition, John Wiley and Sons, 2012

Course Name	Advanced Materials of Construction
Course Level	Undergraduate
Course Code	CVEN472
Semester	Fall
Person Responsible for the course	Assoc. Prof. Dr. Şevket Can Bostancı
Lecturer	Assoc. Prof. Dr. Şevket Can Bostancı
Language	English
Relation to Curriculum	The undergraduate degree program, Technical Elective
Type of teaching, expected class size	Face-to-face lectures, <50 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 47 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	None
Catalogue Descriptions/Content	This course provides an introductory overview of the various construction materials. In addition, comparative knowledge of materials physical and chemical properties, long-term performance and associated applications are also revealed in this course.
Course Learning Outcomes	<p>On successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. To know the physical and chemical properties of raw materials used in the production of construction materials 2. To know the engineering properties of raw materials, metals, polymers, glass and insulation materials necessary for buildings 3. To know the cement types, aggregate physical and chemical properties and design concrete for various applications
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<ol style="list-style-type: none"> 1. Valery V. Vasiliev, Evgeny V. Morozov, 'Advanced Mechanics of Composite Materials and Structures', Published by Elsevier, 2018 2. N.V. Nayak, A.K. Jain 'Handbook on Advanced Concrete Technology', First Edition, 2012 3. Neville, A.M, "Properties of Concrete", Fourth Ed., Prentice-Hall, 2012 4. Mehta, P.K., and Monteiro, P.J.M., 'Microstructure, Properties and Materials', 2nd edition, 239 pp, 2017

Course Name	Admixtures for Concrete
Course Level	Undergraduate
Course Code	CVEN429
Semester	Spring
Person Responsible for the course	Assoc. Prof. Dr. Şevket Can Bostancı
Lecturer	Assoc. Prof. Dr. Şevket Can Bostancı
Language	English
Relation to Curriculum	The undergraduate degree program, Technical Elective
Type of teaching, expected class size	Face to face lectures, <55 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 47 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Definition of term an admixture for concrete. Chemical and mineral admixtures. Performance of air-entraining admixtures, high range water- reducing, retarding, and accelerating admixtures. Natural pozzolans, fly ash, silica fume and ground granulated blast furnace slag. Behavior of fresh and hardened concrete modified with different admixtures.
Course Learning Outcomes	<p>On successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. To be able to understand the use of chemical admixtures in concrete 2. Recognize the mineral admixtures for concrete 3. To be able to understand the effect of chemical and mineral admixtures on fresh and hardened concrete 4. An ability of effective use of mineral and chemical admixtures in the mix design calculations
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ul style="list-style-type: none"> • Tokyay, M. (2016) Cement and Concrete Mineral Admixtures. CRC Press, Taylor & Francis, Boca Raton. • Bapat, J.D. (2013) Mineral Admixtures in Cement and Concrete. CRC Press, Taylor & Francis, Boca Raton. • Ramachandran, V.S. (1997) Concrete Admixtures Handbook. 2nd Ed., Noyes Publication, New Jersey, USA. • Scientific articles (Elsevier)

Course Name	Construction Project Scheduling
Course Level	Undergraduate
Course Code	CVEN465
Semester	Spring
Person Responsible for the course	Asst. Prof. Dr. İbrahim Bay
Lecturer	Asst. Prof. Dr. İbrahim Bay
Language	English
Relation to Curriculum	The undergraduate degree program, Technical Elective
Type of teaching, expected class size	Face to face lectures, <70 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 43 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Basic construction project scheduling procedures. Work breakdown structure, critical path method, and scheduling logic. Activity durations, status reports, resource allocation, and control.
Course Learning Outcomes	<p>On successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Steps needed to devise a technologically advanced schedule geared toward streamlining the construction process. 2. Calculations needed by project schedulers, particularly related to time management, 3. Precedence networks as a viable solution to scheduling, the main part of project control, 4. The concepts of Dynamic Minimal Lag, a new CPM technique,
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Pierce, R.D. Jr, 2013, "Project Scheduling and Management for Construction", Wiley, Canada 2. Lewis, J.P., 2005, "Planning Scheduling and Control", 4th ed., McGraw Hill, the USA.

Course Name	Advanced Concrete Technology
Course Level	Undergraduate
Course Code	CVEN471
Semester	Spring
Person Responsible for the course	Assoc. Prof. Dr. Şevket Can Bostancı
Lecturer	Assoc. Prof. Dr. Şevket Can Bostancı
Language	English
Relation to Curriculum	Undergraduate degree program, Technical Elective
Type of teaching, expected class size	Face to face lectures, <30 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 44 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	-
Catalogue Descriptions/Content	Hydration of Portland cement; chemistry, compound interactions, hydration products and microstructure, volume changes during hydration. Admixtures for concrete and their effects on concrete properties. Properties of fresh concrete. Properties of hardened concrete. Concrete mix design methods. Curing methods of concrete. Special types of concrete. Durability of concrete. Concreting in hot weather and concreting in cold weather. Quality control. Thermal properties of concrete.
Course Learning Outcomes	<p>On successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. To be able to understand of the concrete making materials. 2. To be able to understand the importance of fresh and hardened properties on concrete performance 3. To acknowledge various concrete applications and technologies.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Midterm Examination • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Li, Z. (2011) Advanced Concrete Technology. John Wiley & Sons, New Jersey. 2. Newman, J. & Choo, B.S. (2003) Advanced Concrete Technology. Butterwoth-Heinemann, Oxford. 3. Mineral Products Association, The Concrete Centre - Concrete Series

Course Name	Advanced Reinforced Concrete Design
Course Level	Undergraduate
Course Code	CVEN442
Semester	Fall
Person Responsible for the course	Asst. Prof. Dr. Ali Sadeghpour
Lecturer	Asst. Prof. Dr. Ali Sadeghpour
Language	English
Relation to Curriculum	Undergraduate degree program, Technical Elective
Type of teaching, expected class size	Face-to-face lectures, <80 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 38 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	
Catalogue Descriptions/Content	Behavior and strength of members under combined shear and torsion design reinforced concrete beam for shear, torsion and bending. Serviceability of beams and one-way slabs deflection behavior and control. Structural systems framed, wall and combined structures, flat slabs and plates. Seismic design principles. Modeling and design with SAP 2000 Educational. Advanced methods of construction prefabricated and prestressed concrete composite structures. Repair and strengthening of structures.
Course Learning Outcomes	<p>On successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Analyze and design reinforced concrete short columns 2. Design reinforced concrete one-way and two-way slabs 3. Apply the principles, procedures and current seismic code requirements
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Two quizzes • Midterm Examination • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture notes, homework, quizzes and project
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. D. Darwin, C. W. Dolan, and A. H. Nilson, Design of Concrete Structures, 15th Edition, McGraw Hill, 2016 2. James K. Wight, Reinforced concrete Mechanics and design, 7th Edition 3. Building Code Requirements for Structural Concrete (ACI 318M-22) 4. Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE 7-22)

Course Name	Highway Materials
Course Level	Undergraduate
Course Code	CVEN444
Semester	Spring
Person Responsible for the course	Asst. Prof. Dr. Cumhuri Aydın
Lecturer	Asst. Prof. Dr. Cumhuri Aydın
Language	English
Relation to Curriculum	Undergraduate degree program, Technical Elective
Type of teaching, expected class size	Face-to-face lectures, <20 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 44 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	None
Catalogue Descriptions/Content	The main purpose of this course is to introduce the concepts of highway materials, asphalt and aggregates. The physical and chemical characteristics of asphalts will be discussed. Mineral aggregates classification and mechanical characteristics of aggregates will be evaluated. Asphalt and aggregates mixtures, surface treatments and highways will be presented. Marshall method of mix design and physical of asphaltic mixtures are evaluated.
Course Learning Outcomes	<p>On successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. understand the concept and general properties of bituminous materials. 2. understand and analyze asphalt characteristics 3. understand how to classify and use mineral aggregates. 4. evaluate how to make mixture design for surface treatments. 5. evaluate Marshall Method of mix design for asphaltic mixtures
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Homework • Midterm Examination • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	<p>Main:</p> <ol style="list-style-type: none"> 1. Highway Materials (METU Lecture Notes) 2. Transportation Engineering & Planning, C.S. Papacostas, P.D. Prevedouros

Course Name	Highway Engineering
Course Level	Undergraduate
Course Code	CVEN426
Semester	Fall
Person Responsible for the course	Asst. Prof. Dr. Cumhuri Aydın
Lecturer	Asst. Prof. Dr. Cumhuri Aydın
Language	English
Relation to Curriculum	Undergraduate degree program, Technical Elective
Type of teaching, expected class size	Face-to-face lectures, <35 Students
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 Lecture hours per week 2. Self-Study: 3 hours per week 3. Total Exercises and Examination Preparation time: 37 hours
Credit Points - ECTS	3 Credit Points – 4 ECTS
Requirements according to the examination regulations	A student must have attended at least 70% of the lectures to sit in the exams.
Pre-requisites	None
Catalogue Descriptions/Content	Fundamental principles of highway engineering and the engineering knowledge and skills necessary for the planning, design, construction, and maintenance of road projects, factors affecting highway design, material selection, traffic loads, and road safety criteria for practical applications.
Course Learning Outcomes	<p>On successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. understand the concept of safe road design 2. prepare black spot analysis schemes 3. find out countermeasures for improvement of road sites 4. find out countermeasures for improvement of road sites 5. apply and to present actual road safety audit evaluation
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • Quiz • Midterm Examination • Project • Final Examination
Media Employed	Whiteboard, Projector and Moodle for Lecture note sharing
Reading List/ Recommended Text Book	Road Safety Management; TMS Consultancy.



DEPARTMENT OF CIVIL ENGINEERING

ACADEMIC STAFF DETAILS

Prof. Dr. Ertuğ Aydın		
BSc Degree	Eastern Mediterranean University, North Cyprus	1997
MSc Degree	Eastern Mediterranean University, North Cyprus	1999
PhD Degree	Eastern Mediterranean University, North Cyprus	2006
Department	Civil Engineering	
Research Area	Building Materials, Sustainable Concrete, Concrete Technology, Waste Management, Sustainability	

Prof. Dr. Hüseyin Oğuz		
BSc Degree	Ankara University, Turkey	1979
MSc Degree	Ankara University, Turkey	1983
PhD Degree	Oldenburg University, Germany	1986
Department	Civil Engineering	
Research Area	Environmental pollution, Clean process	

Assoc. Prof. Dr. Şevket Can Bostancı		
BSc Degree	Kingston University London, UK	2009
MSc Degree	Kingston University London, UK	2010
PhD Degree	Kingston University London, UK	2015
Department	Civil Engineering	
Research Area	Sustainable Concrete, Concrete Technology, Low Carbon Concrete, Green Composites, Sustainability	

Asst. Prof. Dr. Mehmedali Egemen		
BSc Degree	Eastern Mediterranean University, North Cyprus	1998
MSc Degree	Eastern Mediterranean University, North Cyprus	2000
PhD Degree	Eastern Mediterranean University, North Cyprus	2006
Department	Civil Engineering	
Research Area	Construction Management	

Asst. Prof. Dr. İbrahim Bay		
BSc Degree	Eastern Mediterranean University, North Cyprus	1997
MSc Degree	Eastern Mediterranean University, North Cyprus	1999
PhD Degree	The University of Liverpool, UK	2006
Department	Civil Engineering	
Research Area	Coastal Structures, Hydrology, Hydraulics, Overtopping	

Assist. Prof. Dr. Nemika CELLATOĞLU		
BSc Degree	Eastern Mediterranean University, North Cyprus	2003
MSc Degree	Eastern Mediterranean University, North Cyprus	2007
PhD Degree	Eastern Mediterranean University, North Cyprus	2016
Department	Physics	
Research Area	Solar Concentrator Systems, Biomass Processing	

Assist Prof. Dr Saltuk Pirgaloğlu		
BSc Degree	Gazi University, Turkey	2006
MSc Degree	Middle East Technical University, Turkey	2008
PhD Degree	Middle East Technical University, Turkey	2015
Department	Engineering	
Research Area	Water Treatment: Adsorption, Membrane processes, Advanced oxidation	

Assist. Prof. Dr. Devrim Özdal		
BSc Degree	Suleyman Demirel University, Turkey	2006
MSc Degree	Eastern Mediterranean University, North Cyprus	2009
PhD Degree	Cyprus International University, North Cyprus	2017
Department	Civil Engineering	
Research Area	Synthesis, Environment, Renewable energy, Pollution, Sustainability	

Mehmet Burhan		
BSc Degree	Gazi University, Turkey	2001
MSc Degree	Middle East Technical University, Turkey	2004
PhD Degree	European University of Lefke, N.Cyprus	continuing
Department	Environmental Sciences	
Research Area	Climate Change Impacts	