

**NEAR EAST UNIVERSITY**

**FACULTY OF CIVIL AND ENVIRONMENTAL  
ENGINEERING**

**BSc PROGRAM in CIVIL ENGINEERING**

**COURSE CATALOGUE**

**2021-22 FALL**

➤ **QUALIFICATION AWARDED**

The students who successfully complete the program are awarded the degree of Bachelor of Science in Civil Engineering.

➤ **LEVEL OF QUALIFICATION**

This is a First Cycle (Bachelor's Degree) program

➤ **SPECIFIC ADMISSION REQUIREMENTS**

In the framework of the regulations set by Higher Education Council of Turkey (YÖK), student admission for this undergraduate program is made through a university entrance examination called YKS. Following the submission of students' academic program preferences, Student Selection and Placement Center (ÖSYM) places the students to the relevant program according to the score they get from ÖSYS.

International students are accepted to this undergraduate program according to the score of one of the international exams they take such as SAT, ACT and so on, or according to their high school diploma score.

Exchange student admission is made according to the requirements determined by bilateral agreements signed by NEU and the partner university.

Visiting students can enroll for the courses offered in this program upon the confirmation of the related academic unit. Additionally, they need to prove their English language level since the medium of instruction of the program is English.

➤ **QUALIFICATION REQUIREMENTS AND REGULATIONS**

The students studying in this undergraduate program are required to have a Cumulative Grade Points Average (CGPA) of not less than 2.00/4.00 and have completed all the courses with at least a letter grade of DD/S in the program in order to graduate. The minimum number of ECTS credits required for graduation is 240. It is also mandatory for the students to complete their compulsory internship in a specified duration and quality.

➤ **RECOGNITION OF PRIOR LEARNING**

At Near East University, full-time students can be exempted from some courses within the framework of the related bylaws. If the content of the course previously taken in another institution is equivalent to the course offered at NEU, then the student can be exempted from this course with the approval of the related faculty/graduate school after the evaluation of the course content.

➤ **PROFILE OF THE PROGRAM**

The students receive their BSc. degrees after completing a total of 240 ECTS points throughout their four-year (8 semester) undergraduate studies. There is a total of five major and/or minor courses (modules) offered for each semester.

The classification system for courses that are involved in the Bachelor program are as the following:

- Fundamental science courses (i.e. mathematics, physics and chemistry) that are covered mainly in the first four semesters.

- Major courses on each branch of civil engineering; these are compulsory courses and usually linked each other by a “pre-requisite” system.
- Minor supplementary courses on some branches of civil engineering; that are compulsory but generally not involved in any “pre-requisite” system.
- Technical/restricted elective courses on each branch of study.
- Non-technical electives which can be taken at any semester along with the engineering courses taken at that semester.

Throughout the fundamental science courses, the student acquires general studies through the consecutive science courses which later form a background for the major and minor subject studies.

Throughout the major and minor civil engineering courses, the student explores various branches of studies in civil engineering and develops an understanding of concepts and theories related to these branches of studies in each given major and minor course.

Technical elective courses provide the students the chance for to further improve their engineering knowledge on the branches that they decide to select.

Non-Technical elective courses provide the students a wider vision and additional knowledge on topics other than civil engineering.

All courses are normally weighted with 2-7 ECTS credits. The total credit to be completed within four years sums up to 240 credits with the completion of 48 courses and 2 summer trainings. The credits points are correlated with the student’s workload.

The courses are composed of lectures in the class and online sessions, problem solving session, exercises assigned to students, laboratory /experimental works if required, field applications if needed and additional reading from various references.

The lectures present the scientific basis and knowledge of understanding the topics with particular pilot exercises. Some exercises are solved in the class but some others are assigned as homework to help students to acquire the necessary knowledge using the specific methods commonly used in the literature. The objective is to train them in methods of solving using the real-world data set.

Laboratory practices are designed according to specialized methods to instruct the students on how to carry out standard experiments and applications, in order to allow them to validate the theory and the concepts covered in courses. Field trips are also organized mainly to provide further insight especially for the third and fourth-year students on the specialized applications about dams, highways, steel-structures, general construction works, geological site visits, as well as visits organized to related industry and private sector companies.

The students are also allowed to take 2-3 courses during summer term either in the NEU University or outside from other universities, provided that the course descriptions in those universities match with the ones described in the NEU catalog.

➤ **PROGRAM OUTCOMES**

Program Outcomes	
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied knowledge in these areas in complex engineering problems.

2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.
4	Ability to devise, select, and use modern techniques and tools needed for analyzing and solving complex problems encountered in engineering practice; ability to employ information technologies effectively.
5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex engineering problems or discipline specific research questions.
6	Ability to work efficiently in intra-disciplinary and multi-disciplinary teams; ability to work individually.
7	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language; ability to write effective reports and comprehend written reports, prepare design and production reports, make effective presentations, and give and receive clear and intelligible instructions.
8	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.
9	Consciousness to behave according to ethical principles and professional and ethical responsibility; knowledge on standards used in engineering practice.
10	Knowledge about business life practices such as project management, risk management and change management; awareness in entrepreneurship, innovation; knowledge about sustainable development.
11	Knowledge about the global and social effects of engineering practices on health, environment, and safety, and contemporary issues of the century reflected into the field of engineering; awareness of the legal consequences of engineering solutions.

➤ **COURSE & PROGRAM OUTCOMES MATRIX**

Course Code	Course Name	1	2	3	4	5	6	7	8	9	10	11
ENG101	Foreign Language I	1	1	1	1	1	1	3	2	1	1	1
MTH101	Mathematics I	5	4	2	2	2	1	1	1	2	1	1
PHY101	General Physics I	5	5	4	2	3	5	2	5	1	1	2
CHM101	General Chemistry	5	4	3	3	4	4	3	5	4	3	3
ECC101	Introduction to Computers and Programming	4	5	4	4	5	4	5	4	4	5	4
YIT101	Turkish Language for International Students I	-	-	-	-	-	-	-	-	-	-	-
CAM100	Campus Orientation	-	-	-	-	-	-	-	-	-	-	-
AIT103	Principles of Ataturk and The History of Turkish Revolution I	-	-	-	-	-	-	-	-	-	-	-
CHC100	Cyprus History and Culture	-	-	-	-	-	-	-	-	-	-	-
1st Year - 2nd Semester												
ENG102	Foreign Language II	1	1	1	1	1	1	3	2	1	1	1
MTH102	Mathematics II	5	3	2	2	1	1	2	3	1	1	1
PHY102	General Physics II	5	5	4	2	3	5	2	5	1	1	2
GEO102	Geology for Civil Engineers	2	3	3	3	4	3	5	4	3	3	5
TD 102	Technical Drawing	1	1	1	1	1	1	1	1	1	1	1
YIT102	Turkish Language for International Students II	-	-	-	-	-	-	-	-	-	-	-
CAR100	Career Planning	-	-	-	-	-	-	-	-	-	-	-
2nd Year - 1st Semester												
MTH201	Differential Equations	5	3	2	1	3	2	2	2	1	2	1
MTH251	Probability and Statistics	5	4	2	4	3	2	1	3	2	1	1
CIV206	Statics	5	4	3	3	3	3	3	4	3	1	2
ECC426	Economics for Engineers	-	-	-	-	-	-	-	-	-	-	-
CIV241	Materials Science	3	3	1	2	4	2	3	4	4	2	2
AIT104	Principles of Ataturk and The History of Turkish Revolution II	-	-	-	-	-	-	-	-	-	-	-
2nd Year - 2nd Semester												
MTH232	Advanced Mathematics for Engineering Students	5	3	2	2	4	2	2	3	1	1	1
CIV204	Surveying and Engineering	5	3	3	2	4	3	3	4	3	1	2
ECC212	Dynamics	5	4	4	3	4	4	2	5	4	2	5
CIV213	Strength of Materials	5	5	4	4	1	4	1	4	3	2	2
CIV244	Materials of Construction	4	4	3	2	4	2	3	4	4	2	3





HIS101	History I	-	-	-	-	-	-	-	-	-	-	-
PHT101	Photography I	-	-	-	-	-	-	-	-	-	-	-
PHT102	Photography II	-	-	-	-	-	-	-	-	-	-	-

\* 1 Lowest, 2 Low, 3 Average, 4 High, 5 Highest

➤ **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, harbors, 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.



➤ **ACCESS TO FURTHER STUDIES**

The students graduating from this program may apply to graduate programs.

➤ **PROGRAM STRUCTURE**

- Civil Engineering undergraduate program consists of a total of 240 ECTS credits and 50 courses including internships.
- There are at least 5 courses per year, excluding common compulsory courses and elective courses.
- In each program, there are common compulsory courses determined by the Turkish Higher Education Council (YÖK) and other common courses determined by the University Senate.
- Technical elective courses are offered in the 4th year.
- Non-technical elective courses are taken in the second year.

COURSES OFFERED THROUGHOUT THE UNIVERSITY		
Common University Courses	Campus Orientation	The students are registered to this course at the beginning of the first semester of the freshman year to familiarize them with the campus life at NEU.
	Career Planning	The students are registered to this course at the beginning of their second semester of the freshman year to help them prepare for work life after graduation.
	Cyprus History and Culture	This course is taken by students in their freshmen year and it aims to help them to familiarize them with the local history and culture.
Common Compulsory Courses (YÖK Courses)	Turkish Language I-II (Turkish for Foreigners I & II to replace this course for international students) Principles of Atatürk and History of Revolution I-II	These are the compulsory courses which are required to be offered in all of the associate and undergraduate programs in Turkey according to the Higher Education Legislation.
	Information Technologies	This course is anticipated in all the associate and undergraduate programs in Turkey in order to make the students gain the qualifications related to basic information technologies.
	Foreign Language (ENGLISH) I & II	This course is offered in the first and second semester and conducted according to the program curriculum of each faculty.

➤ **COURSE STRUCTURE DIAGRAM WITH COURSE CREDITS**

To see the course details (such as objectives, learning outcomes, content, assessment and ECTS workload), click the relevant Course Code given in the table below.

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
ENG101		Foreign Language I	3	0	3	3
MTH101		Mathematics I	4	0	4	5
PHY101		General Physics I	3	2	4	5
CHM101		General Chemistry	3	2	4	5
ECC101		Introduction to Computers and Programming	3	0	3	4
YIT101		Turkish Language for International Students I	2	0	2	2
CAM100		Campus Orientation	0	0	0	2
AIT103		Principles of Ataturk and The History of Turkish Revolution I	2	0	2	2
CHC100		Cyprus History and Culture	2	0	2	2
<b>Total</b>						<b>30</b>

#### 1<sup>st</sup> Year Spring Semester

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
ENG102	ENG101	Foreign Language II	3	0	3	3
MTH102	MTH101	Mathematics II	4	0	4	6
PHY102	PHY101	General Physics II	3	2	4	6
GEO102		Geology for Civil Engineers	3	0	3	5
TD 102		Technical Drawing	2	2	3	6
YIT102		Turkish Language for International Students II	2	0	2	2
CAR100		Career Planning	0	0	0	2
<b>Total</b>						<b>30</b>

#### 2<sup>nd</sup> Year Fall Semester

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MTH201	MTH102	Differential Equations	4	0	4	6
MTH251	MTH101	Probability and Statistics	3	0	3	5
CIV206	PHY101	Statics	4	0	4	6
ECC426		Economics for Engineers	3	0	3	5
CIV241		Materials Science	4	0	4	6
AIT104		Principles of Ataturk and The	2	0	2	2

		History of Turkish Revolution II				
<b>Total</b>						<b>30</b>

### 2<sup>nd</sup> Year Spring Semester

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MTH232	MTH102	Advanced Mathematics for Engineering Students	3	0	3	5
CIV204		Surveying and Engineering	2	4	4	6
ECC212	CIV206	Dynamics	3	0	3	5
CIV213	CIV206	Strength of Materials	4	0	4	6
CIV244		Materials of Construction	3	2	4	6
NTE		Non-Technical Elective Course II	2	0	2	2
<b>Total</b>						<b>30</b>

### 3<sup>rd</sup> Year Fall Semester

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MTH323	MTH102	Numerical Analysis	3	0	3	5
CIV351	CIV204	Transportation Engineering	3	0	3	5
CIV361		Soil Mechanics I	3	2	4	5
CIV371	MTH 101+ PHY101	Fluid Mechanics	4	0	4	5
CIV381	CIV213	Structural Analysis I	3	2	4	5
CIV300		Summer Practice I	0	0	0	5
<b>Total</b>						<b>30</b>

### 3<sup>rd</sup> Year Spring Semester

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
CIV306	PHY102	Computer Applications in Civil Engineering	2	2	3	6
CIV362	CIV361	Soil Mechanics II	3	2	4	6
CIV372	CIV371	Hydromechanics	3	2	4	6
CIV382	CIV381	Structural Analysis II	3	2	4	6
CIV374		Engineering Hydrology	4	0	4	6
<b>Total</b>						<b>30</b>

4 <sup>th</sup> Year Fall Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
CIV431		Construction Engineering and Management	4	0	4	5
CIV461	CIV362	Foundation Engineering	4	0	4	5
CIV471	CIV372	Water Resources Engineering I	4	0	4	5
CIV481	CIV213	Reinforced Concrete Theory	4	0	4	5
TE		Technical Elective Course I	3	0	3	5
CIV400		Summer Practice II	0	0	0	5
<b>Total</b>						<b>30</b>

4 <sup>th</sup> Year Spring Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
CIV472	CIV471	Water Resources Engineering II	4	0	4	6
CIV484	CIV381	Design of Steel Structures	3	2	4	6
CIV486	CIV382+ CIV481	Structural Design	3	2	4	5
CIV498		Special Project	2	4	4	7
TE		Technical Elective Course II	3	0	3	6
<b>Total</b>						<b>30</b>

Field-Related / Technical Elective Courses						
Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
CIV406		Auto CAD I	3	0	3	6
CIV407		Auto CAD II	3	0	3	6
CIV416		Extended Computer Applications	3	0	3	6
CIV424		Advanced Strength of Materials	3	0	3	6
CIV432		Operations Research Techniques in Construction and Management	3	0	3	6
CIV435		Construction Site Techniques	3	0	3	6
CIV436		Health and Safety in Construction	3	0	3	6
CIV437		Building Construction	3	0	3	6
CIV441		Repair and Strengthening of Structures	3	0	3	6
CIV442		Assessment of Damage in Structures	3	0	3	6

CIV444		Concrete Making Materials	3	0	3	6
CIV445		Behavior of Reinforced Concrete Members & Structures	3	0	3	6
CIV449		Structural Use of Timber	3	0	3	6
CIV451		Transportation Engineering I	3	0	3	6
CIV452		Transportation Engineering II	3	0	3	6
CIV457		Highway Design	3	0	3	6
CIV458		Tunnels & Underground Structures	3	0	3	6
CIV459		Airports & Railways	3	0	3	6
CIV463		The Adverse Effect of the Earth surface Processes on Building and Constructions	3	0	3	6
CIV465		Sub-structures of building	3	0	3	6
CIV467		Planning and Organization of Resources	3	0	3	6
CIV473		Coastal and Harbor Engineering	3	0	3	6
CIV474		Sanitary Engineering	3	0	3	6

#### Non-Field Related / Non-Technical Elective Courses

Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
ESP101		English for Special Purposes	2	0	2	2
ESP102		English for Special Purposes	2	0	2	2
SOC101		Sociology	2	0	2	2
PSY101		Industrial Psychology	2	0	2	2
PHIL101		Philosophy I	2	0	2	2
ENV101		Environment	2	0	2	2
TUR108		Turkish Language and Essay Writing I	2	0	2	2
TUR110		Ottoman Language	2	0	2	2
TUR118		Turkish Language and Essay Writing II	2	0	2	2
ENG202		English Conversation	2	0	2	2
ENG204		English Report Writing	2	0	2	2

GER101		German I	2	0	2	2
GER102		German II	2	0	2	2
FRE101		French I	2	0	2	2
FRE102		French II	2	0	2	2
ARB101		Arabic I	2	0	2	2
HIS101		History I	2	0	2	2
PHT101		Photography I	2	0	2	2
PHT102		Photography II	2	0	2	2

#### Additional Notes

A total of 240 ECTS credits of courses are required to graduate. The Computer Engineering students must complete technical and non-technical elective courses to provide a total of 240 ECTS credits. Otherwise, they will not be deemed to fulfill the conditions to graduate from the program.

If you need support for these courses due to your disability, please refer to Disability Support Unit. Contact; [engelsiz@neu.edu.tr](mailto:engelsiz@neu.edu.tr)

#### ➤ EXAM REGULATIONS & ASSESSMENT & GRADING

##### Exam Regulations and, Assessment, and Grading

For each course taken at NEU, the student is given one of the letter grades below by the instructor as the semester course grade. Each grade has also its ECTS grade equivalent

The table below provides the detailed information about the local letter grades, coefficients and ECTS grade equivalents.

SCORE	GRADE	COEFFICIENT	ECTS Grade
90-100	AA	4.0	A
85-89	BA	3.5	B*
80-84	BB	3.0	B*
75-79	CB	2.5	C*

70-74	CC	2.0	C*
60-69	DC	1.5	D
50-59	DD	1.0	E
49 and below	FF	0.0	F

\*for these ones, the higher grade is applied

In order to be successful in a course, short cycle (associate degree) and first cycle (bachelor's degree) students have to get a grade of at least DD, second cycle (master's degree) students have to get a grade of at least CC, and third cycle (Ph.D.) students have to get a grade of at least CB to pass a course. For courses which are not included in the cumulative GPA, students need to get a grade of S.

Apart from that, each local grade has its equivalent ECTS grade which makes it easier to transfer the grades of mobility periods of students. The chart above shows the ECTS grading system at NEU.

Also, among the Letter Grades;

I	Incomplete
S	Satisfactory Completion
U	Unsatisfactory
P	Successful Progress
NP	Not Successful Progress
EX	Exempt
NI	Not included
W	Withdrawal
NA	Never Attended

Grade of I (Incomplete), is given to students who are not able to meet all the course requirements at the end of the semester or summer school due to a valid justification accepted by the instructor. Students who receive a letter grade "I" must complete their missing course requirements and receive a letter grade within one week following the date the end of semester grades or summer school grades submitted. However, in the event of special cases, this period can be extended until two weeks before the beginning of registration for the next semester, upon the recommendation of the respective Graduate School department head and the decision of that academic unit's administrative board. Otherwise, grade of "I" will automatically become grade of FF, or grade of U.

Grade of S (Satisfactory) is given to students who are successful in non-credited courses.

Grade of U (Unsatisfactory) is given to students who are unsuccessful in non-credited courses.

Grade of P (Successful Progress) is given to students, who continue to the courses that are not included in the GPA that has a period exceeding one semester, and regularly performs the academic studies for the respective semester.

Grade of NP (Not Successful Progress) is given to students, who do not regularly perform the academic studies for the respective semester for courses that are not included in the GPA and have a period exceeding one semester.

Grade of EX (Exempt), is given to students who are exempt from some of the courses in the curriculum.

Grade of NI (Not included) is issued to identify the courses taken by the student in the program or programs which are not included in the GPA of the student. This grade is reported in the students' transcripts with the respective letter grade. Such courses are not counted as the courses in the program that the student is registered to.

Grade of W (Withdrawal) is used for the courses that the student withdraws from in the first ten weeks of the semester following the add/drop period, upon the recommendation of his/ her advisor and the permission of the instructor that teaches the course. A student is not allowed to withdraw from courses during the first two semesters of his/ her associate/undergraduate degree program and from those courses he/she has to repeat and received grade "W" before, which are not included in the grade average. A student is allowed to withdraw from two courses at the most during his/ her associate degree study, and four courses during his/her undergraduate study upon the recommendation of the advisor and the permission of the instructor that teaches the course. A student has to take the course that he/she withdrew from, the first semester in which it is offered.

Grade "NA" (Never Attended) is issued by the instructor for students who fail to fulfil the attendance and/or requirements of the course and/or who lose their right to take the end of semester exam because they failed to take any of the exams administered throughout the semester. Grade "NA" is not considered in the average calculations.

Both the ECTS grades and the local grades of the students are displayed on the official transcript of the students.

#### ➤ **GRADUATION REQUIREMENTS**

In order to graduate from this undergraduate program, the students are required;

to succeed in all of the courses listed in the curriculum of the program by getting the grade of at least DD/S with a minimum of 240 ECTS

to have a Cumulative Grade Point Average (CGPA) of 2.00 out of 4.00

to complete their compulsory internship in a specified duration and quality.

#### ➤ **MODE OF STUDY**

This is a full-time program.

#### ➤ **PROGRAM DIRECTOR (OR EQUIVALENT)**

Prof. Dr. Gözen Elkıran, Head of Department, Faculty of Civil and Environmental Engineering, Near East University.

Email: gozen.elkiran@neu.edu.tr

#### ➤ **EVALUATION QUESTIONNAIRES**



Evaluation Survey

Graduation Survey

Satisfaction Survey