NEAR EAST UNIVERSITY

DEPARTMENT OF CIVIL ENGINEERING

Course Catalogue

Contents

Civil Engineering BSc Programme

General Information about the Department of Civil Engineering

Department of Civil Engineering in Near East University was founded in 1992.

The Department has two bachelor of science programme: English and Turkish, thus, the language of instruction is English and Turkish in each corresponding BSc programme.

Mission

Civil engineering has been a fundamental aspect of life since the beginning of history. The discipline of civil engineering deals with the planning, design and construction of buildings, bridges, tunnels, transportation facilities and other structures required for the health, welfare, safety, employment and pleasure of the society and for environmental control and use of natural resources.

Vision

As the Department of Civil Engineering, our fundamental principles are based on sharing our academic knowledge and professional experience with our students and providing them with the ability and insight to use the required analytical skills to solve engineering problems by making fast and efficient decisions through good use of resources with an absolute respect to ethics. The Department of Civil Engineering also aims to train high-qualified civil engineers whose talents, skills, abilities and knowledge meet the requirements

and needs of the state and private institutions, and support development as well as contributing advancements in the civil engineering field, and carry out research facilities to bring new insight into the academic bases of this field.

Official Length of Programme:

4 years (excluding one year of English preparatory class for English programme), 2 semesters per year, 14 weeks per semester.

Mode of study: full time

Profile of the Programme and Method of Education

Civil Engineering Department offers a 4-year Bachelor program designed to train engineering students to have a solid back ground in fundamental sciences and essential engineering concepts, reinforced with extensive field applications.

Students are awarded with the degree of Bachelor of Science in Civil Engineering upon the successfully completion of 42 courses (yielding a total of 149 local credits equivalent to 240 ECTS) and 2 mandatory summer practices (first practice focuses on field applications, and the second practice focuses on the engineering applications in an office environment). Detailed information on the curriculum and the study plan is given extensively in Appendix A.

In addition to the fundamental science courses that are offered for all engineering departments, Civil Engineering Undergraduate Program offers specialized courses on 6 main branches of studies: Structural Engineering, Materials of Construction, Geotechnical Engineering, Hydraulics Engineering, Transportation Engineering and Construction Management. With this general knowledge on all main branches of studies, students are encouraged to become professional engineers in one of these main branches of studies in their future career.

Qualification Awarded

Bachelors of Science (B.Sc) (Bachelor's Degree/ first cycle in Bologna System)

Level of Qualification

Qualifications Framework- European Higher Education Area (QF-EHEA): 1

Access Requirement(s)

High School Diploma. Admission of Turkish nationals is by Placement through a nation-wide Student Selection Examination (ÖSS) administered by Assessment, Selection and Placement Centre (ÖSYM). Admissions of Turkish Cypriots is based on the Near East University Entrance and Placement exam. Admission of international students is based on their high school credentials. Proof of English Language proficiency is also required.

Qualification Requirements

150 Near East University "Local" Credits (Near East University Credit is contact hour based) which is total 240 ECTS credits must be completed after being successful in the courses to become a graduate of the Civil Engineering department.

ECTS is a credit system designed to make it easier for students to move between different countries. Since they are based on the learning achievements and workload of a course, a student can transfer their ECTS credits from one university to another so they are added up to contribute to an individual's degree programme or training. ECTS helps to make learning more student-centred. It is a central tool in the Bologna Process, which aims to make national systems more compatible.

ECTS also helps with the planning, delivery and evaluation of study programmes, and makes them more transparent (http://ec.europa.eu/education/ects/ects_en.htm) .

Converting Local Credits (based on US College Credit Hours; semester credit hours-SCH) to ECTS

ECTS is the most commonly used credit system in Europe. The major difference between the European Credit System ECTS and the local credit system (based on US College Credit system) is that the first is based on student workload and the second on contact hours. The ECTS is oriented towards the time required for a student to meet the intended study outcomes, while the U.S. system is more oriented towards the time a faculty member needs to teach.

Here is an example of conversion of credits from ECTS to Semester Credit Hours for a college or university in the U.S.: 1.67 ECTS = 1.00 US College Credit Hours

Conversion standards may vary between higher education institutions in the U.S.

(http://www.mastersportal.eu/articles/1110/what-you-need-to-know-about-academic-credit-systems-in-the-us.html)

A student is required to have minimum pass grade from each course and obtain minimum 2.00/4.00 cumulative Grade point Average (cumulative GPA)**.**

Intended Learning Outcomes of B.Sc. Program

The objective of the Civil Engineering Undergraduate Program is mainly establishing an efficient interaction between the academic staff and the students in order to convey the academic knowledge and professional experience to our students, providing them the ability and insight to use the required analytical skills to solve engineering problems by making fast and efficient decisions through good use of resources with an absolute respect to ethics.

The Civil Engineering Undergraduate Program also aims to train high-qualified civil engineers whose talents, skills, abilities and knowledge meet the requirements and needs of the state and private institutions, and support development as well as contributing advancements in the civil engineering field,

and carry out research facilities to bring new insight into the academic bases of this field

Arrangements for Transfer from another Civil Engineering Department (Recognition of Prior Learning)

A student wishing a transfer from another university: the student must prove her/his English Proficiency if he/she wishes to attend the English Section. At the time of OSS examination the candidate's entrance score must not be less than the lowest score for admission to the Near East Civil Engineering Department. The transcript and course content of the applicant is examined by the department and the student is then accepted into the appropriate year of the programme.

For Further Details Please Contact:

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Department of Engineering

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Examination Regulations, Assessment and Grading

The evaluation of the students' performance varies according to the methods of delivery followed in each course offered indifferent departments of the Faculty of Engineering in Near East University. In addition to a final exam, which is requisite according to the regulations of NEU, the results of minimum one mid-term exam along with other evaluation criteria are usually taken into

consideration in order to determine the final grade of the student. These supplementary performance evaluation criteria might be quiz grades, laboratory works, home works, term projects and presentations depending on each individual course. Weights of all abovementioned partial grades within the overall grade gained by the student at the end of the semester are defined by the lecturer delivering the course.

The content of the exams as well as the method of assessing students' knowledge are determined by the course lecturer. The exams are normally designed according to the intended learning objectives. The results of the mid terms are posted both on the web page as well on the bulletin board so that the objections can be considered if any corrections are needed for re-evaluation. The exams are graded over 100 points. The means and variances are also computed for the exams in order to see the distribution of percentages of the students which are under in classes. The exams may be completely closed (for the texts part) or/and may be open book depending on the course subject and the teachers consensus.

Exams can be "written"; either in the "multiple choice" or in the "essay writing" style for assessing conceptual knowledge. "Written" exams may also include problem solving or sometimes may include technical drawing practices for engineering purposes as well. Some "computer-aided" courses may have applied examinations that are organized in PC Labs while each student carries out the tasks given in the content of the exam, using an individual computer. Some other courses may have "oral" examinations; either in "interview" or in a "presentation" style. The lecturer of the course is in charge of setting the criteria for grading the written or oral examinations given for that course.

Students failing to attend to any mid-term or final exam with a valid excuse are allowed to take a "Make-up Exam". If the student fails the course at the end of

the semester, he/she is given the chance to take an additional “Re-sit” exam; the grade of the re-sit exam replaces the grade of the final exam gained by the student while his/her average grade is re-calculated. No make-up exam is given in case of missing the re-sit exam.

The timetables of mid-term, final and re-sit examinations are announced by the Engineering Faculty, following the dates defined in academic calendar that is set by the Rectorate of Near East University. Other critical dates for possible additional midterm examinations, quizzes as well as any term project submission deadline are defined by the lecturer of each course.

Lecturers submit the student grades to the Chairperson until “The last day for the submission of letter grades” that is specified in the academic calendar. All grades become official when reported to the Registrar’s Office by each Department.

Grades are entered into the information system belong to each student. The students are ranked according to their success and the scores. The high honor and the honor students are publicly announced and during the graduation ceremony, they are complemented and documented by the certificates.

Grading Scheme and Grades

PERCENTAGE	COURSE GRADE	GRADE POINTS
90-100	AA	4.00 (Excellent)
85-89	BA	3,30-3,95 (Excellent)
80-84	BB	3,00-3,45 (Very Good)
75-79	CB	2,50-2,95 (Very Good)
70-74	CC	2,00-2,45 (Good)
65-69	DC	1,50-1,90 (Good)
60-64	DD	1,00-1,40 (Good)
50-59	FD	0,50-0,90 (Failed)
0-49	FF	0,00 (Failed)

Occupational Profiles of Graduates

Graduates of the Civil Engineering BSc. Program are trained to be able to find job opportunities in all kind of state and industrial construction sectors which require planning, designing, constructing, controlling of constructions and infrastructures of industrial buildings and investments such as dams, airports, bridges, roads, harbours, sewerage and drainage systems and waterworks. The list of employment possibilities, either in the private or public sector, is presented as the following:

In private sector;

- Project design engineer
- Supervising engineer
- Project consultancy
- Nationwide academician

Public sector;

- Ministry of Public Works and Transportation
  - Department of construction and planning
  - Department of highways
- Ministry of Internal Affairs and Local Administration
  - Town Planning
  - Department of Habitation and Rehabilitation
- Ministry of Tourism and Environment
  - Environmental Protection Agency
  - Department of Ancient Arts and Museums
- Ministry of Agriculture and Resources

- Department of Water Works
- Department of Geology and Mining

- Carrying out project design, supervising and vocational consultancy engineering within the local administrations. (Municipalities, district governorships, etc…)

In addition to the aforementioned positions above, the graduate students get the opportunity to participate in the following fields;

- Exhibitions carried out to promote and encourage vocational and technical collaboration.
- National/International Research-development projects

Department Chairman

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Courses List with Near East University Credits and ECTS

Please see the attached example of the diploma supplement which is given to all graduates of our university free of charge. It is arranged in English.

The diploma supplement is a document the purpose of which is to provide sufficient independent data to improve the international "transparency" and fair academic and professional recognition of qualifications (diplomas, degrees, certificates, etc.). It is designed to provide a description of the nature, level, context, content and the status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgments, equivalence statements or suggestions about recognition.

Faculty of Engineering Department of Civil Engineering Study Plan **(BSc.) FRESHMAN**				
FIRST YEAR - FALL SEMESTER		**I. Semester**		
Course Code	**Subject Name**	**Local Cr.**	**ECTS**	**Prerequisite**
ENG 101	English I.	3	4	-
MTH 101	Calculus I.	4	6	-
PHY 101	General Physics I.	4	6	-
CHM 101	General Chemistry	4	6	-
ECC 101	Computer Programming	3	6	-
Total Credit		**18**	**28**	
FIRST YEAR – SPRING SEMESTER		**II. Semester**		
Course Code	**Subject Name**	**Local Cr.**	**ECTS**	**Prerequisite**
ENG 102	English II.	3	4	ENG 101
MTH 102	Calculus II.	4	6	MTH 101
PHY 102	General Physics II.	4	6	PHY 101
GEO 102	Geology for Civil Engineering	3	5	-

TD 102	Technical Drawing	3	6	-
Total Credit		**17**	**27**	
SOPHOMORE				
SECOND YEAR - FALL SEMESTER		**III. Semester**		
Course Code	**Subject Name**	**Local Cr.**	**ECTS**	**Prerequisite**
MTH 201	Diff. Eq. and Lın. algebra	4	6	MTH 102
MTH 251	Statistical Methods for C.E.	3	5	MTH 101
ECC 206	Statics	4	6	PHY 101, MTH 101
ECC 426	Engineering Economy	3	6	-
CE 241	Materials Science	4	5	-
NTE		3	4	-
Total Credit		20	32	
SECOND YEAR - SPRING SEMESTER		**IV. Semester**		
Course Code	**Subject Name**	**Local Cr.**	**ECTS**	**Prerequisite**
MTH 232	Advanced Calculus	3	5	MTH 102
CE 204	Surveying and Engineering	4	6	-
ECC 212	Dynamics	3	5	ECC 206
ECC 213	Strength of Materials I.	4	6	ECC 206
CE 244	Materials of Construction	4	6	-
NTE		3	4	-
Total Credit		**21**	**32**	
JUNIOR				
THIRD YEAR - FALL SEMESTER		**V. Semester**		
Course Code	**Subject Name**	**Local Cr.**	**ECTS**	**Prerequisite**
MTH 323	Numerical Methods in Eng.	3	6	MAT 102
CE 351	Transportation Engineering I.	3	5	CE 204
CE 361	Soil Mechanics I.	4	6	-

CE 371	Fluid Mechanics	4	5	PHY 101, MTH 101
CE 381	Structural Analysis I.	4	6	ECC 213
CE 300	Summer Practice I.(30 days)	4		CE 204, CE 244
Total Credit		18	32	
THIRD YEAR - SPRING SEMESTER		**VI. Semester**		
Course Code	**Subject Name**	**Local Cr.**	**ECTS**	**Prerequisite**
CE 306	Computer Applic.in CE	3	6	PHY 102
CE 362	Soil Mechanics II.	4	6	CE 361
CE 372	Hydromechanics	4	5	CE 371
CE 382	Structural Analysis II.	4	6	CE 381
CE 374	Engineering Hydrology	3	5	-
Total Credit		**21**	**32**	
SENIOR				
FOURTH YEAR - FALL SEMESTER		**V11. Semester**		
Course Code	**Subject Name**	**Local Cr.**	**ECTS**	**Prerequisite**
CE 431	Constr. Eng. & Management.	4	6	-
CE 461	Foundation Engineering	3	5	CE 362
CE 471	Water Res. Eng. I.	4	6	CE 372
CE 481	Reinforced Concrete Theory	4	5	ECC 213
CE 400	Summer Practice II.(30 days	4		CE 351, CE 361, CE371, CE381
TE		3	6	-
Total Credit		18	32	
FOURTH YEAR - SPRING SEMESTER		**VIII. Semester**		
Course Code	**Subject Name**	**Local Cr.**	**ECTS**	**Prerequisite**
CE 472	Water Res.Eng. II.	4	5	CE 372
CE 484	Design Steel Structures	4	6	CE 381
CE 486	Structural Design	4	5	CE 382, CE 481

CE 498	Special Project	4	7	CE 382, CE 481
TE		3	6	-
Total Credit		**19**	**29**	

Objectives and Contents of the Course:

Year 1

CHM 101 General Chemistry 4 credits (ECTS 6)

Objectives of the Course:

- Develop fundamental principles of theoretical and applied chemistry
- Develop scientific inquiry, complexity, critical thinking, mathematical and quantitative reasoning.
- Explain phenomena observed in the natural world.
- Develop basic laboratory skills

Course content: Introduction to basic principles of chemistry, atomic structure, molecule and ions, chemical reactions and balancing chemical reactions, precipitation reactions. Acid-Base reactions, redox reactions and balancing. Redox reactions. Stoichiometric relationships in chemical reactions, concentration and dilution, Acid base titration, redox titration. Gases.

ECC 101 Introduction to Computers 3 credits (ECTS 6)

Objectives of the Course:

- The course is designed to aim at imparting a basic level appreciation Programmer for the common man.

- The course the incumbent is able to the use the computer for basic purposes
- Viewing information on internet (the web), sending mails etc.
- Aid the PC penetration program.
- Using the computers in the world of Information Technology.

Course content: An introduction to fundamental concepts, construction of digital computer system hardware and software. Machine language concepts and internal data representations, integer, real and character data types. Algorithms and flowcharts as tools of program design process. Basic program structure. Programming by using sequencing, alteration and iteration methods.

MTH 101 Calculus I 4 credits (ECTS 6)

Objectives of the Course:

- Recognize properties of functions and their inverses.
- Use properties of polynomials, rational functions, exponential, logarithmic, trigonometric and inverse-trigonometric. Sketch graphs, using function, its first derivative, and the second derivative.
- Use the algebra of limits, and l'Hôspital's rule to determine limits of simple expressions.
- Apply the procedures of differentiation accurately, including implicit and logarithmic differentiation and apply the differentiation procedures to solve related rates and extreme value problems.
- Obtain the linear approximations of functions and to approximate the values of functions.
- Perform accurately definite and indefinite integration, using integration by parts, substitution, inverse substitution.
- Understand and apply the procedures for integrating rational functions.

Course content: Functions, limits and continuity. Derivatives. Mean value theorem. Sketching graphs. Definite integrals, infinite integrals (antiderivatives). Logarithmic, exponential, trigonometric and inverse trigonometric functions and their derivatives. L'Hospital's rule. Techniques of integration. Applications of the definite integral, improper integrals.

PHY 101 General Physics I 4 credits (ECTS 6)

Objectives of the Course:

- Be able to know the basic laws of mechanics.
- To apply those laws for solving problems.
- To be able to us his/her knowledge in the fields of other sciences and/or engineering.
- Understanding how physics approach and solve problems in mechanics.

Course content: Measurement, Estimating, Kinematics in one Dimension, Vectors, Newton's Laws of Motion, Application of Newton's Laws, Work and Energy, Conservation of Energy, Linear Momentum and Collisions.

MTH 102 Calculus II 4 credits (ECTS 6)

Course content: Plane and polar co-ordinates, area in polar co-ordinates, arc length of curves. Limit, continuity and differentiability of function of several variables, extreme values, method of Lagrange multipliers. Double integral, triple integral with applications. Line integrals, Green's theorem. Sequences, infinite series, power series, Taylor's series. Complex numbers.
***Prerequisite**: MAT 101*

PHY 102 General Physics II 4 credits (ECTS 6)

Objectives of the Course:

- Be able to know the basic laws of electricity and magnetism.
- To apply those laws for solving problems.
- To be able to use his/her knowledge in the fields of other sciences and/or engineering.
- Understanding how physics approach and solve problems in electricity and magnetism.

Course content: Centre of Mass, Rotation About a Fixed Axis (angular quantities, kinematic equations, torque, moment of inertia, rotational kinetic energy), General Rotation, (the torque vector, angular momentum, conservation of angular momentum) Static Equilibrium, Elasticity and Fracture (statics, stability and balance, elasticity, stress, strain, fracture, trusses and bridges, arches and domes), Fluids (density, pressure, Pascal's principle, bouyancy and Archimedes principles, fluids in flow, Bernoulli's equation).

***Prerequisite**: PHY 101*

TD 102 Technical Drawing 3 credits (ECTS 6)

Objectives of the Course:

This course involves an introductory experience in technical drawing as a tool of technical communication. Primary emphases are on development of basic drafting skills, visualization and solving graphical problems. The objective of the course is to teach students the tools and techniques for making engineering drawings. By the end of the course, students should gain the practical knowledge of civil engineering design drawing ability as well as comprehending architectural, electrical and mechanical drawings. The scope of the course is in two parts, which part 1 involves introduction to basics of technical drawing skills for drawing basic geometric shapes and graphical projection techniques (Perspective and Parallel projection-Isometric and Orthographic drawings). In the second part of the course

students are taught to use their gained skills in part 1 and interpret them for drawing advanced civil engineering design project.

Course content: Introduction to technical drawing. Drawing instruments and their use, lettering, lines, geometry of straight lines, scale drawing. Dimensions. Development of surfaces, shape description, selection of views, projecting the views. Pictorial drawing, diametric trimetric projection. Isometric projection, oblique projection. Perspective drawing cross section.

GEO 102 Geology for Civil Engineers 3 credits (ECTS 5)

Objectives of the Course:

Definition of geology and relevant sciences. Evolution of the earth and its properties..General classification of the rocks . Principles of mineralogy and minerals with their importance in civil engineering..Sedimentology and sedimentary rocks. Elements of structural geology,plate tectonics and earthquakes; Geohazards and effects on building environments. Groundwater hydrology. Types of soils and their geotechnical properties..Rocks for decorational purposes; Types of aggregates and their usages.

Course content: Introduction to geology, the earth, time and geology, plate tectonics, minerals and rocks, structural geology, weathering, groundwater. Landslides and other processes. Earthquakes and volcanic activity. Applications of geology to engineering practice

ENG 101 English I 3 credits (ECTS 4)

Objectives of the Course:

- To develop students' language skills and capacity to conduct writing task through the vocabulary, listening and speaking skills.

- To develop their level of knowledge, communicative capacity, and ability to analyze and reflect on the language.
- To give learners the language they need for real-life, hands-on task like explaining a process or analysing risk and to put into practice the academic skills that they will need to use during their educations.

Course content: This course offers intermediate levels include wide range of grammatical structures and vocabulary of English in order to built onto the foundation established at the Preparatory School. This course aims to bring the students to a level that will enable them fulfill the requirements of main courses of their departments. Students will be encouraged to read a variety of texts as well as chapters from textbooks so that they can pursue their undergraduate studies at the university without major difficulty. ENG 101 is designed to improve the students' presentation ability. Students are expected to do an oral presentation. At the end of the course they submitted their written projects.

ENG 102 English II 3 credits (ECTS 4)

Objectives of the Course:

- To develop the students' capacity to conduct writing task through the vocabulary, listening and speaking skills
- To reinforce and consolidate the language and skills that the students have learned from earlier courses.
- To develop their level of knowledge, communicative capacity, and ability to analyze and reflect on the language.
- to developstudents' languageskills.
- to prepare them for their future professional life.

Course content: This course offers the students a wide range of grammatical structures and key language and vocabulary of English in the technical, industrial, and scientific sectors at intermediate level for every day communication at work. This course aims to bring the students to a level that will enable them to fulfill the requirements of the main courses of their departments. The ability to evaluate, analyze and synthesize information in written discourse will be highlighted. Documentation in writing will be introduced at the beginning of the course, in order to solidly establish the skill by the end. Students will learn the discourse patterns and structures to be used in different essay types that they need for real life, hands-on tasks like explaining process, organizing schedules, reporting or progress, or analyzing risk.

Year 2

MTH 201 Differential Equations 4 credits (ECTS 6)

Objectives of the Course:

- Introduing first, second and higher order differential equations, and the methods of solving these equations.
- Emphasizing the important of differential equations and its engineering application.
- Introducing the Laplace transform and its applications in solving differential equations and other engineering applications.
- Introducing the series method in solving differential equations.

Course content: Ordinary and partial differential equations. Explicit solutions, Implicit Solution. First-order differential equations, separable, homogenous differential equations, exact differential equations. Ordinary linear differential equations. Bernoulli differential equations. Cauchy-

differential equations. High-order ordinary differential equations. Introduction to Laplace transforms. Introduction to series method for solving differential equations.

***Prerequisite**: MTH 201*

MTH251 Statistical Methods for C.E. 3 credits (ECTS 5)

Objectives of the Course:

- Understanding the concept of data analysis.
- Understanding the concept of probability and the concept of random variables.
- Understanding the difference between discrete and continuous random variables.
- Understanding the concepts of expectation, variance and standard deviation.
- Understanding the concepts of probability mass functions and cumulative distribution function for discrete, continuous and joint distributions.
- Understanding and learning the different types of discrete and continuous distributions.

Course content: Probability and counting, permutation and combination. Some probability laws, Axioms of probability. Random variables and discrete distributions. Continuous distributions. Joint distributions. Mathematical Expectation,Some Discrete Probability Distributions, Some Continuous Probability Distributions.

***Prerequisite**: MTH 101*

ECC 206 Statics 4 credits (ECTS 6)

Objectives of the Course: The objective of this course is to have an idea about rigid body mechanics. Equivalent force systems: concepts of moment,

couple, resultant. Equilibrium: free-body diagram; equations of equilibrium. Structural analysis: trusses, beams, shear force and bending moment diagrams by method of sections and method of integration. Properties of surfaces; area moment and centroid; moments and product of inertia; principal directions.

Course 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, shear force and bending moment diagrams by method of sections and method of integration. Properties of surfaces; area moment and centroid; moments and product of inertia; principal directions.

***Prerequisite**: PHY 101*

ECC 426 Engineering Economy 3 credits (ECTS 6)

Objectives of the Course:

- Discuss principles and economic analysis of decision making
- Discuss cost concepts, make-versus-purchase studies
- Analyze principles of money-time relationships
- Work on cash flow analysis
- Analyze application of money-time relations
- Analyze supply and demand relations
- Analyze price and demand relations
- Analyze breakeven point analysis and effects of inflation on money-time relationships

Course content: The principles of Engineering Economy. Interest, time value of money and equivalence. Engineering cost analysis. Inflation, cost estimation, depreciation, and valuation depletion. Selection between alternatives. Computer applications. Life cycle cost of construction projects and building projects. Basic taxation.

CE 241 Materials Science 3 credits (ECTS 6)

Objectives of the Course: : Review of basic concepts related to internal structures of materials; atomic bonding and their characteristics, properties of molecular, amorphous and crystal structures and structural imperfections. Mechanical properties of engineering materials. Concepts of force, stress, deformation, strain, elasticity and Hooke's Law, plasticity and flow, viscosity, creep, relaxation, impact loads, toughness, resilience, fracture, ductility and brittle.

Course content: Review of basic concepts related to internal structures and formation of materials. Mechanical properties of engineering materials. Elastic behaviours; ductility, brittleness, toughness and hardness of materials. Creep and fatigue.

MTH 232 Advanced Calculus 3credits (ECTS 5)

Objectives of the Course: Mathematics majors will develop computational skills in first-year calculus needed for more advanced calculus-based courses.

Mathematics majors will learn and retain basic knowledge in the core branches of mathematics.

Mathematics majors will be able to learn and explain mathematics on their own.

Course content: Matrix Properties, Matrix Algebra, Solving Equation Systems (cramer's rule, inverse method cofactor method), fourier series, complex form of fouries series, and fourier integrals, power series solutions of ordinary differential equations.

Prerequisite*: MTH 102*

CE 204 Surveying and Engineering Measurements 4 credits (ECTS 6)

Objectives of the Course: The objective of this course is to teach preparation of maps and plans showing the relative position of existing features by which areas, volumes and other related quantities are determined own.

Course content: Introduction to surveying. Basic principles of surveying, classes of survey, scales, linear surveying. Errors in measurement. Levelling profiles, cross sections, area and volume calculation, contouring. Tachometry.

ECC 212 Dynamics 3 credits (ECTS 5)

Objectives of the Course: The objective of this course is to develop an understanding of dynamics and to analyze problems in a logical and systematic manner and to develop the ability to analyze kinetics and kinematics of systems and particles.

Course content: Kinematics of particles and rigid bodies: absolute motion, work – energy and impulse momentum. System of particles. Kinetics of rigid bodies Euler's equation, plane motion of rigid bodies.

***Prerequisite**: ECC 206*

ECC 213 Strength of Materials 4 credits (ECTS 6)

Objectives of the Course: The objective of this course is elaborate on the knowledge of engineering mechanics (statics) and to teach the students the purpose of studying strength of materials with respect to civil engineering design and analysis. The course introduces the students to the concepts of engineering mechanics of materials and the behavior of the materials and structures under applied loads.

Course content: Introduction to stress and strain concepts. Stresses and deformations of axially loaded members. Method of analysis. State of stress and state of strain. Internal forces and moments in beams. Normal and shear stresses and deflection of laterally loaded members. Torsion of circular bars. Stability.

***Prerequisite**: ECC 206*

CE 244 Materials of Construction 4 credits (ECTS 6)

Objectives of the Course: This course is designed for providing the students a solid background on the history, raw materials, manufacture, types, properties and uses of: Gypsum, Lime, Cement. Aggregates: Classification, properties, uses, gradation, absorption capacity and moisture content, deleterious materials in aggregates, concrete durability problems related to aggregates. Properties and uses of admixtures. Manufacture of concrete, performance criteria for fresh and hardened concrete, strength and durability, concrete mix design calculations.

Course content: Production, types, uses in construction, properties and related test of the following materials; cements, gypsum, lime, ferrous and non-ferrous metals, bituminous materials, aggregates. Properties of fresh concrete mixtures. Pre-stressed concrete. Building stone and wood.

Year 3

MTH 323 Numerical Methods in Engineering 3 credits (ECTS 6)

Objectives of the Course: The main purpose of the course is to introduce the students into fundamentals of numerical analysis that are mainly used in engineering. The course is focused on techniques of mathematical analysis that can be used in computer algorithms, etc.

Course content: Numerical solution of linear and non-linear systems of equations. Numerical differentiation and integration. Eigen-values and Eigen-vectors. Interpolating, polynomials. Numerical solution of ordinary differential equations.

Prerequisite: *MTH 102*

CE 300 Summer Practice I

Course content: Subjects that are acceptable for summer practice: surveying, time-keeping, checking and testing construction materials, assisting resident engineers, preparing quantity and cost estimates, unit price estimates, Civil Engineering drawings and graphs, use of computational machines and taking part in construction work. The department may organise a compulsory, collective summer practice program in place of the above**.**

CE 306 Computer Applications in Civil Eng. 3 credits (ECTS 6)

Objectives of the Course: The objective of this course is to teach the students to calculate the necessary forces, moments, shears and structural design a multistory building with the help of a computer and the relevant software.

Course content: Introduction to reinforced concrete, steel and timber analysis and design using; SAP200, IDECAD and STA4CAD.

Prerequisite*: PHY 102*

CE 351 Transportation Engineering 3 credits (ECTS 5)

Objectives of the Course: The objective of this course is to teach students the essential components of Transportation Engineering and basic elements of Highway Engineering and Geometric Highway Design; Principles of Highway Engineering, Elements of Geometric Design, Stopping and passing Sight Distances, Geometric Design of Horizontal and Vertical Alignments

(Plan and Profile) , Area and volume calculations along roadway, Mass Diagrams and Bruckner's Method for economical earthwork calculations, Fundamentals of Traffic Engineering and management.

Course content: Principles of Highway Engineering. Excessive Fall. Safe Stopping Sight Distance Safe Passing Sight distance. Horizontal curve design. Super Elevation calculations. Vertical sag and crest curves. Vertical curve design. Area and volume calculations. Bruckner's Method. ***Prerequisite****: CE 204*

CE 361 Soil Mechanics I 4 credits (ECTS 6)

Objectives of the Course: The students are expected to get introduces to engineering problems involving soil and ground investigation. Topics including: Soil description and classification. Phase relationship. Compaction of soil, Hydrostatic and excess pore pressure, principles of effective stress. Permeability, Darcy's law, seepage and flow nets.

Course content: Introduction to engineering problems involving soil. Ground investigation. Soil description and classification. Phase relationship. Hydrostatic and excess pore pressure, principles of effective stress. Permeability and its measurement. Darcy's law. Two dimensional steady state flow through soil, seepage and flow nets. Mohr-Coulomb shear strength theory. Measurement of shear strength parameters. Compaction of soil.

CE 362 Soil Mechanics II 4 credits (ECTS 6)

Objectives of the Course: The students are expected to get introduces to engineering problems involving soil and ground investigation and be able to give solutions for them. Topics including: Stresses in soil mass. One dimensional consolidation, fundamentals of consolidation settlements,

Rankine's and Coulomb's theories. Retaining structure. Lateral earth pressure at rest: active and passive earth pressure, Stability of slopes.

Course content: Stresses in soil mass. Lateral earth pressure at rest: active and passive earth pressure. Rankine's and Coulomb's theories. Design of earth retaining structure. Fundamentals of consolidation. One dimensional consolidation. Settlements. Bearing capacity. Stability of slopes. End-of construction and long-term stability.

Prerequisite: *CE 361*

CE 371 Fluid Mechanics 4 credits (ECTS 5)

Objectives of the Course: The course will introduce fluid mechanics and establish its relevance in civil engineering.

- Develop the fundamental principles underlying the subject.
- Demonstrate how these are used for the design of simple hydraulic components.

Course content: Physical properties of fluids, fluid statics, pressure forces on plane and curved surfaces. Stability of floating and submerged objects. Fluid flow concepts and basic equations. Continuity, energy and momentum principles. Viscous effects in fluid flow, open and closed conduit flows. Potential flow theory.

Prerequisite*: MTH 101, PHY101*

CE 372 Hydromechanics 4 credits (ECTS 5)

Objectives of the Course: The objective of the course is to introduce students**;** the field of hydraulics and the important physical influences upon it, dimensioning pipes and channels for a given flows and conditions, fields

of hydraulic applications, flow in pipes and applications, and flow in open channels.

Course content: Dimensional analysis and similarity theory of hydraulic models; laminar and turbulent flows. Fractional factor in pipe flow. Computation of flow in single pipe. Pipe line systems and networks. General characteristics and classification of open channel flow, pressure and velocity distribution. Continuity equation. Energy concept, momentum principle. Uniform flow. Rapidly varied flow, gradually varied flow. Design of non-erodable and erodable channels.

Prerequisite: *CE 371*

CE 374 Engineering Hydrology 3 credits (ECTS 5)

Objectives of the Course: To teach introduction hydrology concepts related to water science specifically hydrology. To describe hydrologic cycle and its elements. System approach. Determination of areal mean precipitation with different methods, evaporation and computation of streamflow.

Equation of infiltration with different methods and basically indices. Hydrograph components and separation techniques. Prediction of surface flow and storm analysis and their interaction.

Course content: Introduction, hydrologic cycle, weather and hydrology. Dominant hydrometeorological factors; precipitation, formation, measurement and analysis of data, snow pack and snow melt, stream flow. Watershed system measurement, evaporation and evapotranspiration; surface and subsurface water interactions. Hydrograph analysis and synthesis, flood routing. Probability in hydrology. Introduction to stochastic hydrology and simulation methods.

CE 381 Structural Analysis I 4 credits (ECTS 6)

Objectives of the Course: The objective of this course is to teach students how to analyze various statically determinate systems. By the end of this course, students should be able to represent real structures by idealized structures. Topics include fundamental concepts in structural analysis. Stability and determinacy of structures. Analysis of trusses, beams, frames, cables and arches. Analytical expressions and diagrams. Principles of virtual work. Principle of virtual displacements. The unit dummy displacement method. Energy Principles. Potential energy and strain energy in structural systems. Calculations for deflection of structures.

Course content: Definition, classification, idealisation and modelling of structures. Analysis of statically determinate structures, including beams, frames, trusses and arches. Analysis of cables. Work and energy principles and their application in deformation analysis of structures.
Prerequisite: *ECC 213*

CE 382 Structural Analysis II 4 credits (ECTS 6)

Objectives of the Course: The objective of this course is to teach students how to analyze various statically indeterminate systems. By the end of this course, students should be able to determine the magnitudes of force and displacement for each element of a design system for a given set of design loads. Topics include Displacement methods in structural analysis. Discretization of structures. The concept of degree of freedom.(degree of kinematic indeterminacy). Slope deflection method. Derivation of slope deflection equations, applications to continuous beams and frames. Moment distribution method. Development of the method, applications to continuous beams and frames. Introduction to Stiffness method. Development of the method. Element stiffness matrices with respect to local coordinate system. Element stiffness matrices with respect to global coordinate system. Structure stiffness matrix assembly process. Applications to trusses and

beams. Approximate analysis of statically indeterminate structures; Portal method.

Course content: Introduction to structural analysis. Force method of structural analysis. Displacement methods. Slope deflection, moment distribution. Stiffness method, derivation of element stiffness matrices, assembly procedures, computerised implementation of the stiffness method and use of industrial programs. Large scale structural analysis, influence lines and moving loads.

Prerequisite: *CE 381*

Year 4

CE 400 Summer Practice II

Course content: Subjects that are acceptable for summer practice: quantity and cost estimates, application of plans to site conditions, mix design, taking part in reinforced concrete work, structural highway and hydraulic designs preparing standard engineering drawings (minimum 30 working days).

CE 431 Construction Engineering and Management 4 credits (ECTS 6)

Objectives of the Course: The objective of this course is to teach the students how to handle and manage a construction from the beginning to the end. To give legal information on tendering, bidding and legal obligations. To put forward the importance of safety on the site.

Course content: Construction machinery, engineering fundamentals, description, types, selection, criteria and output analysis of basic construction equipments. Contracting law, bidding law, general specifications for public works, labour relations.Profile of the construction sector, company and site organisation, construction planning, safety

engineering, human relations. A project, which requires the student to carry out quantity surveying and legal paperwork of a construction project.

CE 461 Construction Engineering and Management 4 credits (ECTS 6)

Objectives of the Course: The objective of this course is to teach students how to make soil exploration, and methods; boring and sampling methods. Field load test. Types of loads on foundations. Allowable settlement of structures. Individual column footing, wall footings. Cantilever footings. Combined footings and raft foundations. Rigid and elastic design methods. Introduction to pile foundation.

Course content: Subsurface exploration. Boring and sampling methods. Field load test. Types of loads on foundations. Allowable settlement of structures. Individual column footing, wall footings. Cantilever footings. Combined footings and raft foundations. Rigid and elastic design methods ***Prerequisite:*** *CE 362*

CE 461 Foundation Engineering 3 credits (ECTS 5)

Objectives of the Course: The objective of this course is to teach students how to make soil exploration, and methods; boring and sampling methods. Field load test. Types of loads on foundations. Allowable settlement of structures. Individual column footing, wall footings. Cantilever footings. Combined footings and raft foundations. Rigid and elastic design methods. Introduction to pile foundation.

Course content: Subsurface exploration. Boring and sampling methods. Field load test. Types of loads on foundations. Allowable settlement of structures. Individual column footing, wall footings. Cantilever footings.

Combined footings and raft foundations. Rigid and elastic design methods ***Prerequisite:*** *CE 362*

CE 471 Water Resources Engineering I 4 credits (ECTS 6)

Objectives of the Course: The objective of this course is to teach students the major technologies in water resources engineering of the basic theory and applications. Topics include investigation of sources of water (especially ground water and wells), conveyance of water, if necessary basic treatment, regulating storage and population forecast of urban areas, different types of water requirements and determination of type of water distribution and distribution network design

Course content: The occurrence, sources, distribution and movement of groundwater. Aquifer types, differential equations of confined and unconfined aquifers. Well hydraulics. Graphical analysis, numerical and experimental solution of ground water flow. Water transmission by pipelines, hydraulics and operation of pumped discharge lines and gravity pipelines, design of pipelines and design and water distribution systems. ***Prerequisite:*** *CE 372*

CE 472 Water Resources Engineering II 4 credits (ECTS 5)

Objectives of the Course: The objective of the course is to; enable students to understand the basic concept of the water resources engineering, assess the environmental, economic and social impacts of potential solutions to water resources engineering problems, teach students how to evaluate approaches to water resources problems, educate the students on making research and presenting the outcomes of scientific study in water resources engineering.

Course content: Planning and operation of reservoirs; types and design of dams, spillways gates and outlets; control of erosion and sediment transport; irrigation and drainage systems; flood protection; hydrostatic power plants; management of ground water utilisation.

Prerequisite: *CE 372*

CE 481 Reinforced Concrete Theory 4 credits (ECTS 5)

Objectives of the Course: This course is designed for teaching the Theory of Reinforced Concrete and design of beams and columns.

Course content: General Reinforced Concrete behaviour: moment-curvature relationship; plastic hinge, redistribution. Behaviour and strength of members under combined shear and torsion. Equilibrium torsion, compatibility torsion, punching, capacity design. Repair/strengthening principles: column, beam, slab, repair, structural system improvement. Seismic design principles. Serviceability. Detailing.

Prerequisite: *ECC213*

CE 484 Design of Steel Structures 4 credits (ECTS 6)

Objectives of the Course: The objective of this course is to teach the students general concepts of analysis and design of steel structures. The topics covered in the course include design of tension members, compression members (columns), bending members (beams) and combined compression and bending members (beam-columns) as well as introduction to design of simple connections.

Course content: Behaviour of steel structures. Tension members, compression members, beams, combined bending and compression, simple steel structures: riveted, bolted and welded connections.

Prerequisite: *CE 381*

CE 486 Structural Design 4 credits (ECTS 5)

Objectives of the Course: This course is designed for teaching the Design of Slabs, Staircases, Foundations and finding the earthquake and wind forces acting on buildings.

Course content: One and two way slabs, joist floors. Wall, individual, combined and continuous footings, mat foundations. Stairs, structural systems; framed, wall and combined structures, flat slabs, flat plates, masonry. Modelling. Approximate methods of structural analysis, most unfavourable loading. Introduction to advanced methods of construction; prefabricated, pre-stressed concrete, composite structures etc. Professional authority and responsibility.

Prerequisites: *CE 382 and CE 481*

CE 498 Special Project 4 credits (ECTS 6)

Objectives of the Course: The objective of this course is to support and guide the student step by step to analyse structurally a building by freehand without using the computer software and with software to compare both results. From the outcome of the calculations to draw completely the civil engineering project of the building.

Course content: Graduation Project: Application of Civil Engineering theories and topics on paper for design. The graduation project is chosen by the students and taken up after the approval of the relevant lecturer.

Sample Copy of Diploma Supplement

SAMPLE COPY

NEAR EAST UNIVERSITY

DIPLOMA SUPPLEMENT

Diploma No: ….

Diploma Date: DD/MM/YY

Near East Boulevard, Nicosia – North Cyprus

+90 392 680 2000

This Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. The Purpose of the supplement is to provide sufficient independent data to improve the international "transparency" and fair academic and professional recognition of qualifications (diplomas, degrees, certificates, etc.). It is designed to provide a description of the nature, level, context, content and the status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgments, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

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1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

1.1 Family Name(s): ……

1.2. Given Name (s): ……..

1.3 Place and date of birth: ……..

1.4 Student identification number:……

2. INFORMATION IDENTIFYING THE QUALIFICATION

2.1. **Name of qualification**: Bachelor of Science

2.2 **Main field(s) of study for the qualification:** Civil Engineering

2.3 **Name and status of awarding institution:** Near East University, Private University

2.4. **Name and status of institution administering studies:** Same as 2.3

2.5. **Language(s) of instruction/examination**: Turkish-English

3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 **Level of qualification**: First Cycle (Bachelor's Degree)

3.2 **Official length of programme:** 4 years (excluding one year of English preparatory class for English programme) - 240 ECTS.

3.3 **Access requirement(s):** High School Diploma

Admission of Turkish nationals is by Placement through a nation-wide Student Selection Examination (ÖSS) administered by Assessment, Selection and Placement Centre (ÖSYM). Admissions of Turkish Cypriots is based on the Near East University Entrance and Placement exam. Admission of International students is based on their high school credentials. Proof of English Language proficiency is also required.

4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 **Mode of study**: Full time

4.2 **Programme requirements**: A student is required to have a minimum CGPA of 2.00/4.00 and no failing grades (below DD).

4.3 Programme details and the individual grades/marks obtained:

(each semester: total ECTS credits must be 30. Each course in each semester must be written, not the total)

Diploma No: 27768	Diploma Date: 06.07.2015
1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION	
1.1. ***Family name(s): ALSAYED SULEIMAN***	**1.3.** ***Place and date of birth: HOMS /21.04.1991***
1.2. ***Given name(s): YAMEN***	**1.4.** ***Student identification number: 20133604***
2. INFORMATION IDENTIFYING THE QUALIFICATION	
2.1. ***Name of the qualification and (if applicable) the title conferred*** BACHELOR OF SCIENCE, B.Sc. **2.2.** ***Main field(s) of study for qualification*** CIVIL ENGINEERING **2.3.** ***Name and status of awarding institution*** YAKIN DOĞU ÜNİVERSİTESİ, PRIVATE UNIVERSITY	**2.4.** ***Name and type of institution administering studies*** SAME AS 2.3. **2.5.** ***Language(s) of instruction/examinations*** ENGLISH
3. INFORMATION ON THE LEVEL OF THE QUALIFICATION	
3.1. ***Level of qualification*** First Cycle (Bachelor's Degree)	**3.2.** ***Official length of program*** Normally 4 Years (excluding 1 year English Preparatory School, if necessary), 2 semesters per year, 16 weeks per semester
3.3. ***Access requirement(s)*** Admission of Turkish nationalities to higher education is based on a nation-wide Student Selection Examination (ÖSS) administered by the Higher Education Council of Turkey (YÖK). Admission of Turkish Republic of Northern Cyprus nationals is based on the Near East University Entrance and Placement Exam for Turkish Cypriots. Admission of foreign students is based on their high school credentials. Proof of English language proficiency is also required.	
4. INFORMATION ON THE CONTENTS AND RESULTS GAINED	
4.1. ***Mode of study*** Full-Time	**4.2.** ***Programme requirements*** A student is required to have a minimum CGPA of 2.00/4.00 and no failing grades (below DD).
4.3. ***Objectives*** : Educate and train students to demonstrate ability to research, analyze And present scientific and technological concepts and data in a precise And logical manner; knowledge and understanding the functions and Operations of the industry; knowledge or the scientific and technological factors involved in the sector and ability to integrate and apply such knowledge in the management of operational activities; ability to adapt professionally in a rapidly changing society; their perspectives with respect to social issues, responsibilities and ethics.	***4.4. Programme details and the individual grades/marks obtained*** Please see the next page.

4.5. ***Grading scheme, grade translation and grade distribution guidance:***

For each course taken, the student is assigned one of the following grades by the course teacher.

For A.Sc., B.Sc. or B.A. degrees, students must obtain at least DD or S from each course and have a GGPA of not less than 2.00 out of 4.00 and have completed all the courses and summer practices in the program. For graduate degrees, students must obtain at least CC or S from each course for M.Sc. and M.A., at least BB for Ph.D. They also need to have a GCPA of 3.00 to graduate. The student's standing is calculated in the form of a Graduate Point Average (GPA) and Cumulative Grade Point (CGPA) and is announced at the end of each semester by the Registrar's Office. The total credit points for a course are obtained by multiplying the coefficient of the final grade by the credit hours. In order to obtain the GPA for any given semester, the total credit points are divided by the total credit hours. The averages are given up to two decimal points. Students who obtain a CGPA of 3.00-3.49 at the end of a semester are considered as "Honour Students" and those who obtain a CGPA of 3.50-4.00 at the end of a semester are considered as "High Honour Students" and this is recorded in their academic report. The letter grades, the quality point equivalents are:

Percentage	Course Coefficient	Grade	Percentage	Course Coefficient	Grade
90-100	4	AA	70-74	2	CC
85-89	3.5	BA	65-69	1.5	DC
80-84	3	BB	60-64	1	DD
75-79	2.5	CB	50-59	0.5	FD
			49 and below	0	FF

I- Incomplete **S**- Satisfactory Completion, **U**-Unsatisfactory, **NA**-Never Attended, **E**-Exempted, **W**– Withdrawn

4.6 ***Overall classification of the award*** CGPA: 3.86 /4.00

5. INFORMATION ON THE FUNCTION OF THE QUALIFICATION	
5.1. ***Access to further study*** May apply to second cycle programmes.	**5.2.** ***Professional status conferred*** This degree enables the graduates to teach English in public and private institutions.
6. ADDITIONAL INFORMATION	
6. 1. ***Additional information*** The department is accredited by YOK and YODAK for its quality standards.	***6.2. Sources for further information*** ***Faculty web site*** http://neu.edu.tr/tr/node/6204 ***Department web site*** http://neu.edu.tr/tr/node/546 ***University web site*** http://www.neu.edu.tr ***The Council of Higher Education of Turkey*** http://www.yok.gov.tr ***Higher Education Planning, Evaluation Accreditation and Coordination of North Cyprus Council Web site*** http://www.ncyodak.org

4.4. *Program details and the individual grade/marks obtained:*

1 (1st Semester)

EXEMPTED COURS. (AL-BAATH UNIVERSITY)					
Course Code	Course Name	CR	ECTS	Status	Grade
ENG101	English I	3	4	Compulsory	EX
MAT101	Calculus I	4	6	Compulsory	EX
CHEM101	General Chemistry	4	6	Compulsory	EX
COM101	Computer Programming	3	6	Compulsory	EX
ENG102	English II	3	4	Compulsory	EX
MAT102	Calculus II	4	6	Compulsory	EX
PHY102	General Physics II	4	6	Compulsory	EX
GEO102	Geology for Civil Engineering	3	5	Compulsory	EX
		28	43		

2 (2nd Semester)

EXEMPTED COURS. (AL- BAATH UNIVERSITY)					
Course Code	Course Name	CR	ECTS	Status	Grade
TD102	Civil Engineering Drawing	3	6	Compulsory	EX
MAT201	Differential Equations	3	6	Compulsory	EX
CE221	Statics	4	6	Compulsory	EX
ESP 101	English for Specific Purposes I	3	4	N. T. Elective	EX
CE204	Surveying and Eng. Measurements	4	6	Compulsory	EX
CE224	Strength of Materials I	4	6	Compulsory	EX
CE244	Materials of Construction	4	6	Compulsory	EX
		25	40		

3 (3rdSemester)

EXEMPTED COURS. (AL- BAATH UNIVERSITY)					
Course Code	Course Name	CR	ECTS	Status	Grade
ESP 102	English for Specific Purposes II	3	4	N. T. Elective	EX
MAT305	Numerical Methods in Eng.	3	6	Compulsory	EX
CE361	Soil Mechanics I	4	6	Compulsory	EX
CE371	Fluid Mechanics	4	5	Compulsory	EX
CE372	Hydromechanics	4	5	Compulsory	EX
CE382	Structural Analysis II	4	6	Compulsory	EX
CE374	Engineering Hydrology	3	5	Compulsory	EX
		25	37		

4 (4th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
PHY101	General Physics I	4	6	Compulsory	AA
MAT203	Statistical Methods For Civil Engineers	3	5	Compulsory	AA
CE231	Engineering Economy	3	6	Compulsory	AA
CE241	Materials Science	4	5	Compulsory	AA
CE351	Transportation Engineering I	3	5	Compulsory	BB
CE300	Summer Practice I	0	4	Compulsory	S
		17	31		

5 (5th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
MAT202	Advanced Calculus	3	5	Compulsory	AA
CE222	Dynamics	3	5	Compulsory	BA
CE362	Soil Mechanics II	4	6	Compulsory	AA
CE381	Structural Analysis I	4	6	Compulsory	AA
CE306	Computer Application in Civil Eng. I	3	6	Compulsory	AA
		17	28		

6 (6th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
CE431	Construction Eng. & Management	4	6	Compulsory	AA
CE471	Water Resources Engineering I	4	6	Compulsory	AA
CE481	Reinforced Concrete Theory	4	5	Compulsory	AA
CE406	AutoCAD I	3	6	T. Elective	AA
CE461	Foundation Engineering	3	5	Compulsory	BA
		18	28		

7 (7th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade
CE472	Water Resources Engineering II	4	5	Compulsory	AA
CE484	Design of Steel Structures	4	6	Compulsory	AA
CE486	Structural Design	4	5	Compulsory	AA
CE498	Graduation Projects	4	7	Compulsory	BB
CE474	Water Supply &Sewerage	3	6	T. Elective	AA
CE300	Summer Practice I	0	4	Compulsory	S
		19	33		

8 (8th Semester)

Course Code	Course Name	CR	ECTS	Status	Grade

TOTAL LOCAL CREDITS: 149 - ECTS: 240 CGPA: 3.86

7. CERTIFICATION OF THE SUPPLEMENT

7.1. *Date* : 06.07.2015

7.2. Name and *Signature* : Ümit Serdaroğlu

7.3. *Capacity* : Registrar

7.4. *Official stamp or seal* :

8. INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

The basic structure of the North Cyprus Education System consists of four main stages as pre-school education, primary education, secondary education and higher education.

Pre-school education consists of non-compulsory programs whereas primary education is a compulsory 8 year program for all children beginning from the age of 6. The secondary education system includes “General High Schools” and “Vocational and Technical High Schools”.

The Higher Education System in North Cyprus is regulated by the Higher Education Planning, Evaluation, Accreditation and Coordination Council (Yükseköğretim Planlama, Denetleme, Akreditasyon ve Koordinasyon Kurulu – YÖDAK). Established in 1988, the Council regulates the activities of higher education institutions with respect to research, governing, planning and organization. The higher education institutions are established within the framework of the Higher Education Law. All programs of higher education should be accredited by YÖDAK.

Higher education in North Cyprus comprises all post-secondary higher education programmes, consisting of short, first, second, and third cycle degrees in terms of terminology of the Bologna Process. The structure of North Cyprus higher education degrees is based on a two-tier system, except for dentistry, pharmacy, medicine and veterinary medicine programmes which have a one-tier system. The duration of these one-tier programmes is five years except for medicine which lasts six years. The qualifications in these one-tier programmes are equivalent to the first cycle (bachelor degree) plus secondary cycle (master degree) degree. Undergraduate level of study consists of short cycle (associate degree) - (önlisans derecesi) and first cycle (bachelor degree) - (lisans derecesi) degrees which are awarded after the successful completion of full-time two-year and four-year study programmes, respectively.

Graduate level of study consists of second cycle (master degree) – (yüksek lisans derecesi) and third cycle (doctorate) – (doktora derecesi) degree programmes. Second cycle is divided into two sub-types named as master without thesis and master with thesis. Master programmes without thesis consists of courses and semester project. The master programmes with a thesis consist of courses, a seminar, and a thesis. Third cycle (doctorate) degree programmes consist of completion of courses, passing a qualifying examination and a doctoral thesis. Specializations in dentistry, accepted as equivalent to third cycle programmes are carried out within the faculties of dentistry. Specialization in medicine, accepted as equivalent to third cycle programmes are carried out within the faculties of medicine, and university hospitals and training hospitals operated by the Ministry of Health.

Universities consist of graduate schools (institutes) offering second cycle (master degree) and third cycle (doctorate) degree programmes, faculties offering first cycle (bachelor degree) programmes, four-year higher schools offering first cycle (bachelor degree) degree programmes with a vocational emphasis and two-year vocational schools offering short cycle (associate degree) degree programmes of strictly vocational nature.

Second cycle degree holders may apply to third cycle programmes if their performance at the first cycle degree level is exceptionally high and their national central Graduate Education Entrance Examination (ALES) score is also high and their application is approved. The doctoral degree is conferred subject to at least one publication in a cited and refereed journal.

GENERAL STRUCTURE OF THE NORTH CYPRUS EDUCATION SYSTEM