



Bachelor of Science Degree in Civil and Environmental Engineering

Student Handbook

2022 - 2023

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About this Booklet

This booklet has been written to provide the student with a detailed guide to the BSc program in *Civil and Environmental Engineering* by the Department of Engineering of the School of Sciences & Engineering at the University of Nicosia. It is designed to cover the basic information needs of the students with respect to the program and more specifically to:

- provide the aims, objectives, learning outcomes, a short description and career opportunities of the program,
- provide a summary of departmental policies,
- present a list with the faculty members supporting the program along with the necessary contact information,
- indicate the new academic paths of the two programs as these have been approved by the Ministry of Education,
- offer a suggested semester breakdown which indicates the order of courses to be taken each semester during your studies,
- · provide a list of the major courses along with their pre- and co-requisites, and
- provide a brief description of the major courses.

The student is strongly encouraged to read this booklet carefully to familiarize himself/herself with the program. He/she should also consult the Academic Policies booklet and any other leaflet distributed by the Department of Academic Affairs in order to familiarize herself/himself with the academic rules, policies and regulations of the University.

This document is now available on the University of Nicosia (UNic) website at <u>www.unic.ac.cy</u>.

Message from the Head of the Department



Dear student, welcome to the Department of Engineering of the University of Nicosia!

The Department of Engineering belongs to the School of Sciences and Engineering and houses five engineering disciplines: Electrical Engineering, Computer Engineering, Mechanical Engineering, Civil & Environmental Engineering, and Oil & Gas Engineering.

All five engineering disciplines are subject to continuous technological evolution due to a plethora of new discoveries and innovative applications in various sectors of the society. Advances in Electrical & Computer Engineering have triggered the flooding of the market with smart and interactive entertainment toolboxes, autonomous physical cyber systems, communication devices and smartphones, wearable and implantable biomedical devices, sensor networks, selfdriving cars, and many more. Consequently, computers, the internet and cloud computing have become essential components of our everyday life. Mechanical engineers have revolutionized the industrial world since the early 20th century. Thanks to this industrial revolution, people nowadays enjoy high-power and highly efficient cars and motorcycles as well as aerodynamic airplanes, spaceships and trains. Mechanical engineering also finds a plethora of applications in medicine with the design of prosthetic limbs, artificial joints, mechanical hearts, robotics, and other biocompatible materials and parts. Today's innovations in science and technology have also helped Civil Engineers to design and build marvelous buildings and bridges capable of withstanding strong earthquakes and other disastrous natural phenomena. These same engineers also design smart cities that are environmentally friendly and self-sustainable due to low-carbon emissions and innovative renewable energy resources. Moreover, environmental engineers work on the development of new engineering technologies and processes to reduce the impact of hazardous wastes and undesirable gas releases to the environment. Oil & Gas engineers integrate geological and geophysical data, as well as drilling technologies, to locate and develop oil and gas fields. New engineering techniques, such as deep-water platforms, horizontal drilling and hydraulic fracturing, have helped unlock new unconventional energy sources. Abundant supplies of oil and natural gas continue to lift millions of people out of poverty creating value and work opportunities.

This ever-increasing use of technology offers expanding career opportunities in all engineering disciplines. At no time in history has engineering played such an important role in improving the standard of living and the quality of life, boosting productivity and reducing unemployment, creating wealth and prosperity. Engineering plays an important role in all sectors of society including education, transportation, entertainment, construction, environment, energy, healthcare, medicine, etc. A good example is the use of technology in medicine. Smart electronic devices equipped with microchips, cameras and robotic arms are used daily by doctors to perform critical medical procedures and surgeries which require high precision and caution. At the dawn of a new millennium, engineering has an important role to play for the prosperity of humanity and the future of the planet.

The Department of Engineering at the University of Nicosia has a major role to play in this technological revolution. During the four-year program, our graduates acquire enough theoretical knowledge and laboratory experience to become the future leaders of science and engineering. Our goal is to equip engineers with a solid foundation in basic engineering principles and concepts, but also a concrete and valuable knowledge on specialized topics ranging from earthquake resistant buildings and deep-water drilling and exploration of hydrocarbons to autonomous cyber physical systems, unmanned low-emission/electric vehicles and high-speed wireless communication networks.

In our department we seek to attract students who demonstrate creative analytical thinking, persistence and discipline, self-motivation, and intelligence. As the engineering field is extremely demanding, future engineering students must be able to adapt to a new dynamic environment and react positively to new challenges and opportunities. Students are taught to be independent thinkers, create independent types of work, perform high-tech projects, write technical reports, conduct research on cutting-edge technology, and present their work before classmates and faculty members. In the Department of Engineering, we are committed to excellence in teaching and research to safeguard high quality standards among our graduates and promote evolution and technological advancement.

All engineering programs are based on both theoretical lectures and laboratory experiments with emphasis given on the design and development of systems and modules. These courses are supported by advanced equipment and state-of-the-art hardware and software facilities for experimentation. Our programs conform to the undisputable academic guidelines set by international accreditation bodies such as the Accreditation Board for Engineering and Technology (ABET) in the United States. The curricula of all conventional engineering programs in the department are fully accredited by the Ministry of Education. They have also been reviewed by the Cyprus Scientific and Technical Chamber (ETEK) and our graduates are in a position to register as licensed Engineers with ETEK. Our programs include a considerable number of major and elective courses of theoretical and applied nature which add to program diversity and contribute to a foundation of a broad range of skills for career positions in academia and industry.

Students in these five engineering disciplines take courses from different categories including major requirements, major electives, math requirements, science requirements, English language, business administration, and liberal arts. These courses aim at preparing undergraduate students for a professional career in industry or for advanced post-graduate studies in an engineering or related field. The process of analysis and design is emphasized throughout all years of study, and as a matter of fact, projects are included in all the major theoretical and laboratory courses. This provides

the theoretical foundation and the practical skills for our students to successfully complete a demanding final-year project at the end of their undergraduate journey.

The Department of Engineering houses the following programs:

- 1. Civil & Environmental Engineering (BSc)
- 2. Computer Engineering (BSc)
- 3. Electrical Engineering (BSc)
- 4. Mechanical Engineering (BSc)
- 5. Oil & Gas Engineering (BSc)
- 6. Electrical Engineering (MSc)
- 7. Oil, Gas & Energy Engineering (MSc)
- 8. Electrical Engineering (PhD)
- 9. Oil, Gas & Energy Engineering (PhD)

The curriculum leading to the degree of Bachelor of Science (BSc) is intended to qualify students to begin a professional career in that particular field of Engineering or to pursue further advanced post-graduate studies at the level of Masters and/or Doctorate degree. The major engineering courses of the Bachelor's program contain, apart from theory and fundamental principles, elements of analysis and design, as well as significant laboratory work. The duration of the BSc programs, for a full-time student, is 4 years, and it requires a minimum of 240 ECTS credits for graduation. The duration of the MSc programs, for a full-time student, is 1.5 years, and it requires a minimum of 90 ECTS credits for graduation. The duration of the PhD program is at least 3 years full-time and it is a research-oriented degree.

The faculty members of the Department of Engineering are experienced and highly qualified academics; many of them have industry-related background and/or had worked abroad in other universities. All hold postgraduate qualifications and the majority of them (more than 95%) hold relevant PhD degrees. Most of the faculty are also actively engaged in research and have published and continue to publish papers in international scientific journals and conference proceedings. Moreover, they maintain research collaborations and/or links with other universities and institutions abroad and in Cyprus.

Dear Students, during your studies at the University of Nicosia, you will be assigned an academic advisor who will help you choose courses, plan your studies, advise you on academic matters and help you achieve your educational goals and objectives. In addition to your academic advisor, the Program Coordinator and the Head of the Department will be available to provide information related to the curriculum, academic matters, department policies, accreditation, transfers to and from other Universities, research, career opportunities etc.

On behalf of the engineering faculty, I would like to welcome you to the Department and wish you success in your studies and a rewarding and fruitful time at the University of Nicosia.

> Dr Stelios Neophytou Associate Professor (Head of the Department of Engineering)

Message from the Program Coordinator



Civil Engineering is one of the largest and fastest growing engineering disciplines in Europe and one of the best performers in EU economy. Moreover, building construction and land development is one of the major sectors of the Cypriot economy. Therefore, the demand for civil engineers will continue to be on the rise, as globally, the need for infrastructure projects will increase. Despite the recent financial crisis in Cyprus and the devastating wars in the Middle East region in the last decade, there is still a great deal of construction go-

ing on in the region, including building constructions, road constructions, and land development. Recently, a great emphasis is also placed on green development, smart cities and the design of environmentally friendly, energy efficient, sustainable, and ecological buildings. Processing and management of solid wastes and wastewater constitute additional areas of employment for our graduates.

The undergraduate program in Civil and Environmental Engineering is characterized by a well-balanced curriculum consisting of courses obtained from various areas of Civil (structural, transportation, construction, hydrology, geotechnical) and Environmental Engineering (Waste management, air-pollution, water resources, ecology, environmental impact assessment, etc.), including a small pool of elective courses, thus providing students with some flexibility to choose courses of their preference. The program is designed and developed by the faculty of the Department of Engineering based mainly on the local industry requirements, on international academic standards and accreditation bodies and on the curricula of public universities in Cyprus and Greece.

The great success of the BSc in Civil and Environmental Engineering Program is verified, of course, by the successful kick-off of our graduates' careers. The great majority of the engineers that graduated from this program have almost immediately secured a well-paid job in the field of Civil or Environmental Engineering, either in Cyprus or abroad. Moreover, some distinguished students have been accepted in prestigious universities in the UK, Germany, and the Netherlands to continue with postgraduate studies in the field of Civil and/or Environmental Engineering.

In our program, we have students from Cyprus and Greece as well as from various Middle East countries, Russia and Africa. The program also attracts some European students through the Erasmus program. This offers to our students the unique experience to become exposed to other cultures and build strong friendships that may become future job collaborations.

In this Student Handbook you will find more details about the structure and contents of the Program of studies, as well as information regarding the academic policies and procedures that any student should be aware of. Please carefully read all parts of this document and keep it as a guide throughout your studies.

On behalf of the Faculty, I would like to welcome the new students to the Civil and Environmental Engineering Program and wish for all students a successful academic year, full of knowledge and great experiences. See you all in the classrooms!

Dr Panayiotis Polycarpou

Associate Professor (Program Coordinator)

Overview of the Program

The Civil and Environmental Engineering (CEE) discipline deals with topics related to the design and construction of structures, concrete technology, soil engineering and foundations, hydrology, transportation engineering, as well as with topics related to environmental management and protection. Studies in the field of CEE provide the graduate with the necessary qualifications for a successful professional career with high earnings.

The program of Civil and Environmental Engineering of the University of Nicosia has been operating successfully since September 2013. It is supported by academic scientific staff with professional experience, engaged in applied and basic research, which guarantees a high-quality university education.

The program of the University of Nicosia is fully accredited by the Ministry of Education, Culture, Sport and Youth of Cyprus, as well as by the Scientific and Technical Chamber of Cyprus (ETEK) which is the local professional body of engineers. This ensures that our local graduates will be able to register as professional engineers in Cyprus.

Also, like all programs of study the University of Nicosia, it is certified by the Cyprus Agency of Quality Assurance and Accreditation in Higher Education (CYQAA).

The University of Nicosia is recognized by the Hellenic National Academic Recognition and Information Center (D.O.A.T.A.P.) as equivalent to Greek H.E.I., while the degrees of its graduates have been recognized by D.O.A.T.A.P.

Our university has well-equipped laboratories where students are given the opportunity to acquire important knowledge of the various laboratory tests and experimental procedures related to the broad field of Civil and Environmental Engineering. Specifically, the modern facilities include laboratories of concrete technology, soil engineering, fluid and hydraulic engineering, geodesy, environmental engineering as well as engineering software laboratory, which gives our students the opportunity to become familiar with the use of computers and modern methods of simulating engineering problems. During their studies, our students are provided with practical training opportunities, which increase the prospects of successful employment after graduation.

Aims and Objectives

The Civil and Environmental Engineering program of the University of Nicosia aims to:

- qualify students to begin a professional career in the field of Civil and Environmental Engineering or to pursue further advanced post-graduate studies,
- equip graduates with the necessary theoretical tools and the fundamental principles of science and engineering in order to cope successfully with the technological challenges of the field,
- provide practical and experimental hands-on experience that allows the students to link directly to fundamental knowledge and theory, and
- promote engineering ethics, job responsibility, and moral practices.

Learning Outcomes

Upon successful completion of this program, the students should be able to:

- enter the profession of civil engineering and advance in the field in order to become qualified professional engineers and leaders in the industry,
- have in-depth knowledge and understanding of the analysis and design processes, laboratory tests and technologies involved in civil and environmental engineering,
- use basic science, mathematics, and engineering techniques to analyze and solve problems related to civil and environmental engineering,
- use available measurement data and computer software to model various structures and simulate common civil engineering problems for design and assessment purposes, and
- assess the short- and long-term impact of engineering solutions at both local and global levels, to the economy, the environment, as well as the society.

Occupational Profiles of Graduates with Examples

Civil Engineering is one of the largest and fastest growing engineering disciplines in Europe and one of the best performers in EU economy. Recently, a great emphasis has also been placed on green development, smart cities, and the design of environmentally friendly, energy efficient, sustainable, and ecological buildings. Moreover, building construction and land development is one of the major sectors of the Cyprus economy. Therefore, the demand for Civil Engineers will continue to rise, both locally and globally, as the need for retrofitting of existing infrastructures or for construction of new ones will grow.

A graduate with a BSc degree in Civil and Environmental Engineering may be employed in the private or public sector dealing with the design, construction and supervision of various types of infrastructure systems, such as:

- · residential, commercial or public buildings,
- low-rise or high-rise buildings,
- transportation networks, including roads, highways, bridges, and railways,
- · tunnels, dams and retaining structures,
- · ports, airports and coastal structures, and
- water supply and sewage systems.

Moreover, our graduates may work on more specialized fields of structural engineering, such as the rehabilitation and seismic strengthening of existing and heritage buildings.

Our graduates may also choose to focus more on the fields of Environmental Engineering, thus having the opportunity to become involved in the protection and improvement of the built and natural environment through, e.g.:

• improvement of the energy efficiency of buildings,

- recycling and solid waste management,
- wastewater management and treatment,
- air pollution control, and
- environmental impact assessment.

Facilities

UNIC's modern campus is made up of twenty purpose-built and customized buildings situated amid the urban landscape in the bustling suburb of Engomi in Nicosia.



The campus contains specialized laboratory areas, Computer Labs, a Library, a Bookshop & Copy Centre, a large choice of student restaurants and cafeterias and a Fitness Centre (UFIT).

Most courses of the Civil and Environmental Engineering program are held in the Research & Technology Building (RTB). The building, located at Markou Drakou 8 in Engomi, is a few minutes' walk from the Central Building of the University and houses various Engineering Laboratories, two Engineering Computer labs and teaching classrooms for theoretical courses. The building also accommodates the offices of the coordinator and teaching faculty of the program.

Laboratories

The main laboratory of the Civil and Environmental Engineering program is also located in the Research & Technology Building (Room RT B42) and is used in numerus courses of the program. The laboratory has all the essential equipment used in experimental setups that civil engineers often encounter in their professional practice and research settings. The main Civil Engineering laboratory is divided into five sections:

- Strength of Materials
- Fluid Mechanics
- Soil Mechanics
- Environmental engineering
- Surveying
- Thermodynamics and Heat Transfer





The engineering department is also equipped with two specialized **computer laboratories** located in rooms A1 and A2 at the Research & Technology building. The laboratories are dedicated for engineering students and are equipped with specialized software. In each of these labs, there are 25 desktop computers with installed licensed state-of-the-art software for engineers. Specifically, there are software packages on Computer Aided Design (CAD), such as AutoCAD and Solidworks, Finite Element Analysis (FEA), such as Nastran, Design and Analysis Software such as SAP2000, Plaxis and other useful tools like MATLAB and MS Office.

Library

The Library is a short walk away from the main campus building and holds approximately 100,000+ print books in all relevant areas of study and can be accessed through the online catalogue UniCAT (Aleph). Access is also given to thousands of electronic resources through on-line databases, a big number of E-books (500,000) and full text e-journals (30,000) from various publishers that cover all relevant areas of study.



All resources are available through the Library webpage. Online resources can be accessed on campus, whereas for off-campus access, a current Library account and proxy settings configuration is required before gaining access (instructions can be found at https://www.library.unic.ac.cy/OffCampusAccess-1)

The Uniplex Bookshop & Copy Centre provides students with textbooks and supplementary books for their studies, as well as specialized material not easily available in other local bookshops. It stocks stationery and other items useful to students during the course of their studies. Its location is at -1 of the Europa Building.

Student Clubs

Within the university there is a variety of clubs where students can get involved, make new friends, have fun and be part of an active student community. There are four main categories of Student Clubs (Academic, Ethnic, Leisure and Sports). Students can register in the various Clubs through the UNIC Student Portal.



The "*Civil and Environmental Engineering Society*" (CEES) is a student club that was established by the undergraduate students of the Civil and Environmental Engineering Program in October 2019.

The mission of the club is to organize various activities for the students, such as visits at construction sites,

seminars,

competitions, meetings, and peer tutoring sessions, as well as to bring together the academia and the Civil and Environmental Engineering industry.

The club additionally brings students together in an 'out-of-classroom' atmosphere so that they can meet and discuss course relevant topics and issues and can provide students with information about the university and the program.





Students may register to the CEES through their personal account at the University's Portal (<u>https://portal.unic.ac.cy/signin</u>).

Student Admission

Academic Admission

The minimum admission requirement to an undergraduate program of study is a recognized High School Leaving Certificate (HSLC) or equivalent internationally recognized qualification(s). Students are required to have a HSLC grade at least 7.5/10 or 15/20 or equivalent depending on the grading system of the country issuing the HSLC or a rank in the top 50%. Students with a lower HSLC grade are provided with extra academic guidance and monitoring during the first year of their studies.

English Language Proficiency

The list below provides the minimum English Language Requirements (ELR) for enrollment to the program of study. Students who do not possess any of the qualifications or stipulated grades listed below, are required to take UNIC's NEPTON English Placement Test (with no charge) and will receive English Language support classes, if and as needed, from UNIC's International Gateway Centre (IGC).

- TOEFL 500 and above
- Computer-based TOEFL 173 and above
- Internet-based TOEFL 61 and above
- IELTS 5 and above
- Cambridge Exams [First Certificate] B and above
- Cambridge Exams [Proficiency Certificate C and above
- GCSE English Language "O" Level C and above
- Michigan Examination of Proficiency in English Pass
- Michigan Examination of Competency in English Pass

Placement/Proficiency Examinations

Examinations are administered to determine proficiency or establish placement in English, Mathematics and other subjects when appropriate.

(1) <u>English Placement Examination</u>: All students registered under programs that are taught in English, such as the BSc in CEE Program, are required to take the English Placement Examination. The result of the test will determine the number and type of courses a student can take.

(2) <u>Mathematics Placement Examination</u>: Any student who has not demonstrated minimum proficiency through prior high school or university work or external exam scores may be required to take the mathematics proficiency examination prior to enrolling in University of Nicosia-level mathematics or statistics courses. Students who have either not taken or failed this test will be assigned to most basic math courses such as College Algebra (MATH-105) or Algebra and Trigonometry (MATH-180).

Transfer Credits

Transfer credits are credits earned at other accredited programmes/Higher Education Institutions which are transferable to the University. All transferred courses/credits are evaluated individually, based on the University standards and the student's grades.

Transfer credits may correspond to specific University courses or may apply as credits in specific categories (computer, math, humanities or social science electives). In all cases, they appear on the student's transcript with the suffix "TR" but no grades are counted in the student's CPA.

Regardless of the credits transferred, students have to complete at least one half of the number of the Bachelor's Degree ECTS, i.e., 120 ECTS.

Evaluation Process for Credits Transferred from other Accredited Programmes/Higher Education Institutions

Credits earned at other accredited programmes/Higher Education Institutions (conventional, Distance Learning and Open Universities) are transferable to the University. A transcript is required. Course descriptions, syllabi and textbooks used may be required to determine the subject covered. Courses are normally evaluated individually. In some cases, validation may be required in the form of oral or written examination, transfer credits may be provisional, and students may be placed on probation. The Registrar carries out this evaluation in consultation with Department Heads and School Deans.

A currently enrolled student may petition to enroll in a course or courses at another accredited Higher Education Institution and have the credits transferred to the University. The petition must be submitted prior to enrolment.

The University may sign articulation agreements for the mutual transfer of credits with other accredited Higher Education Institutions.

Registration Procedure

Academic Advising

Academic advising plays an important part in a student's registration and academic performance at the University.

Each student receives planning and academic advice from the Academic Advisor, Head of Department and the Program Coordinator. The Academic Advisor assists students in pre-registration and registration and counsels them with regards to the student's schedule and degree requirements. Moreover, the Program Coordinator and faculty members in the CEE program can counsel students in their major area of specialization.

Pre-Registration and On-Line Pre-Registration

New and returning students go through pre-registration with an advisor who, together with the student, consults the website of the program of study and the schedule of classes and pre-registers the students for the following semester. Placement and pro-ficiency examinations are usually administered prior to freshman pre-registration. A student may declare a major at this time or defer this decision until sometime later. Students can use the Student Portal (<u>https://portal.unic.ac.cy/</u>) for on-line pre-registration.

Registration

Registration is a standard procedure every semester. During registration, the pre-registration of a student is finalized in view of the grades obtained and settlement of the financial obligations.

All students must be properly registered for their courses at the designated registration period. Late registration is permitted under exceptional conditions but students registering late cannot be assured of space in the courses they are interested in taking. It is also possible that some courses may be cancelled as a result of low enrolment even prior to the end of late registration.

When a student registers, a personal timetable is issued with information on the times of classes and the rooms in which they are to be held. Students are not permitted to register for courses, which are taught at the same time ("*clashed*" courses). Timetable changes are likely to occur during the first two weeks of classes. Such changes are published on the Student Portal (<u>https://portal.unic.ac.cy/</u>) or university website (<u>https://www.unic.ac.cy/academic-calendar/schedule-of-classes/</u>).

Students may not be able to register if they have been expelled, dismissed or suspended from the University or if their names are on the stop list. Students will be on this list if they owe money to the University or books to the library or for any other reason. Such students will have to obtain a clearance to be allowed to register.

Students should attend classes for the courses and sections they are registered for. If these need to be changed, this should take place in consultation with an academic advisor during the Drop and Add period only. Attending a course on a different section is not permitted and does not give the student any right to register. The University reserves the right to demand payment by legal means from any student who has been attending classes without being registered.

In no case will a student be registered or have grades recorded for a course he has been attending without having duly registered in the proper way and at the proper time.

Important Department Policies

In this section, some of the policies of the Department of Engineering are presented. Specifically, you will be introduced to those policies that deal with student standing, grading, lab performance evaluation, special grades, etc. A more comprehensive document of Academic Policies can be found and downloaded in the webpage of the University of Nicosia (https://www.unic.ac.cy/academic-calendar/academic-policies/).

Equal Opportunities

The Department of Engineering and the University of Nicosia at large realize and accept the need for an equal opportunities policy. We are committed to providing equal opportunities to all students. We are committed to operating and functioning in such a way that no direct or indirect discrimination occurs regarding the admission, advising and assessment of students and the treatment of any individual on grounds of gender, race, sex, age, nationality, color, special needs, social and economic background, marital status, political, social or religious belief. We strongly oppose to any practices that, directly or indirectly promote any kind of discrimination and result in individuals not being treated solely on the basis of their merits and abilities. To this end, we will resolve any such practices and will refer serious cases to the Disciplinary Committee.

Intellectual Integrity/Plagiarism

Intellectual integrity is one of the ideals for which the University of Nicosia stands. Students are expected to adhere to high standards of intellectual integrity and honesty.

Cheating and plagiarism are contrary to the ideals of our university. Cheating is defined as dishonesty of any kind in connection with assignments and examinations. It applies to both giving and receiving unauthorized help. Plagiarism is defined as presenting the work of someone else as one's own. Cheating and plagiarism will be treated as a disciplinary offence in addition to failure in that particular assignment or examination.

Attendance Policy

The University believes that faculty members make a significant contribution to the development of students and, as a result, a student who is not consistent in class attendance is missing a major part of the educational experience.

Students are therefore expected to maintain regular class attendance. Being late to class may be recorded as absence. Absence is also recorded for laboratory or practical sessions as well as for other required work such as trips.

In general, absences without a valid or timely excuse will result in either failure or administrative withdrawal and a grade of "F" or "W" respectively will be given. Unusual absences, e.g. for medical reasons, may be excused if the student contacts the faculty member before or during the period of absence, and submits relevant documentation.

Withdrawal from a Course

A student may elect on his own to withdraw from a course by properly completing a Student Withdrawal Form, available from the Department of Academic Affairs, which must be submitted by the last day of classes the latest.

A student may also be administratively withdrawn from a course because of excessive absences. In case of individual merit or extenuating circumstances, students who have been administratively withdrawn because of excessive absences may appeal for permission to be reinstated.

Change of Major

Students wishing to change their major must inform their Academic Advisor of their request, in writing, not later than the end of the Drop and Add period. The credits that will be transferred from one major to another will be decided by the Registrar and the Head of the Departments of the program of study that the student intends to pursue.

Withdrawal from the University

Withdrawal from the University requires a written notification (filling in a "withdrawal form" through the university portal by the student to the Department of Academic Affairs, in consultation with the Academic Advisor and clearance from the Finance Department. Students cannot withdraw from the University by merely not showing up to class. If the withdrawal from the University is for a justifiable reason, a partial refund may be possible.

Grading System

Letter Grade	Meaning	Number Grade (%)	Quality Points (0-4)
A	Excellent	93-100	4.0
A-		90-92	3.7
B+	Very Good	87-89	3.3
В		83-86	3.0
B-		80-82	2.7
C+	Good	77-79	2.3
С		73-76	2.0
C-		70-72	1.7
D+	Poor but Acceptable	67-69	1.3

Academic progress is evaluated using the North American system as follows:

D		63-66	1.0
D-		60-62	0.7
F	Failure	0-59	0.0
Р	Pass	0	0.0
DE	Deferred	0	0.0
I	Incomplete	0	0.0
W	Withdraw	0	0.0

- Incomplete work (grade "I") must be made up in one month after the end of the semester or else the faculty member will record zero marks in that particular exam or area of work.
- When students retake the final exam of a course for which they received an "F", the grade achieved during the Second Examination will bear an "SE" next to the course title.
- A "W" is given for a course from which the student withdrew (WS) or was administratively withdrawn (WA).
- A grade may be deferred (DE) when the faculty member concerned has certain doubts regarding the student's work or if the work to be completed will be submitted after a period of one month.

ECTS Credits

ECTS is a learner-centred system for credit accumulation and transfer based on the transparency of learning outcomes and learning processes. It aims to facilitate planning, delivery, evaluation, recognition and validation of qualifications and units of learning as well as student mobility. ECTS is widely used in formal Higher Education and can be applied to other lifelong learning activities.

ECTS credits are based on expected learning outcomes and the workload students need to achieve them.

Learning outcomes describe what a learner is expected to know, understand or be able to do after successful completion of a process of learning. They relate to level descriptors in national, sectoral and European qualifications frameworks.

Workload indicates the time an average student needs to complete all learning activities (such as lectures, seminars, projects, practical work, exams, self-study, etc.) required to achieve the expected learning outcomes.

60 ECTS credits are attached to the learning outcomes and the associated workload of a full-time year of formal learning (academic year).

One ECTS corresponds to 25 to 30 hours of work. 30 ECTS per semester thus correspond to 750-900 hours of work.

The University participates in the European Credit Transfer System (ECTS) and awards ECTS credits and Diploma Supplements.

Grade Point Average (GPA) and Cumulative Grade Point Average (CPA)

A student's Grade Point Average (GPA) shows the average performance for the semester; it is determined by multiplying the number of ECTS credits of each course by the quality points earned for it, and dividing by the total number of semester credits.

The student's Cumulative Grade Point Average (CPA) is computed in the same way and includes all courses taken in all the semesters.

The complete record of a student's progress is issued at the Registrar's Office in the form of a transcript.

Student Standing/Grades

Number of ECTS Credits (1)	Good Academic Standing (2)	Probation (3)	Ineligibility (4)
48 - 88	1.3 and over	1.00 - 1.299	less than 1.0
90 - 148	1.7 and over	1.30 - 1.699	less than 1.3
150 - 208	1.85 and over	1.70 - 1.849	less than 1.7
210 - 270	2.0 and over	1.85 – 1.999	less than 1.85

The following table illustrates the various academic standing categories that the Department adopts. Brief explanations follow.

<u>Good Standing</u>: A student is considered to be in good academic standing if he/she satisfies the criteria of columns (1) and (2) above.

<u>Academic Probation</u>: At the end of each academic semester, students with a Cumulative Point Average (CPA) below what is required for good academic standing will be placed on academic probation as shown in column (3) above. Students may also be placed on academic probation because of excessive withdrawals (Ws). All students placed on academic probation will receive a letter informing them of their status and will be encouraged to increase their CPA. There will also be a warning that should the student's CPA drop below the low end of each scale, he/she may be ineligible to register.

<u>Academic Ineligibility</u>: students with a CPA below the lower cut-off points shown in column (4) become ineligible to continue their studies. In case of extenuating circumstances, students may be allowed a one-semester extension but only after they see the Academic Dean and a definite study plan and performance objectives are agreed upon. If students fail to meet these objectives, they will be dismissed from the College without further notice. Students may also be dismissed because of continued course withdrawals (Ws).

The following sections explain the policies of the Department in special cases dealing with the course grading, exams and performance evaluation.

Student Classification and Status

0-59 ECTS	First year
60-119 ECTS	Second year
120-179 ECTS	Third year
180 ECTS and above	Fourth year

Undergraduate students are classified in one of the following categories:

Students are classified further according to the number of semester hours/ECTS in which they are enrolled per semester.

A student is considered <u>full-time</u> if enrolled for 30 ECTS during a semester or 15 ECTS during the summer session. Enrolment for fewer ECTS is considered <u>part-time</u>. For migration purposes the full-time status can be defined on the number of teaching hours and not on the number of ECTS and depends also on the level (Cycle) of the program of study.

Semester load

The normal semester load for a full-time student is 30 ECTS. A Student may be allowed to register for more than 30 ECTS in exceptional cases (e.g. repeating a course, requiring a few extra ECTS during the last semester in order to graduate).

Student Petitions

Students have the privilege of submitting petitions requesting special permission for exemptions from regulations and policies. These petitions are submitted to the Registrar and are then forwarded to be considered by the Deans of Schools in consultation with the appropriate faculty, Heads of Departments and Program Directors/Coordinators. All student petitions are considered on an individual basis with attention being given to the student's academic record and the reason for the request. Student petition forms are available through the university portal (<u>https://portal.unic.ac.cy/</u>).

Repeat Course Enrolment

Students may repeat a course if they wish to improve their grade. Repeat courses are recorded on the student's transcript with the suffix R. When a course is repeated, both grades are recorded on the student's transcript.

Independent Study

In very unusual cases, a student may be allowed to complete a regular course on an independent study basis. To be taken on an Independent Study basis, a course must not be normally taught during the semester.

Independent study must cover the normal syllabus of the course and must include at least eight-hour sessions with the faculty member, a mid-term and or final examination.

Permission to undertake an independent study may be granted after the student submits an application form, requesting the recommendation of the Director of Academic Advising, the Head of Department/Program Director/Coordinator/ the faculty member, and the Registrar. The approval of the Dean is also needed. Independent study is chargeable in the same way as all other courses. The Independent Study runs as a normal course and must be completed in the same manner as all other courses students register for in a semester.

Capstone Design Projects (Thesis)

During the last year of studies, each student undertakes a specific piece of independent research in the form of a critical review, a numerical analysis, a laboratory experimental investigation, or a field-based experimental investigation, under the direct supervision of a member of academic staff. Students may either propose their own topic for research or choose from a list of topics provided by the faculty members. The Capstone Design Project is expected to be completed within two semester courses, namely "CEE-491 Capstone Design Project I" and "CEE-492 Capstone Design Project II". Upon completion of their Capstone Design Project, the students are assessed by a 3member committee, composed of their supervisor and two other assessors. The assessment is based on i) the quality of their project report, ii) their oral presentation, and iii) an oral examination.

Homework, Laboratory Reports and Performance, Class Projects

Homework assignments, laboratory reports and other class projects have to be turned in by the specified deadlines. Late submissions are NOT accepted. If a student will be absent on the due date, then he/she should arrange for the homework/lab report/class project to reach the faculty member by the due date.

For laboratory work students will be evaluated for their performance in the laboratory during every lab session/experiment. Students who miss an experiment without a valid verifiable reason, get a zero for the laboratory performance and a zero for the laboratory report in that specific experiment. Students who miss more than 40% of the laboratory sessions automatically receive a grade of "W".

Internship

The Internship is an elective practicum course in the students' academic path and just like all other academic courses, the practicum will be graded according to the university's grading scale based on the fulfillment of the course requirements. The duration of the practicum is for an academic semester and an average of 150 - 180 hours of work-placement at the host organization. Enrolment for Internship is done either during

the semester in periods specially specified without affecting the regular course work, or during the summer period.

As an elective course, it is offered only for 4th year or, exceptionally, for 3rd year students. In this case, the students must request permission to register from the Program Coordinator that will provide them with the relevant documentation and guide them through the process. Upon completion of the Internship a confirmation letter is required from the employer specifying i) the period and hours employed, ii) the type of work performed, and iii) an evaluation of the quality of work. The student's internship is supervised and assessed by the program Coordinator and other faculty members.

More information and details about Internship can be found in the Internship Study Guide, which is included in <u>Appendix A</u> of the current document or can be provided as a separate document from the Department.

The Academic Path

The academic path shows the list of courses that a student must complete in order to graduate. They are grouped in categories that are referred to as *Requirements* or *Electives*. In each category, there is a minimum and maximum number of ECTS that must be satisfied. The *Electives* category is organized into two categories, namely *Civil Engineering Electives* and *Environmental Engineering Electives*. In order to plan your studies, you have to study carefully your academic path and consult with your Academic Advisor from the Department of Academic Affairs before choosing your courses.

The academic path of the BSc Program in Civil and Environmental Engineering is given in the following pages. Please note that the codes F (Fall), S (Spring) and Su (Summer) under the Semester column of the following tables indicate the semester when each course is usually offered.

Please consult with the Department of Academic Affairs for information about the timetable of courses. The *Prerequisite* of a course is the required course that you must have before you register. The *Co-requisite* of a course is a course that you must be taking concurrently. **Please bear in mind that depending on your proficiency in the English language you may have to take additional English courses.**

Finally, incoming students may be required to take a mathematics placement test in order to decide whether they should be allowed to register for MATH-190 Calculus I or take MATH-180 Algebra and Trigonometry. According to the latest departmental policy, students are eligible to register for MATH-190 if they are:

- Public school graduates with a minimum grade of 15/20 in intensive mathematics in their leaving certificate
- Private school or international graduates with a minimum grade of 75/100 in intensive mathematics in their high school diploma

All other students must register for MATH-180 Algebra and Trigonometry.

PROGRAM REQUIREMENTS	ECTS
Major Engineering Requirements	160
Math Requirements	28
Science Requirements	16
Language Requirements	6
Major Elective courses	30
Total ECTS:	240

STRUCTURE OF THE PROGRAM OF STUDY

LIST OF COURSES

Course Code	Course Title	Weekly hours (Theory + Lab)	Semester offered	ECTS Credits
MAJOR REC	QUIREMENTS		Total EC	ГS: 160
CEE-101	Introduction to Civil and Environmental Engineering	2	F	4
CEE-112	Technical Drawing and CAD	2+1	S	5
CEE-151	Building Construction Principles	3	F	5
CEE-152	Construction Materials	3+1	F	7
CEE-220	Structural Analysis I	3	S	5
CEE-250	Construction Management	3	S	5
CEE-260	Principles of Environmental Engineering	3	F	5
CEE-280	Engineering Surveying	2+2	S	7
CEE-320	Structural Analysis II	3	F	5
CEE-321	Structural Dynamics	3	S	6
CEE-330	Soil Mechanics	3+1	F	7
CEE-351	Reinforced Concrete I	3	F	5
CEE-352	Steel Structures I	2+1	S	6
CEE-353	Reinforced Concrete II	3	S	5
CEE-371	Road and Highway Engineering	3	F	5
CEE-422	Computer-Aided Structural Analysis and Design	2+1	S	5
CEE-431	Foundations and Retaining Structure De- sign	3	S	5
CEE-441	Hydraulics	3+1	F	7
CEE-442	Wastewater Treatment	3	F	5
CEE-454	Earthquake Engineering	3	F	5
CEE-461	Environmental Impact Assessment	3	F	5
CEE-491	Capstone Design Project I	1	F	4
CEE-492	Capstone Design Project II	1	S	6
COMP-111	Programming Principles I	3+1	F, S	6
ENGR-280	Probability and Statistics for Engineers	3	F	6
ENGR-290	Numerical Methods using MATLAB	2+1	F, S	6
MENG-250	Engineering Mechanics: Statics	3	F, S	6
MENG-270	Strength of Materials	3	S	6
MENG-280	Fluid Mechanics	2+1	S	6

SCIENCE REQUIREMENTS Total ECTS:			ГS: 16	
CHEM-121	Environmental Chemistry	3+1	F	5
GEOL-121	Engineering Geology	3	S	5
PHYS-140	General Physics	3+2	F, S	6
MATH REQU	JIREMENTS	Total ECTS: 28		TS: 28
MATH-190	Calculus I	4	F, S	8
MATH-191	Calculus II	4	F, S	8
MATH-280	Linear Algebra I	3	F, S	6
MATH-330	Ordinary Differential Equations	3 F, S 6		6
LANGUAGE (English) REQUIREMENTS Total ECTS:		CTS: 6		
BADM-332	Technical Writing and Research	3	F, S	6

MAJOR ELECTIVES Required ECTS: 30			TS: 30	
A. CIVIL ENGINEERING				
CEE-401	Engineering Law and Contracts	3	F or S	5
CEE-421	Finite Element Structural Analysis	3	F or S	5
CEE-430	Geotechnical Engineering	2+1	F or S	5
CEE-432	Ground Improvement Techniques	3	F or S	5
CEE-444	Coastal Engineering	3	F or S	5
CEE-452	Steel Structures II	2+1	F or S	5
CEE-455	Bridge Analysis and Design	3	F or S	5
CEE-456	Pre-Stressed Concrete	3	F or S	5
CEE-457	Timber Structures	3	F or S	5
CEE-458	Masonry Structures	3	F or S	5
CEE-470	Transportation Plan and Design	3	F or S	5
CEE-490C	Special Topics in Civil Engineering	3	F or S	5
CEE-493C	Internship	0	F, S, Su	5
B. ENVIRO	DNMENTAL ENGINEERING			
CEE-443	Water Resource Engineering	3	F or S	5
CEE-462	Waste Management	3	F or S	5
CEE-463	Sustainable Buildings and Infrastructure	3	F or S	5
CEE-464	Air Pollution Engineering	3	F or S	5
CEE-465	Mathematical Models in Environmental Engineering	2+1	F or S	5
CEE-466	Environmental Biology and Applied Ecology	2	F or S	5

CEE-467	Industrial Waste Treatment Technolo- gies	2+1	F or S	5
CEE-468	Energy Efficiency of Buildings	3	F or S	5
CEE-490E	Special Topics in Environmental Engi- neering	3	F or S	5
CEE-493E	Internship	0	F, S, Su	5

F = Fall Semester, **S** = Spring Semester, **Su** = Summer Term

Important Notes regarding the Program's Major Electives:

Important Note 1: for the purpose of satisfying the graduation requirements, a student must take **30 ECTS** from any of the two categories of courses including a combination of the two categories (A or B).

Important Note 2: for the purpose of registration as Professional Engineer with the **Cyprus Scientific & Technical Chamber (ETEK)**, a student must take **30 ECTS** from any category including a combination of the two categories should s/he wishes to register as **Civil Engineer** or **45 ECTS** from the Environmental Engineering category should s/he wishes to register as Environmental Engineer (i.e. students wishing to register as **Environmental Engineers** will need to take 15 extra credits and graduate with **255 ECTS**).

Important Note 3: Some elective courses may not be offered every year. The number of elective courses offered in each semester is decided by the Department based on the number of students.

Semester Breakdown

Choosing the courses that you will study during each semester is very important and requires some planning. In order to plan properly your studies, you need to consult with your academic advisor and the Department of Academic Affairs (see also relevant info on page 19). You should also get familiar with your academic path and the semester timetable of courses offered which is available before the semester starts from the Department of Academic Affairs.

During pre-registration and registration periods, your advisor and the Department of Academic Affairs will help you choose the courses for each semester. You are strongly advised to go prepared to your consultation meetings. This preparation will result in shortening the time needed for deciding what to register for. More importantly, the preparation process will help you develop your initiative and contribute to your develop your personality, mature as a person and become an independent, self-confident, decisive and educated individual. Your initiative in learning, working towards your goals and objectives, making decisions and becoming an active member of our Department will be greatly appreciated.

A recommended semester breakdown for the Civil and Environmental Engineering program is following that leads to a 4-year duration of studies. **Considering that the** majority of the courses are offered either in Spring or in Fall semester only, any diversion from the proposed breakdown may affect greatly the duration of your studies. Moreover, the duration of your studies will also depend on your proficiency in the English language, your Mathematics background and on failures (if any) in courses that you will have to re-take.

COURSE CODE COURSE TITLE

ECTS CREDITS

	YEAR 1	
Fall Semester		
CEE-101	Introduction to Civil & Environmental Engineering	4
CEE-151	Building Construction Principles	5
CEE-152	Construction Materials	7
CHEM-121	Environmental Chemistry	5
MATH-190	Calculus I	8
Spring Semester		
COMP-111	Programming Principles I	6
CEE-112	Technical Drawing & CAD	5
MATH-191	Calculus II	8
PHYS-140	General Physics	6
GEOL-121	Engineering Geology	5

YEAR 2		
Fall Semester		
BADM-332	Technical Writing & Research	6
ENGR-280	Probability and Statistics for Engineers	6
MATH-330	Ordinary Differential Equations	6
MATH-280	Linear Algebra I	6
MENG-250	Engineering Mechanics: Statics	6
Spring Semester		
CEE-220	Structural Analysis I	5
CEE-280	Engineering Surveying	7
MENG-280	Fluid Mechanics	6
CEE-250	Construction Management	5
MENG-270	Strength of Materials	6

COURSE CODE COURSE TITLE

ECTS CREDITS

	YEAR 3		
Fall Semester			
CEE-260 Principle	s of Environmental Engineering	5	
CEE-320 Structura	al Analysis II	5	
CEE-330 Soil Mec	hanics	7	
CEE-461 Environr	nental Impact Assessment	5	
CEE-351 Reinforced Concrete I		5	
CEE-371 Road and Highway Engineering		5	
Spring Semester			
CEE-321	Structural Dynamics	6	
CEE-352	Steel Structures I	6	
CEE-353	Reinforced Concrete II	5	
CEE-422	Computer-Aided Structural Analysis and Design	5	
ENGR-290	Numerical Methods using MATLAB	6	

YEAR 4		
Fall Semester		
CEE-442	Wastewater Treatment	5
CEE-441	Hydraulics	7
CEE-491	Capstone Design Project I	4
CEE-454	Earthquake Engineering	5
CEE-	Major Elective 1	5
CEE-	Major Elective 2	5
Spring Semester		
CEE-431	Foundations and Retaining Structure Design	5
CEE-492	Capstone Design Project II	6
CEE -	Major Elective 3	5
CEE -	Major Elective 4	5
CEE -	Major Elective 5	5
CEE -	Major Elective 6	5

Courses list and Pre-requisites

Course Code/Name	Course Pre-Requisites
CEE-101 Introduction to Civil & Environmental Engineering	None
CEE-112 Technical Drawing and CAD	None
CEE-151 Building Construction Principles	None
CEE-152 Construction Materials	None
ENGR-280 Probability & Statistics for Engineers	MATH-191
CEE-220 Structural Analysis I	MENG-250
CEE-250 Construction Management	CEE-151
CEE-260 Principles of Environmental Engineering	None
CEE-280 Engineering Surveying	None
CEE-320 Structural Analysis II	CEE-220
CEE-321 Structural Dynamics	MATH-330, CEE-320
CEE-330 Soil Mechanics	MENG-250
MENG-280 Fluid Mechanics	MATH-191
CEE-351 Reinforced Concrete I	MENG-270, CEE-220
CEE-352 Steel Structures I	MENG-270, CEE-220
CEE-353 Reinforced Concrete II	CEE-351
CEE-371 Road and Highway Engineering	CEE-152
CEE-401 Engineering Law and Contracts	None
CEE-421 Finite Element Structural Analysis	ENGR-290, CEE-320
CEE-422 Computer-Aided Structural Analysis & Design	CEE-321
CEE-430 Geotechnical Engineering	CEE-330
CEE-431 Foundations and Retaining Structure Design	CEE-330
CEE-432 Ground Improvement Techniques	CEE-330
CEE-441 Hydraulics	MENG-280
CEE-442 Wastewater Treatment	CHEM-121
CEE-443 Water Resources Engineering	None
CEE-444 Coastal Engineering	MENG-280
CEE-452 Steel Structures II	CEE-352
CEE-454 Earthquake Engineering	CEE-321
CEE-455 Bridge Analysis and Design	CEE-353

CEE-456 Pre-Stressed Concrete	CEE-353
CEE-457 Timber Structures	CEE-320
CEE-458 Masonry Structures	CEE-351
CEE-461 Environmental Impact Assessment	CEE-260
CEE-462 Waste Management	CHEM-121, CEE-260
CEE-463 Sustainable Buildings and Infrastructure	CEE-151, CEE-260
CEE-464 Air Pollution Engineering	CHEM-121, CEE-260
CEE-465 Mathematical Models in Env. Engineering	ENGR-290, MATH-330
CEE-466 Environmental Biology and Applied Ecology	CEE-260
CEE-467 Industrial Waste Treatment Technologies	CHEM-121, CEE-260
CEE-468 Energy Efficiency of Buildings	CEE-151
CEE-470 Transportation Plan and Design	CEE-371
CEE-490C Special Topics Civil Engineering	Specified by the Department
CEE-490E Special Topics Environmental Engineering	Specified by the Department
CEE-491 Capstone Design Project I	Approval by the Department
CEE-492 Capstone Design Project II	Approval by the Department
CEE-493C Internship	Approval by the Department
CEE-493E Internship	Approval by the Department
CHEM-121 Environmental Chemistry	None
COMP-111 Programming Principles I	None
ENGR-290 Numerical Methods using MATLAB	MATH-191
GEOL-121 Engineering Geology	None
MENG-250 Engineering Mechanics: Statics	PHYS-140 or PHYS-150
MENG-270 Strength of Materials	MENG-250
PHYS-140 General Physics	MATH-190 (Corequisite!)
BADM-332 Technical Writing and Research	ENGL-101*
MATH-190 Calculus I	MATH-180 or MPT
MATH-191 Calculus II	MATH-190
MATH-280 Linear Algebra I	MATH-190
MATH-330 Ordinary Differential Equations	MATH-191

* ENGL-101 is not required as prerequisite for BADM-332 if the student achieves a high score in the placement assessment OR if he/she passes ENGL-100 which is the last course in a chain of language courses taken by the student that scored low in the placement assessment.

Short Description of Courses

1st Year courses

COURSE CODE/NAME:	CEE-101 Introduction to Civil & Environm	ental Engineering
NO OF ECTS CREDITS:	4	
PREREQUISITE:	None	TYPE: Required

The course is an introduction to the program of study, as well as to fundamental engineering concepts and required skills related to the Civil and Environmental Engineering discipline. Emphasis is given to the role of Engineers in the society and their contribution to the development of the infrastructure. The basic sub-disciplines and specializations in the field of Civil and Environmental Engineering are also examined.

COURSE CODE/NAME:	CEE-151	Building Construction Principles	
NO OF ECTS CREDITS:	5		
PREREQUISITE:	None		TYPE: Required

The course introduces students to the general considerations and analysis of building construction. In particular, the following areas are examined: Organization elements of the building worksite. Demolition of existing constructions, excavations-earthworks, specialized machinery for building construction, scaffolds. Safety, hygiene, and health protection at work. Building foundations, ground water control, waterproofing of building elements in contact with the ground. Structural and non-structural components. Types of construction materials, namely, reinforced concrete, steel, and timber. Wooden or metal forms for in situ concrete cast. Stairs, i.e., types, design, construction, and support. Masonry infill walls and their physical properties. Finishes. Fenestration, i.e., types and functions, criteria of selection, materials for frame and glazing, thermal and optical properties, components, solar protection, shutters, details. Wooden, metal, and reinforced concrete roofs. Thermal and moisture protection of pitched roofs. Flat roofs, types and morphologies, materials, thermal and moisture protection, as well as design details.

COURSE CODE/NAME:	CEE-152 Construction Materials	
NO OF ECTS CREDITS:	7	
PREREQUISITE:	None	TYPE: Required

This is a laboratory-based course, i.e., it combines both theory and laboratory testing. The main objective of the course is to give an insight on the various construction materials, while at the same time provide students with a hands-on experience on various material testing concepts and procedures.

In terms of theory, the course deals with the classification and characterization of various construction materials. Cement types, manufacturing methods and chemical composition. Hydration of cement, structure and strength of the hardened cement paste. Cement additions and their effects. Admixtures, i.e., plasticisers, superplasticisers, accelerators, retarders, and air-entraining agents. Aggregates, i.e., types of aggregates and classification. Definition of specific gravity, bulk density, porosity and absorption of aggregates. Concrete, namely, mix design of concrete, properties of fresh concrete and related tests. Plastic settlement, drying shrinkage, curing, creep, strength gain and temperature effects, durability issues. Laboratory

tests, including non-destructive and in-situ testing. Steel, i.e., raw materials and manufacturing processes. Types of steel used in construction, namely, hot-rolled and cold-formed steel, as well as reinforcing steel. Steel properties and grading. Durability issues and corrosion of steel. Bituminous materials and applications, with emphasis in road construction. Sources of bitumen and its main characteristics. Types of bitumen products, viscosity and rheology of binders. Grades of bitumen and tests for assessing the properties of bitumen. Requirements and testing of aggregates used in asphaltic mixtures. Types of bituminous mixtures, production methods, durability issues and ageing tests. Masonry, i.e., forms of masonry construction. Types of masonry units, e.g., fired clay, concrete and aircrete units and mortars. Mechanical properties and structural performance of masonry and reinforced masonry structures. Timber, i.e., types of wood and production process. Defects in wood, effects of moisture, physical and mechanical properties of timber, as well as common timber tests. Grades of timber, durability issues and preservation techniques. Composite materials, e.g., macroscopic, microscopic, fiberreinforced, and particle-reinforced composites, as well as application examples. Selection and sustainable use of construction materials. Factors affecting the selection of appropriate construction materials. Environmental issues. Sustainable use of construction materials, lifecycle assessment and green construction.

In terms of laboratory tests, these include: i) sieve analyses and grading of aggregates, ii) concrete mixing, iii) fresh concrete slump test, iv) fabrication and curing of specimens, v) non-destructive testing of concrete specimens, vi) compression and splitting tests of concrete specimens, vii) flexure tests of concrete specimens, and viii) tensile tests of steel specimens.

COURSE CODE/NAME:	CHEM-121 Environmental Chemistry	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	None	TYPE: Required

Introduction to the principles of general, physical, analytical and organic chemistry required to assist with understanding of the chemical processes related to environmental engineering. Explanation and analysis of the chemical reactions associated with pollution of terrestrial water, soil and atmosphere. The course contains also laboratory sessions related to: spectrophotometric methods of chemical analysis, volumetric analysis (acid-base reactions), pH and buffers, methods of separation, gravimetric analysis of seawater and drinking water, detection and measurement of benzene in drinking water, the effects of acid rain on construction materials, detection of metal ions by flame color.

COURSE CODE/NAME:	MATH-190 Calculus I	
NO OF CREDITS:	8	
PREREQUISITE:	MATH-180 or MPT	TYPE: Required

The main objectives of the course are to understand the notion of the limit and be able to evaluate them, understand the continuity of trigonometric functions, understand the derivative and make use of different differentiation techniques; use the derivative to analyze functions, introduced to the integral as a summation and evaluate indefinite and definite integrals.

COURSE CODE/NAME:	COMP-111 Programming Principles I	
NO OF ECTS CREDITS:	6	
PREREQUISITE:	None	TYPE: Required

The main objectives of the course are to introduce students to structured programming by means of the syntax and semantics of a structured high-level programming language, and provide students a good working knowledge of a programming language. This includes programming constructs such as expressions, selection statements, loops, functions and arrays. The course provides practical experience in problem solving, coding, debugging, and testing. It guides the student in order to develop good programming practices and obtain a foundation that will allow him/her to pursue more advanced programming topics.

COURSE CODE/NAME:	CEE-112 Technical Drawing and CAD	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	None	TYPE: Required

The main objectives of the course are to teach students how to use a structural analysis software for the static and dynamic analysis of structures, explain how the various structural analysis software applications work, familiarize students on how to assess and validate the computed results and how these are related to the modelling assumptions. An introduction to computer-aided design is performed. Emphasis is given on principles and practice of sketching, on theory and practice on plans, on sections and orthographic views, on dimensioning, design and working drawings and plotting. In addition, students are introduced to 3D modelling, as well as building information modelling.

COURSE CODE/NAME:	MATH-191 Calculus II	
NO OF CREDITS:	8	
PREREQUISITE:	MATH-190	TYPE: Required

The main objectives of the course are to study the indeterminate forms of limits, inverse trigonometric functions, methods of integration, introduction to sequences, infinite series and convergence tests, polynomial approximations and power series, use integration to evaluate area and volume.

COURSE CODE/NAME:	PHYS–140 General Physics	
NO OF CREDITS:	6	
CO-REQUISITE:	MATH-190	TYPE: Required

This course is calculus based and aims at introducing students to the basic concepts of mechanics. Laboratory experiments and computer applets/simulations enhance and consolidate the basic principles discussed in the theoretical section of the course. Upon completion, students should be able to demonstrate an understanding of the principals involved and display analytical problem-solving ability for the topics covered.

COURSE CODE/NAME:	GEOL-121 Engineering Geology	
NO OF CREDITS:	5	
PREREQUISITE:	None	TYPE: Required

The theory of plate tectonics and processes that take place on the Earth's interior and exterior. The erosion cycle, mechanical and chemical weathering of rocks and their consequences on the physical and mechanical properties of soils and rocks. Methods for controlling landslides and slope stability analysis. Field methods for geological exploration of soils and rocks. Geological maps.

2nd Year courses

COURSE CODE/NAME:	BADM-332 Technical Writin	g and Research
NO OF CREDITS:	6	
PREREQUISITE:	ENGL-101	TYPE: Required

The course aims to provide the student with knowledge for applying written communication skills at the workplace and present the principles and mechanics of formal and informal technical writing. Focus is given on the various types of technical essays, such as resume, business letters with focus on job application letters, memos and reports. The student is also introduced to the methods of primary research data collection (qualitative and quantitative), the structure of primary research papers (i.e. abstract, introduction, review of related literature, methodology section, analysis/results/discussion, conclusion, reference section, appendices) and various documentation styles.

COURSE CODE/NAME:	ENGR-280 Probability and Statistics for En	ngineers
NO OF ECTS CREDITS:	6	
PREREQUISITE:	MATH-191	TYPE: Required

The main objectives of the course are to familiarize students with the fundamental concepts of probability and statistics, develop an understanding of the role of statistics with emphasis on engineering applications, provide an understanding of the processes by which real-life statistical engineering and science problems are analysed, and acquaint students with computerbased statistical analysis. The course deals with descriptive statistics, and probability theory, i.e., concepts such as probability, discrete and continuous random variables and probability distributions, joint probability distributions and random samples, point estimation, statistical intervals and hypothesis testing (one and two samples), and ANOVA.

COURSE CODE/NAME:	MATH-330 Ordinary Differential Equation	S
NO OF CREDITS:	6	
PREREQUISITE:	MATH-191	TYPE: Required

The main objectives of this course are to provide students with all the necessary techniques for solving first order ordinary differential equations, to familiarize students with the concepts of linear independence, fundamental solutions, general solutions and Initial Value Problems, to develop and demonstrate solution methods for linear higher order equations, the introduction of applications and modelling using Ordinary Differential Equations, to provide students with the fundamentals of the power series method, familiarize students with the Laplace Transform and its applications.

COURSE CODE/NAME:	MATH-280 Linear Algebra I	
NO OF CREDITS:	6	
PREREQUISITE:	MATH-190	TYPE: Required

The main objectives of the course are to provide the fundamental theory of Linear systems of equations, introduce the students to the theory of Matrices, and develop the necessary skills in order for the students to be able to apply the theory of Matrices in the Linear Systems theory, provide the notions of eigenvalues, eigenvectors, and diagonalization of square matrices, develop the theory of vectors, familiarize the students with the theory of Linear transformations

and expose them on some of their main applications, develop the necessary skills to the students, in order to be capable of comprehending abstract algebraic notions, related to vector space theory, offer the fundamental concepts and the elementary theory of finite dimensional vector spaces.

COURSE CODE/NAME:	MENG-250 Engineering Mechanics: Static	s
NO OF CREDITS:	6	
PREREQUISITES:	PHYS-140 or PHYS 150	TYPE: Required

The main objectives of the course are to provide a thorough understanding of the principles governing the forces applied on objects in equilibrium, provide the necessary tools and mathematical background for the analysis of objects in equilibrium, develop problem solving skills for a wide variety of practical engineering problems that involve objects at rest; introduce techniques and methodologies for the effective analysis of objects and structures at rest, introduce tech concepts of supports and loads that are acting on a structural system under equilibrium conditions; develop the ability to determine internal and external forces and bending moments of structures and machines.

COURSE CODE/NAME:	CEE-220 Structural Analysis I	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	MENG-250	TYPE: Required

The course deals with the following: Classification of structures. Types of loads. Equilibrium of structures. External and Internal forces. Types of supports and internal releases. Static determinacy, indeterminacy, and instability. Calculating support reactions of planar determinate structures. Plane and space trusses. Determinacy and stability of plane trusses. Analysis methods, i.e., (i) method of joints, and (ii) method of sections (Ritter method). Complex and compound trusses. Identifying zero-force members. Analysis of simple space trusses. Simple and continuous (Gerber) beams. Internal forces and moment. Axial Force, Shear, and Bending Moment at a cross-section. Shear and Bending Moment Diagrams. Mathematical relation between bending moment, shear force and distributed load. Analysis of Frame structures. Axial, Shear and Bending moment diagrams. Deflections (Geometric Methods). Elastic curve. Qualitative deflected shape. Differential equation for beam deflection. Bernulli-Euler principle. Direct integration Method, Moment Area Method and Conjugate Beam Method for calculating deflections. Principle of superposition. Symmetry and Anti-symmetry. Influence lines of simple beam structures.

COURSE CODE/NAME:	CEE-280 Engineering Surveying	
NO OF ECTS CREDITS:	7	
PREREQUISITE:	None	TYPE: Required

The course introduces students to geomatics, and the importance and history of surveying. It is a course that combines both theory and field exercises. During the course, the following areas are covered: Coordinate systems, plane and geodetic surveys. Principles of surveying. Methods of location of a point. Introduction to surveying instruments. Errors in measurements sources, types of errors and their treatment. Methods of height determination. Levelling. Distance measurement, EDMs. Bearings Azimuths and angles. Total stations. Contours and Cross sections. Mapping.

COURSE CODE/NAME:	MENG-280	Fluid Mechanics	
NO OF ECTS CREDITS:	6		
PREREQUISITE:	MATH-191		TYPE: Required

The course deals with the following: Distinction between fluids (liquid and gases) and solids. System and control volume fluid methods of analyses, Lagrangian and Eulerian descriptions. Dimensions, units, and systems of dimensions. Continuum hypothesis, velocity fields, steady and unsteady flows. Viscosity, Newtonian and non-Newtonian fluids. Pressure, hydrostatic forces, buoyancy, floating and submerged bodies. Integral and differential analyses. Conservation of mass and continuity equation. Motion and deformation of fluid elements. Fluid vorticity, rotational and irrotational flows. Circulation and lift-generation. Stream function and the velocity potential. Bernoulli and energy equations. Dimensional analysis and non-dimensionalisation. Euler equations, incompressible Navier-Stokes equation, approximate solutions. Turbulent flows, fluid energy losses, generation of eddies, Reynold's number, fluid instabilities. Drag, friction and pressure drag, drag reduction, lift (force) theory, aerodynamic forces, Prandtl theorem, vortex theory.

COURSE CODE/NAME:	CEE-250 Construction Management	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-151	TYPE: Required

The course introduces students to Construction Management Principles. In particular, it deals with the following: Evaluate, Organize, Plan, Monitor, Control and Learn. Project Scope: Time/Schedule, Cost/Budget, Natural-, Political- and social environment. Project Financing and Evaluation. Dealing with Uncertainty. Issues with Bids. Bidding, negotiations, cost estimations. Bill of Quantities. Project Planning and deterministic Scheduling using MS Project software for Work Breakdown Structure (WBS), Gantt and bar charts reporting tools, Critical Path method (CPM) and representations. Project effective Control and basic Monitoring. Reporting performance. Introduction to Health and Safety for Construction Work Plan: Securing Justice, Construction Operational Activities, Enabling Activities. Health and Safety: Hazardous procedures, products and processes that should be eliminated from the project where possible. Health and Safety: Products, processes and procedures to be eliminated or reduced as far as possible and only specified/allowed if unavoidable. Health and Safety: Products, processes and procedures to be positively encouraged. Under Construction: The Basics. Managing Documents. Problems and Disputes.

COURSE CODE/NAME:	MENG-270	Strength of Materials
NO OF ECTS CREDITS:	6	
PREREQUISITE:	MENG-250	TYPE: Required

The course deals with the following: Stress and strain definitions. Elastic behavior of solids. Stress-strain diagram. Axial Loading. Uniaxial tension. Engineering beam bending theory. Torsion theory. Deflections of beams and thin walls cross-sections. Shearing stresses in beams and thin walls cross-sections. Plane stress and strain analysis. Elastoplastic behavior under axial loading. Stress and Mohr's circle. Yield and failure criteria, Von Mises and Mohr-Coulomb.

	3 rd	Year courses
COURSE CODE/NAME:	CEE-260	Principals of Environmental Engineering
NO OF ECTS CREDITS: PREREQUISITE:	5 None	TYPE: Required
	None	

The course deals with the following: Population, economic growth, industrialization, urbanization and energy-use as causes of environmental pollution. Mass and energy balance for environmental engineering systems under steady state and unsteady state conditions. Contaminant partitioning and transport in air, water and solids. Characteristics of particles, chemistry of solutions and gases, material balances, reaction kinetics, microbiology and ecology. Application of environmental principles to water resource management, water and wastewater treatment, air pollution control, solid waste management, environmental impact assessment, and environmental ethics. Thermal pollution, noise pollution, greenhouse effect, acid precipitation, ozone depletion, air toxics, and ground-level ozone and fine particulates (photochemical smog). Sustainable development, life cycle analysis, and principles of environmental quality objectives, standards and guidelines.

COURSE CODE/NAME:	CEE-320 Structural Analysis II	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-220	TYPE: Required

The course deals with the following: Virtual Work Method for calculating displacements in trusses, beams and frames. Indeterminate structures: Advantages and disadvantages. Compatibility of deformations. Force method of analysis: Beams, frames and trusses. Effects of support settlements and temperature changes. Analysis of indeterminate structures with internal and external redundant forces/moments. Displacement method of analysis: Kinematic indeterminacy, Slope-deflection equations. Moment distribution (Cross) method. Complex structures. Symmetry and anti-symmetry. Fundamentals of Matrix Structural Analysis. Introduction to the Matrix Stiffness Method.

COURSE CODE/NAME:	CEE-330 Soil Mechanics	
NO OF ECTS CREDITS:	7	
PREREQUISITE:	MENG-250	TYPE: Required

This is a laboratory-based course, i.e., it combines both theory and laboratory testing. In terms of theory, the main objectives of the course are to introduce the students to the soil origins and its categories (e.g., sands and clays) and methods of soils classification, help them understand the three-phase mixture theory (solid, liquid, and gas), understand the basic soil properties like unit weight, moisture content, void ratio, and degree of saturation. It teaches students how to calculate underground stresses and pore pressures due to self-weight loading and due to structure-weight loading. It helps students become familiarized with the concept of effective stress principle and its importance in soil-like deformations, failures and settlements. It helps students understand similarities and differences in the mechanical behavior between loose sands and normally consolidated clays, as well as similarities and differences between dense sands and over-consolidated clays. Numerical calculations for estimating soil strength and stress distribution within soil masses for design applications due to a variety of external loads are performed. The basic principles of groundwater flow and permeability in soils are presented. The importance of 1-D consolidation for fine-grained materials is underlined. Problems arising

from primary and secondary consolidation are presented and calculations for this physical problem are performed.

In addition, the course exposes students to laboratory equipment and experimental testing in soil mechanics. Students perform laboratory testing for estimating the physical characteristics of soils (Atterberg limits). They perform laboratory testing for understanding soil compaction processes with the Proctor method (Proctor test). They handle experimental data of permeability test under steady head. Students also perform laboratory testing of direct shear in soil like materials (granular), perform laboratory testing and collect data of the consolidation (oedometer) test for clay like materials, and perform the cone penetration test used in the site for calculating the density of soils.

COURSE CODE/NAME:	CEE-461 Environmental Impact Assessr	nent
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-260	TYPE: Required

The course deals with the following: Origins and development of Environmental Impact Assessment (EIA). Legislative background of EIA in Cyprus and the European Union (EU). The EIA process and its stages. Impact prediction, evaluation and mitigation measures. Participation, presentation, and review. Monitoring and auditing. Stakeholder involvement. Cyprus and EU practice overview to-date. Case studies of EIA in Cyprus and other countries.

COURSE CODE/NAME:	CEE-351 Reinforced Concrete I	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	MENG-270, CEE-220	TYPE: Required

The course introduces students to the history of concrete and applications. During the course, the following areas are covered: i) Concrete technology: Basic constituents of concrete. Concrete composition. Mechanical properties of concrete. Durability, shrinkage, and creep. Stress-strain response of concrete, ii) Reinforcing steel: Mechanical properties of reinforcing steel. Stress-strain curve and classification or reinforcing steel. Bond and anchorage of reinforcing steel in concrete. Limit states: Ultimate limit state and serviceability limit state, iii) Actions: Load combinations, load safety factors, Eurocode 1 provisions, iv) Analysis and design: Types of concrete members, basic design principles, actions, failure modes of members, safety factors, general code requirements, analysis of section forces (bending, compression and tension), v) Beam members: Rectangular and flanged (T) sections under pure bending, bending without axial force, bending with axial force, shear and torsion, and vi) Columns: Rectangular sections, bending with axial load, and M-N interaction diagrams.

COURSE CODE/NAME:	CEE-371 Road and Highw	vay Engineering
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-152	TYPE: Required

The course deals with the following: Transportation planning process. Forecasting future traffic flows. Scheme appraisal for highway projects. Basic elements of highway traffic analysis. Determining the capacity of a highway. The design of highway intersections. Geometric alignment and design. Highway pavement materials and design. Structural design of pavement thickness. Pavement maintenance. The highway engineer and the development process.

COURSE CODE/NAME:	CEE-321 Structural Dynamics	
NO OF ECTS CREDITS:	6	
PREREQUISITE:	MATH-330, CEE-320	TYPE: Required

The course deals with the following: i) Single degree of freedom (SDOF) systems: Dynamic loading, Inertia forces, Dynamic degrees of freedom, Equation of motion, Free vibration, Damping, Harmonic and periodic excitations of without and with damping, the various methods for the analytical and numerical evaluation of the dynamic response, seismic excitations, response spectrum, and ii) Multi degree of freedom (MDOF) systems: Equations of motion, Mass and stiffness matrices, the single-story building, Free vibration, Natural frequencies and mode shapes, Rayleigh damping matrix, Forced vibration, base excitations, evaluation of the response of MDOF systems, namely, modal analysis, response spectrum analysis, direct integration methods.

COURSE CODE/NAME:	CEE-352 Steel Structures I	
NO OF ECTS CREDITS:	6	
PREREQUISITE:	MENG-270, CEE-220	TYPE: Required

The course deals with the following: Steel technology. Steel as a structural material. Mechanical properties. Design principles and provisions according to European and international standards. Ultimate and serviceability limit states and safety factors. Steel section types and classification. Design of steel members under tension, compression, buckling, shear, and torsion. Elastic and plastic analysis and design principles. Basic connection design with bolts and welds.

COURSE CODE/NAME:	CEE-353 Reinforced Concrete II	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-351	TYPE: Required

The course deals with the following: i) Serviceability, durability and stability requirements: Detailing requirements, span-effective depth ratios, calculation of crack width, and calculation of deflections, ii) Slabs: Types of slabs, one-way and two-way slabs. Methods of analysis of slabs. Design of slabs for punching shear. Design of slabs for bending and shear. Serviceability limit state requirements. Floor-load distribution to beams, iii) Analysis and design: Analysis and design of various types of RC members according to EC2 and EC8, namely continuous beams, short and flexural columns, and footings. Role of stirrups and of confinement, iv) Construction detailing: Technical drawing, development of reinforcement, v) Introduction to earthquake-resistant design: Basic concepts of seismic design of reinforced concrete structures, ductility and brittleness, beam-column joints, role and behaviour of shear walls, requirements of Eurocode 8, and vi) Seismic performance: Ductility of RC members, introduction to non-linear analysis.

COURSE CODE/NAME:	CEE-422 Computer-Aided	Structural Analysis and Design
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-321	TYPE: Required

The course introduces students to the basic theory of the Finite Element Method, with an overview of the Direct Stiffness Method and its application in the analysis of trusses and framed structures. During the course, the following areas are covered: Modelling principles: Types of finite elements and their degrees of freedom, truss, beam, plane stress, plane strain, shell, solid elements, selection of appropriate elements for the various types of structures. Frame structures modelling: Beams, columns, stairs, plates and shells, shear walls, supports, diaphragms, masses, dynamic degrees of freedom. Programming: implementation of the direct stiffness method in MATLAB code, development of a simple algorithm to perform dynamic analysis of simple multi-degree of freedom systems. Finite Element Analysis Software: Capabilities, uses, advantages and limitations of structural engineering computer software, modelling a simple building, performance of static analysis, response spectrum analysis, direct integration dynamic analysis, non-linear analysis, post-processing of the results, combinations, design according to the European standards (Eurocodes).

COURSE CODE/NAME:	ENGR -290 Numerical Methods us	sing MATLAB
NO OF CREDITS:	6	
PREREQUISITE:	MATH-191, MATH-280	TYPE: Required

The main objectives of the course are to introduce the most essential numerical methods and computational techniques, provide understanding of basic mathematical concepts and principles which, along with numerical methods, can be used for the solution of problems in science and engineering, provide understanding of computational issues and commonly-used terms such as round-off error, degree of accuracy, rate of convergence, machine precision, etc., introduce MATLAB programming for the implementation of numerical algorithms for the solution of problems in science and engineering, develop computationally efficient and accurate algorithms for the solutions of problems.

4th year courses

COURSE CODE/NAME:	CEE-442 Wastewater Treatment	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CHEM-121	TYPE: Required

The course introduces students to wastewater collection and management. During the course, the following areas are covered: i) Wastewater characteristics: Physical, chemical and microbiological characterization of water and wastewater. Designing preliminary, primary, secondary and tertiary treatment processes. Wastewater reuse, nutrient recovery and energy issues. Wastewater biosolids treatment and application to agricultural land, and ii) Wetlands: principles and design criteria.

COURSE CODE/NAME:	CEE-441 Hydraulics	
NO OF ECTS CREDITS:	7	
PREREQUISITE:	MENG-280	TYPE: Required

The main objectives of the course are to introduce students to the main principles governing network hydraulics, explain the theory of water flow in pipes and open channels and the importance of pressure forces and surface friction, provide the fundamental knowledge on the design process of water and wastewater networks in urban areas, help students become familiar with open channel cross sections, hydrostatic pressure distribution and Manning's law, familiarize students with the design process of drainage systems, provide students the knowledge and the ability to take measurements in order to quantify the performance of a hydraulic system, provide the tools and knowledge for proper engineering design of pipeline systems and hydraulic structures, and provide students with a hands-on experience through laboratory experiments.

COURSE CODE/NAME: NO OF ECTS CREDITS: PREREQUISITE:

CEE-491 Capstone Design Project I

Approval by the Department

TYPE: Required

This course is the first part of the Capstone Design Project, which is divided into two semesters in the 4th year of studies. The students undertake a specific piece of independent research in the form of a critical review, a numerical analysis, a laboratory experimental investigation, or a field-based experimental investigation. The course helps students demonstrate technical understanding of the research project and ability to communicate the results to a wider audience by means of an oral presentation, teaches students important research techniques and practices, creates the foundation where the students will have the opportunity to utilize theoretical knowledge and engineering tools/techniques acquired throughout the years in order to design, build, and test their ideas, teaches students how to write reports and how to present their work in front of their colleagues, ensures that students know how to properly set up appropriate measurement and troubleshooting procedures including proper use of laboratory equipment, teaches students how to correctly plan their activities in order to successfully achieve their design goals and, more importantly, how to meet their own deadlines.

COURSE CODE/NAME:	CEE-454 Earthquake Engineering	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-321	TYPE: Required

The course deals with the following: i) Seismology. Causes of earthquake. Fault sources. Seismic waves. Damage mechanisms, ii) Characteristics of earthquake ground motion. Factors influencing earthquake response spectra. Influence of magnitude and duration on response, iii) Dynamic equilibrium. SDOF, MDOF systems' elastic and inelastic response, iv) Seismic design. Equivalent static lateral force procedure, v) Code provisions' philosophy. Basic issues of Eurocode 8, vi) Configuration characteristics and their effects. Seismic significance of architectural considerations. Seismic issues in the design process, vii) Diaphragm behaviour and rigidity. Factors influencing, viii) Nonlinear static (pushover) analysis. P-delta and lateral stability, ix) Seismic resistance design of structures, and x) Introduction to structural seismic control. Energy dissipation. Seismic isolation.

COURSE CODE/NAME:	CEE-431 Foundations and	Retaining Structure Design
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-330	TYPE: Required

The main objectives of the course are to introduce students to the main concepts and techniques involved in shallow and deep foundations analysis and design, teach students to calculate the soil strength (ultimate bearing capacity) where geotechnical structures will be built for shallow foundations. Help the students understand the basic calculations for the stresses that are developing due to self-weight loading and due to geotechnical structure-weight loading. Teach students how to calculate the ultimate bearing capacity and estimate the factor of safety of the soil where the structures will be built under special conditions (e.g. layered soils, on top of slopes weak soils). Provide applications of numerical calculations for estimating the allowable bearing capacity and settlement in shallow foundations with computational tools. Provide techniques and specialized technical knowledge to help the students understand the earth lateral pressure useful in the design of retaining walls, sheet pile walls and slope stability analysis, explain major issues involved in the design of pile foundations, brace cuts and mat foundations, and introduce students to building code regulations.

COURSE CODE/NAME:CEE-492Capstone Design Project IINO OF ECTS CREDITS:6PREREQUISITE:Approval by the DepartmentTYPE: Required

This course is the second part of the Capstone Design Project, which is divided into two semesters in the 4th year of studies. The students undertake a specific piece of independent research in the form of a critical review, a numerical analysis, a laboratory experimental investigation, or a field-based experimental investigation. The course helps students demonstrate technical understanding of the research project and ability to communicate the results to a wider audience by means of an oral presentation, teaches students will have the opportunity to utilize theoretical knowledge and engineering tools/techniques acquired throughout the years in order to design, build, and test their ideas, teaches students how to write reports and how to present their work in front of their colleagues, ensures that students know how to properly set up appropriate measurement and troubleshooting procedures including proper use of laboratory equipment, teaches students how to correctly plan their activities in order to successfully achieve their design goals and, more importantly, how to meet their own deadlines.

Elective courses (Group A – Civil Engineering)

COURSE CODE/NAME:	CEE-401 Engineering Law and Contracts	S
NO OF CREDITS:	5	
PREREQUISITE:	None	TYPE: Elective

The course introduces the students to the legal system and its application to civil engineering contract law, as well as to public procurement, contract management and methods for resolution of disputes in contracts. The student becomes familiar with the types of construction and types of construction contracts, contract parties and relevant documentation. Practical examples and case studies are used to explain basic principles of the construction contracts law and dispute resolution methods.

COURSE CODE/NAME:	CEE-421 Finite Element Structural Analy	ysis
NO OF CREDITS:	5	
PREREQUISITE:	CEE-320, ENGR-290	TYPE: Elective

The fundamental principles underlying the Finite Element Method are explained to students, which are taught how to appropriately build simple Finite Element Models utilizing a Finite Element Software application to solve practical engineering problems. The course includes: the stiffness method theory, mathematical interpretation of finite elements, shape functions, formulation of the stiffness matrix, treatment of boundary conditions, isoparametric finite elements, frame structures, plates and shells, meshing, symmetric and antisymmetric models, numerical errors and accuracy assessment, elasticity problems, dynamics and vibrations problems.

COURSE CODE/NAME:	CEE-430 Geotechnical Engineering	
NO OF CREDITS:	5	
PREREQUISITE:	CEE-330	TYPE: Elective

Presentation of the most common geotechnical problems in civil engineering infrastructure and introduction to various analytical and computational methods that can be used for their solution. Explanation of physical phenomena related with soil and rock mechanics, such as expansive soils, landslides and liquefaction. Overview of several ground investigation methods at the site (in-situ) and various perspective measures for ground improvement and stabilization. Utilisation of computational methods and specialised software for analysing common geotechnical problems, such as slope stability or stability assessment of deep excavations and rock masses.

COURSE CODE/NAME:	CEE-432 Ground Improvement Technique	Jes
NO OF CREDITS:	5	
PREREQUISITE:	CEE-330	TYPE: Elective

The course aims to provide the basic knowledge regarding the analysis and design of foundations in weak soils. Explanation of the main characteristics of week soils, such as soft soils and expansive soils or loose rock formations. Presentation of various techniques for controlling landslides and improving slope stability, soil reinforcement methods, soil improvement using compaction, preloading with vertical drains to reduce settlements, cast-in-place drilled shafts to allow excavations in week soils, principles of design underground structures in week soils.

COURSE CODE/NAME:	CEE-444 Coastal Engineering	
NO OF CREDITS:	5	
PREREQUISITE:	MENG-280	TYPE: Elective

The course deals with the sea wave propagation theories and their application to common coastal engineering problems. The course contents include: basics of two-dimensional ocean wave theory, linear water waves and kinematics, pressure, wave energy and power, group celerity, coastal water level fluctuations (storm surge, tides, tsunamis, seasonal and long-term fluctuations), wind-generated waves, wave hind casting and forecasting, wave transformations, shoaling, refraction, diffraction, breaking, reflection, wave run-up, coastal structures and hydro-dynamic forces (revetments, bulkheads/seawalls, groins, and breakwaters), coastal processes (cross-shore and long-shore currents, sediment transport, beach response and profiles), engineering design and risk analysis, coastal management issues.

COURSE CODE/NAME:	CEE-452 Steel Structures II	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-352	TYPE: Elective

The course deals with more advanced Steel Design issues, which are not or partially covered in the major requirement CEE-352 Steel Structures I. Specifically, the course contents focus on advanced connection design (i.e. beam-to-column joints, beam-to-beam joints, column-base joints, etc), overview and design of various types of bracing systems, applications of steel structures (e.g. complex trusses, braced frames, space frames), design of steel members under compression and bi-axial bending, lateral and lateral torsional buckling. The course also provides an introduction to design of composite structures.

COURSE CODE/NAME:	CEE-455 Bridge Analysis and Design	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-353	TYPE: Elective

The course introduces the students to the principles of structural analysis and design of bridges, with an emphasis on concrete bridges. Specifically, the students are first introduced to the terminology and the various components of a typical bridge, as well as to the main functional, economic, aesthetic, geotechnical and other considerations regarding the design and construction of such structure. Then, the fundamentals regarding the definition of loads on bridges according to Eurocodes are explained (gravity, traffic, wind and seismic loads). The most important issues regarding structural modeling of bridges are discussed (discretization methods, frame models, detailed finite element models, sub-soil and foundation modelling issues, modelling of pre-stressed bridges). Details about specific analysis issues (e.g. influence lines for moving loads, load combinations for the worst-case scenario), as well as design processes (e.g. for static and moving loads according to codes) and minimum design requirements are presented.

COURSE CODE/NAME:	CEE-456 Pre-Stressed Concrete	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-353	TYPE: Elective

Introduction to the fundamental principles of pre-stressed concrete, the materials and systems for pre-stressing, analysis of pre-stressed members and the load-balancing method, estimation of pre-stress losses, flexural design of pre-stressed beams, shear and torsional design, tendons and anchorage systems, indeterminate pre-stressed concrete beams, concordant tendons, camber, serviceability design (deflection and crack control), precast concrete members.

COURSE CODE/NAME:	CEE-457 Timber Structures	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-320	TYPE: Elective

The types of timber and production process, the physical properties and defects in wood, engineered wood products, mechanical properties, strength grading of timber and strength classes, moisture effects, common testing procedures, durability issues and preservation techniques, introduction to Eurocode 5 and the relevant design requirements and design principles (safety factors, design values, classification of actions, Design Limit states), design examples (beams in flexure, shear, torsion, compression members, design of simple joints).

COURSE CODE/NAME:	CEE-458 Masonry Structures	
NO OF ECTS CREDITS:	5	
PREREQUISITE:	CEE-351	TYPE: Elective

Overview of the various types of masonry, physical and mechanical properties of masonry materials, types and characteristics of masonry units, properties of mortar. Principles of reinforced masonry, reinforcing steel and concrete infill (grout). Mechanical properties and deformation properties of masonry walls, common site and laboratory testing procedures. Durability issues. Types of loads on masonry structures, including seismic loads. Modelling and analysis methods. Application of the design principles on simple examples of plain or reinforced masonry walls (ultimate and serviceability limit states verification). Construction detailing. Pre-stressed masonry.

COURSE CODE/NAME: CEE-470 Transportation Plan and Design

NO OF ECTS CREDITS: 5 PREREQUISITE: CEE-371

TYPE: Elective

The course deals with the following: The transportation planning and design process. Urban public transport characteristics: public transportation, pedestrians and bicyclists and parking. Freight transport characteristics: the supply chain, unification and packaging, logistics, freight transport modes, intermodal and special freight transport. Information technology and its application to the transportation sector: the fundamentals of the intelligent transportation systems (ITS). Transport data collection methods: transport surveys, big data and transport planning and analysis techniques. The concepts of smart transportation, smart cities, and sustainable mobility. Environmental impacts of the transportation sector.

COURSE CODE/NAME:	CEE-490C Special Topics in Civil E	ngineering
NO OF CREDITS:	5	
PREREQUISITES:	Specified by the Department	TYPE: Elective

The main objectives of the course are to introduce students to topics on emerging technologies and innovative tools of analysis and design in the areas of Environmental Engineering, as well as to provide students with knowledge on topics of current but unusual interest which are not usually covered in undergraduate curricula.

COURSE CODE/NAME:	CEE-493C Internship	
NO OF CREDITS:	5	
PREREQUISITES:	Approval by the Department	TYPE: Elective

The main objectives of the course are to provide real world work experience to the students, allow the students to explore different working options and alternatives, provide specific to targeted company training to the students, allow them to interact with professional engineers and gain from their experience. At the same time give the companies the opportunity to assess the knowledge and capabilities of the students, establish communication between students and companies creating potential employment opportunities, as well as establish communication between companies and the department for further collaboration in training and research. Detailed guide regarding the Internship course can be found in Appendix A.

Elective courses (Group B – Environmental Engineering)

COURSE CODE/NAME:	CEE-443 Water Resources Engineering	
NO OF CREDITS:	5	
PREREQUISITES:	None	TYPE: Required

The course deals with the following: Fundamentals of surface water hydrology. Water withdrawals and uses (water for energy production, water for agriculture, water supply/withdrawals, water demand, drought management, analysis of surface water supply). Water distribution (system components, system configuration and operation, network hydraulics, pump system analysis, network simulation and modeling). Water for hydroelectric generation. Rainfall-runoff modelling. Flood control. Storm water control, namely storm sewers and detention, and street and highway drainage and culverts. Sedimentation and erosion of hydraulics. Water resources management for sustainability.

COURSE CODE/NAME:	CEE-462 Waste Management	
NO OF CREDITS:	5	
PREREQUISITES:	CEE-260, CHEM-121	TYPE: Required

The course deals with the following: Categories of wastes. Ways to solid waste management. History of waste management in different countries. Regulations and laws governing waste management. Characterization of solid wastes. Solid waste collection. Recycling solid wastes (paper, glass, plastic, aluminum, ferrous metals, tires, rubber, food, etc.). Solid waste processing and material recovering facilities. Composting municipal solid wastes. Incineration of municipal solid wastes. The sanitary landfield. Identification of hazardous wastes. Transportation of hazardous wastes. Electronic wastes.

COURSE CODE/NAME:	CEE-463 Sustainable Buildings and Infras	tructure
NO OF CREDITS:	5	
PREREQUISITES:	CEE-260, CHEM-121	TYPE: Elective

The course deals with the following: Ethics and sustainability. The green building concepts. Environmental and resource concerns. Green building assessment. Conventional versus green building delivery systems. Green building process. Ecological design. Sustainable sites and landscaping. Energy issues and atmosphere. The building hydrologic system. Building materials and products. Construction operations. Building commissioning. Economic analysis of green buildings.

COURSE CODE/NAME:	CEE-464 Air Pollution Engineering	
NO OF CREDITS:	5	
PREREQUISITES:	CEE-151, CEE-260	TYPE: Elective

The course deals with the following: Air pollutants, sources and their effects. Regulations and legislature. Meteorology and air pollution. Dispersion of pollutants in the atmosphere. Particulate control. General control of gasses and vapors. Control of sulfur oxides and other acid gases. Control of nitrogen oxides from stationary sources. Emissions from mobile sources based on different types of engines.

COURSE CODE/NAME:	CEE-465 Mathematical Models in Environ	mental Engineering
NO OF CREDITS:	5	
PREREQUISITES:	ENGR-290, MATH-330	TYPE: Elective

The course deals with the following: Fundamentals and principles of modelling. Introduction to Modflow. Transport and diffusion in environmental systems. Solution of transport and diffusion. Transport and Sorption. Flow modelling (water, air). Groundwater drawdown by pumping (fluid flow in porous media: soil). Advance mathematical methods with MATLAB (Matched asymptotic expansions, boundary layer).

COURSE CODE/NAME:	CEE-466 Environmental Biology and Appli	ied Ecology
NO OF CREDITS:	5	
PREREQUISITES:	CEE-260	TYPE: Elective

The course deals with the following: Systems and ecosystems. Categories of organisms with a focus on animals, plants, and micro-organisms, their role in the environment, and the history of

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life on earth. Interactions of organisms and environment, responses of organisms, mostly animals, plants and micro-organisms, to environmental stimuli and stress, and the ways in which organisms interact with their biotic and abiotic environment. Organisation at population and ecosystem level, underpinning environmental processes, such as nutrient cycling, ecosystem services, ecological succession, ecology and evolution of organisms. Fundamentals of environmental problems, degradation of terrestrial and aquatic environments, urban environment, and pollution. Management of environmental problems, pollution control technology, tools for environmental analysis, evaluation, and management. Biodiversity and landscape protection, multiple dimensions, social issues, and conservation methods. Environment and development, impacts of technology, sustainable development, ecological approaches and future prospects.

COURSE CODE/NAME:	CEE-467 Industrial Waste Treatment Tech	nnologies
NO OF CREDITS:	5	
PREREQUISITES:	CEE-260, CHEM-121	TYPE: Elective

The course deals with the following: Evaluation and selection of industrial waste treatment systems. Treatment evaluation process for industrial wastewater, air emissions, and solid wastes. Laws and regulations concerning water pollution, groundwater pollution, and air pollution. Pollution prevention (air, groundwater, etc.). Characteristics of industrial wastewater, discharges to the atmosphere, and solid waste streams from the factories. Methods of treating wastewater from industry including waste equalization, pH control, chemical methods of treatment, biological methods of treatment, aerobic technologies, and physical methods. Methods of treating air discharges to the atmosphere. Solid waste treatment methods (e.g., the method of composting industrial wastes, solid waste incineration, solid waste landfill cover and cap systems, etc.). During the course, case studies from different industries (e.g., manufacture of lead acid batteries, synthetic rubber industries, cement industries, wine/beer making industries, etc.) are presented and educational visits to local industries for evaluation and further study of the waste treatment methods and technologies used, are conducted.

COURSE CODE/NAME:	CEE-468 Energy Efficiency of Buildings	
NO OF CREDITS:	5	
PREREQUISITES:	CEE-151	TYPE: Elective

The course deals with the following: Introduction to Energy efficiency in buildings. Lighting in buildings. Fundamental issues and building physics, i.e., basic concept of heat and moisture transport through building materials. Hygrothermal properties of building materials. U-value and thermal capacity calculations for various types of building elements. Calculation of heat losses and heating energy needs in buildings. Thermal insulation and moisture monitor practices. Insulation materials. Thermal comfort in buildings. Air-conditioning, heat pumps, domestic hot water, lightning, ventilation systems, renewable energy systems. Ventilation, air quality and airtightness in buildings. Principles of bioclimatic building design. Energy performance certification of buildings

COURSE CODE/NAME:	CEE-490E Special Topics in Environmenta	al Engineering
NO OF CREDITS:	5	
PREREQUISITES:	Specified by the Department	TYPE: Elective

The main objectives of the course are to introduce students to topics on emerging technologies and innovative tools of analysis and design in the areas of Environmental Engineering, as well as to provide students with knowledge on topics of current but unusual interest which are not usually covered in undergraduate curricula.

COURSE CODE/NAME:	CEE-493E Internship	
NO OF CREDITS:	5	
PREREQUISITES:	Approval by the Department	TYPE: Elective

The main objectives of the course are to provide real world work experience to the students, allow the students to explore different working options and alternatives, provide specific to targeted company training to the students, allow them to interact with professional engineers and gain from their experience. At the same time give the companies the opportunity to assess the knowledge and capabilities of the students, establish communication between students and companies creating potential employment opportunities, as well as establish communication between companies and the department for further collaboration in training and research. Detailed guide regarding the Internship course can be found in Appendix A.

Contact Information

Dean of the School of Sciences and Engineering



Dr George Gregoriou, HTI Dipl., BSc, MSc, PhD Associate Professor (Dean) Electrical Engineering Office: M209b, Tel.: 22-841650

E-mail: gregoriou.g@unic.ac.cy

Head of the Department of Engineering



Dr Stelios Neophytou, Dipl.-Ing, PhD Associate Professor (Head) Computer Engineering Office: RT-B6, Tel.: 22-842518

E-mail: neophytou.s@unic.ac.cy

Coordinator of the CEE Program



Dr. Panayiotis Polycarpou, DiplEng, MSc, PhD Associate Professor (Program Coordinator) Structural Engineering & Dynamics Office: RT-B37, Tel.: 22-842598

E-mail: polycarpou.p@unic.ac.cy

Teaching Faculty of the Department of Engineering

Prof. Demetris Drikakis, PhD, CEng, FRAeS Professor Fluid Mechanics Tel.: 22-841947 E-mail: drikakis.d@unic.ac.cy
 Dr Marios Nestoros, BSc, MSc, PhD Associate Professor (Associate Dean) Physics Office: RT-B48, Tel.: 22-842517 E-mail: nestoros.m@unic.ac.cy
Dr Ernestos Sarris, BSc, MSc, PhD Associate Professor Geotechnical Engineering Office: RT-B39, Tel.: 22-842590 E-mail: sarris.e@unic.ac.cy

	Dr. Marios Kyriakides, DiplEng, MSc, PhD
100	Structural Design & Earthquake Engineering
	Office: R1-B50, 161.: 22-842538
	E-mail. kynakides.m@unic.ac.cy
	Assistant Professor
1200	Computer-Aided Structural Engineering Office: RT- 146, Tel.: 22-842543
	E-mail: papaloizou.lo@unic.ac.cy
\bigcirc	Dr Angelos Dados, BSc, MSc, PhD
por	Adjunct Faculty Environmental Chemistry
E	
1	E-mail: dados.a@unic.ac.cy
	Dr. Tatiana Gialama, DiplEng, MSc, PhD
	Adjunct Faculty
	E-mail: gialama.t@unic.ac.cy
	Dr Styliani Karra, BSc, MSc, PhD
	Adjunct Faculty Environmental Engineering
	E-mail: karra.s@unic.ac.cy
-	Dr Paris Pittakaras, BSc, MSc, PhD
100	Adjunct Faculty
	E-mail: pittakaras.p@unic.ac.cy
	Dr. Yianna Samuel, BSc, MSc, PhD
a m	Adjunct Faculty
e l	
an 1	E-mail: samuel.y@unic.ac.cy

Teaching Faculty from other Departments



Prof. Marios Christou, BSc, MSc, PhD Professor Mathematics Office: RT-B12, Tel.: 22-842515 E-mail: christou.ma@unic.ac.cy

	Prof. Nectarios Papanicolaou, BSc, MSc, PhD Professor Mathematics Office: B211, Tel.: 22-841666 E-mail: papanicolaou.n@unic.ac.cy
	Dr George Chailos, BSc, MSc, PhD Associate Professor Mathematics Office: B218, Tel.: 22-841667 E-mail: chailos.g@unic.ac.cy
	Dr Andreas Savva, BSc(Hons), PhD Associate Professor Computer Science Office: B215, Tel.: 22- 841654 E-mail: savva.a@unic.ac.cy
R	Dr Antonia Lemonari – Sophocleous, DiplEng, MSc, PhD Assistant Professor Construction Processes and Architecture Office: Arch102, Tel.: 22-842623 E-mail: sophocleous.t@unic.ac.cy

Administrative staff

<u>Christos Theocleous</u> Director of Academic Advising Department of Academic Advising Tel: 22-841524, 22-367050 | Email: theocleous.c@unic.ac.cy

Maria Panayiotou Demetriou Registrar Department of Academic Affairs Tel: 22-841507 Email: panayiotou.m@unic.ac.cy

<u>Charis Iacovidou</u> School Secretary Tel: 22-841696

Email: iacovidou.c@unic.ac.cy

APPENDIX A - CEE-493 Internship Study Guide

BACKGROUND

The Civil and Environmental Engineering (CEE) program does not have to be taught entirely from a classroom environment. Just like many other programs at the University of Nicosia, as well as numerous similar programmes at other universities, a hands-on experience will eventually form a vital part of a student's knowledge, skills, and competencies and will impact positively on the resume that students would like to have by the time they have completed their degree.

The course CEE-493 Internship aims to a structured and career-relevant supervised professional work/learning experience, within an approved relevant company/organization/institution, for which CEE students can earn academic credits essential for fulfilling their graduation requirements. Working under the supervision of a qualified professional Engineer the student is given tasks that are within the scope of the student's knowledge, skills, and competencies.

PRACTICUM OBJECTIVES

The practicum involves the student being placed in a field site where the student observes and supports in the provision of CEE services.

The main objectives of the course are to:

- Give the student the opportunity to get real exposure to the CEE world and practice.
- Facilitate student understanding of the practical issues of applying the CEE knowledge to practice.
- Expose students to the demands of the industry.
- Allow the students to explore different working options and alternatives.
- Expose students to professional issues and problems in the delivery of CEE services.
- Provide students an opportunity to learn and improve their CEE knowledge as well as their competencies and skills in a real-life environment.
- Give the companies the opportunity to assess the knowledge and capabilities of the students and provide valuable feedback to the student.
- Enable and empower the student to report on this experience in a convincing, effective and meaningful way, relating theory to practice in the CEE field.
- Provide students with an opportunity to re-think of their career goals in the selected industry through self-evaluation.
- Establish communication between students and companies creating potential employment opportunities.

• Establish communication between companies and the department for further collaboration in training and research.

PRACTICUM LEARNING OUTCOMES

After completion of the course, students are expected to:

- 1. Demonstrate knowledge for a subject relevant to the undergone internship.
- 2. Understand professional operations and activities.
- 3. Explain regulations and legal obligations related the internship subject.
- 4. Describe the company's process and comment on their efficiency.
- 5. Understand the market needs and potentials.
- 6. Understand the employers' expectations and demands.
- 7. Acquire further actions to enrich his/her academic and professional profile to match the market requirements.
- 8. Be able to extend his/her theoretic knowledge in a practical extent for most of the courses taken in the University.

PRACTICUM OPPORTUNITIES

Students should fulfil their practicum requirements in a Civil or/and Environmental Engineering related field such as:

- Structural Engineering firms
- Environmental Engineering firms
- Construction companies
- Laboratories
- Research institutions/organisations
- Other related establishments

The Department of Engineering will assist students seeking a job placement for their Internship but students may also seek a relevant host organization for their own practicum placement, upon permission by the Head of the Department or the Programme Coordinator.

PRACTICUM CONTENT:

- Introduction to the practicum, practicum requirements and relevant labor legislations.
- Studying or revising theoretical material associated with the practical work.
- Supervising and guiding of the student by the responsible faculty member and the host supervisor (Engineer) in order for the student to connect and relate

his/her practical experiences to theoretical principles that relate to Civil and Environmental Engineering.

- Signed Learning Agreement by relevant parties.
- · Completing the Log-Book with daily activities
- Composition of a Self-Reflection Report
- Student evaluation by employer/host at end of practicum.
- Practicum Supervisor Assessment of the student

LEARNING ACTIVITIES AND TEACHING METHODS:

Depending on the work placement, the student may be involved in:

- · Structural analysis and design procedures
- Visits at construction sites
- Utilization of engineering software applications
- · Computational or experimental research
- · Laboratory or in-situ tests
- Quantity surveying
- Professional training sessions or seminars
- Collaborative work with professionals from related fields of expertise
- Meetings (participate or witness)

The student must have regular meetings and discussion with the host supervisor, and occasionally with the academic supervisor. During the internship, students are expected to keep a log, recording daily the different activities experienced, clearly reporting their involvement. The log will be verified weekly by the student supervisor in the host company/organization, monitored and approved by the faculty member responsible for the internship.

ASSESSMENT METHODS:

The student is required to work for a period of about 150-180 hours in the field under the supervision of an experienced professional Civil or Environmental Engineer. After initial placements are made, students must work on and eventually deliver the following:

- Internship Log-Book (Document A2), where daily activities related to the context of the placement are recorded.
- Self-Evaluation Form/Questionnaire (Document A3).
- Self-Reflection Report (Document A4), reflecting their feedback on the internship experiences.

• Short **Oral Presentation** in the presence of the supervisors and other faculty, where the most important aspects of the internship must be summarized.

At end of the internship, the host-supervisor will assess the intern student by completing the **Internship Assessment Form** (Document **A5**). The completed form will then be sent confidentially to the academic supervisor. If the circumstances allow it, the academic supervisor may validate the work-placement by a visit.

STUDENT PRACTICUM DETAILS:

- 1. The Practicum is an elective course in the students' academic path and just like all other academic courses, the practicum will be graded according to the university's grading scale based on the fulfilment of the course requirements.
- The duration of the practicum is for an academic semester and an average of 150
 180 hours of work-placement at the host organization.
- 3. The Internship course is a 5 ECTS course. Students are expected to register and pay for such courses just like any other courses.
- 4. Students <u>cannot</u> under any circumstance change the host organization during an Internship.
- 5. If the student fails to live-up to the reasonable expectations of the host, the practicum will be terminated and the student will be given an INCOMPLETE grade. The student will be responsible for arranging to make up the incomplete within the framework of the university's regulations.
- The rights and obligations of the host organization, the UNIC, the student, and the Practicum Coordinator are prescribed in a relevant *Placement Agreement* (Document A1), which will be signed by all relevant parties.
- 7. The student is responsible to keep, on a weekly basis, a *Logbook* (Document A2) recording the activities of his/her practical experience. The purpose of the log is to help the student focus on his/her personal experiences and professional growth and to reflect on issues arising through that experience. The host supervisor must review and <u>sign</u> the logbook every week. The completed logbook with all signatures must be submitted to the Academic Supervisor after the completion of the internship and it counts towards the student's assessment.
- 8. Students are also required to complete a **Self-Evaluation Form (questionnaire)**, which also counts for the students' grade (Document **A3).** The purpose of this questionnaire is to provide valuable feedback and to help improve the internship's learning environment for the future students.
- The student should also submit the *Internship Self-Reflection Report* (Document A4), which should be about 2,000 words and will record the working experience the student had in regard to the duties and responsibilities s/he had undertaken. This report also counts towards the student's grade.

- 10. After the completion of the Internship, the student must prepare and conduct a short *presentation* in front of the faculty and the host supervisor (if possible), focusing on the most important aspects of his/her experience and the acquired knowledge. The presentation will also account towards the total grade.
- The host organizations' supervisor will complete and submit a 'Student Evaluation Report' (Document A5), which also counts towards the student's overall assessment.
- 12. The academic supervisor assesses the student and submits a grade for this course by taking into account the university's assessment scheme and the student's performance on all course assessment requirements.
- 13. Students finding a host by themselves must inform in writing the programme coordinator, and provide him/her with all relevant information, and receive his/her approval for the host in order to proceed with all necessary arrangements.
- 14. Students should not forget that while on their practicum they represent their Department, their School and the University of Nicosia, as well as their own future professional self. So students are expected to put forth their greatest professional effort throughout their internship.
- 15. Relevant information regarding the Internship course can be found in the *Course Outline* (Document A6).

LIST OF SUPPLEMENTARY DOCUMENTS

- Document A1: Student Placement Agreement (completed by Student, signed by all parties)
- Document A2: Internship Log-Book (completed by Student, signed by Host Supervisor)
- Document A3: Student's Placement Self-Evaluation Form (completed by the Student)
- Document A4: Self-Reflection Report (completed by the Student)
- Document **A5**: Internship Assessment Report (completed by the Host Supervisor/mentor)
- Document A6: CEE-493 Course Outline