



NEAR EAST UNIVERSITY

GRADUATE SCHOOL OF APPLIED SCIENCES

COMPUTER INFORMATION SYSTEMS

MASTER DEGREE PROGRAMME



STUDENT HANDBOOK

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1. MESSAGE OF DIRECTOR OF INSTITUTE

Commencing to academic life or specialization after the basic university education begins with the graduate programs and advances further. The Near East University considering this fact, gives importance to graduate and post-graduate studies in science-based branches, in other words, to Master of Science (MSc) programs and PhD programs. NEU Institute of Applied Sciences was established for this purpose and offers quality graduate and postgraduate education with well-qualified teaching staff in ten branches including basic sciences, engineering, architecture and maritime studies. The Institute of Applied Sciences is also carrying out the necessary studies to increase the number of scientific branches, particularly in interdisciplinary scientific branches.

Acceptance and admission of students to graduate programs starts at the beginning of each academic term through the determination of quotas by the department in charge of implementing the program. In the following process, the Rectorate makes the relevant announcement in accordance with the academic calendar. The relevant information on procedures to be followed throughout the application process can be obtained from both NEU Student Affairs Office and from the web page of the institute. Further information regarding the admission procedures to the graduate programs is provided at the NEU Graduate Regulations which is available at the websites of each institute.

Almost all graduate students enrolled to graduate or postgraduate programs are either research staff of the university or someone who work elsewhere. Thus, ensuring regular attendance to courses is only possible by determining the most appropriate course hours for each student. Becoming aware of this necessity, the teaching and administrative staff of the departments of the institute implement flexible course hours. For example, the courses may be given after the regular office hours, or at the weekends.

Graduate students can benefit from all rights provided for students by the university and, during the courses and thesis preparations process, can also benefit from all facilities of the Grand Library and laboratories.

At the programs of the Institute of Applied Sciences, it is possible to carry out all master programs with thesis, and some with or without with thesis. Regulations, terms and conditions relevant to programs with or without thesis are given in NEU Graduate Thesis Regulations. Whether the graduate program is conducted with or without thesis, every single thesis bearing the name of the Near East University and stamp of the NEU Institute of Applied Sciences must deserve it. This is only possible through a scientific content of high standart, high quality written presentation, and quality printing. Contrary applications, conduct or practice will cause the failure of students. A “Thesis Writing Guide” has been released to guide the graduate students and made available at the web page of the Institute of Applied Sciences for easy acces.

2. COMPUTER INFORMATION SYSTEMS MASTER DEGREE PREOGRAMME

As a result of the recent advances and innovations in communications technology, internet, and related fields, computers have become part of everyday life. Computer Information Systems is currently one of the fastest growing fields and the demand for graduates in this field is increasing

all the time. The Master Degree programme offered by the department combines the information technology with the latest advances in the field of business administration, and aims to train students in these fields by teaching them advanced topics at the graduate level and prepare them for a career in computer related jobs. Also, the master degree programme aims to provide students additional in-depth knowledge in computer information systems through promoting social and environmental values related to IT field. Furthermore, curriculum aims to improve competencies particularly oriented to the professional practice and life-long learning.

Our graduate programme has been designed to give students both a theoretical and a practical understanding of the advanced fundamental issues related to computers and their use in everyday life. The Master Degree programme is well structured and has been designed with the aim of providing an excellent foundation in many areas of the current computer technology and business studies related topics. The programme offers courses in computer software, database systems, computer architecture, operating systems, computer networks, mobile devices, software engineering, software project management, and business applications of computers. In addition, the program aims to teach and develop the leadership skills of students at graduate level so that they can take managerial positions and be leaders in their future careers. The department also aims to ensure that those students who wish to continue into postgraduate studies at the Doctoral level are equipped with the necessary theoretical and practical knowledge and the abilities to carry out research in a professional manner after graduating from the department.

Information Technology has become an inevitable component of everyday life as well as of academic and professional fields. The MS degree provides advanced training for both academic and professional specialization.

Master degree programme aims to gain more deeper knowledge, competencies and expertise on particularly focusing on three tracks as; IT Project Management, System Analysis Design and Development and Network and Security. Additionally, graduates acquires doing research skills if they wish to study further for PhD degree.

2.1 Objectives of the Degree Programme

As a result of the recent advances and innovations in communications technology, internet, and related fields, computers have become part of everyday life. Computer Information Systems is currently one of the fastest growing fields and the demand for graduates in this field is increasing all the time. The Master Degree programme offered by the department combines the information technology with the latest advances in the field of business administration, and aims to train students in these fields by teaching them advanced topics at the graduate level and prepare them for a career in computer related jobs.

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engineering, software project management, and business applications of computers. In addition, the program aims to teach and develop the leadership skills of students at graduate level so that they can take managerial positions and be leaders in their future careers. The department also aims to ensure that those students who wish to continue into postgraduate studies at the Doctoral level are equipped with the necessary theoretical and practical knowledge and the abilities to carry out research in a professional manner after graduating from the department.

It is one of the general objectives of the graduate degree programme to prepare the students for the highly competitive job market and give them the necessary experience and skills so that they are motivated, knowledgeable, and confident individuals in their future careers, whether in the job market or in the academic world. The primary educational objective of the Master of Science degree program is to expose students to the latest developments both in hardware and software of computer information systems and business administration, and to provide them with the appropriate tools and skills to understand and contribute further to these developments by carrying out research in these fields. The Master of Science degree program provides all the necessary education and immediately applicable skills to enable students to be more productive and progress to higher ranks with the aim of being leaders.

This master's degree empowers graduates to deal with a wide range of IT disciplines and equips them with the management skills that they need to become IT managers and IT experts in their future jobs. The wide range of technologies presented on the master's degree and the analysis and development of real cases provide a realistic scenario in which students are guided through their initial contact with real-world cases. These professionals are highly in demand, as all kind of industries need IT experts and managers in their organizations.

Graduates from our Master's degree programme can virtually find jobs in all government and private organizations where computers are used. Some popular working areas of our graduates are: IT departments of private and public companies, communications and networking departments of private and government firms, independent IT consultancy, research and development at universities and in other institutions, teaching IT, and setting up their own businesses. Additionally, Master's degree graduates have the options of continuing with higher education for Doctoral studies in the field of computer information technology or related fields.

Information Technology has become an inevitable component of everyday life as well as of academic and professional fields. The MS degree provides advanced training for both academic and professional specialization. Our Master's degree programme is designed to provide a solid background in different aspects of research and profession, while preparing its graduates to become experts in any of the fields of specialization offered in three tracks: Track A; "IT Project Management" for students who would like to specialize in business and managerial aspects of information systems especially for organizations; Track B, "Software Analysis, Design & Development" if for students who aim to acquire deeper knowledge and practical skills in Computer Science, Information Technology, Software Engineering and Information Systems. The Track B is for students who intend to work as IT experts as their future profession. The third track C which is "Network & Security" is for students who plan have an expertise in Information systems security issues. All of the three tracks with mandatory academic research based courses support further academic research work for pursuing PhD study if desired.

The master degree programme aims to provide students additional in-depth knowledge in computer information systems through promoting social and environmental values related to IT

field. Furthermore, curriculum aims to improve competencies particularly oriented to the professional practice and life-long learning.

The main objectives of Computer Information Systems Master degree programme are outlined as follows:

- To acquire graduates common competencies that are essential for carrying out fundamental processes in their life-long profession and learning within society.
- To equip graduates with common technical competences that are associated with the demands of the professional, academic and research areas associated with their degree
- To acquire graduates specialized competencies which are common desired skills for all three tracks (A, B, C).
- To provide graduates in-depth specialized competencies in the programm specific areas of computer science, information systems, software engineering and information technology to solve complex problems in specific academic, professional or social settings.

2.2 Learning Outcomes of the Degree Programme

The Master Degree programme intends to prepare students and graduate them with a number of advanced abilities and skills. The intended learning outcomes of the Master Degree program have been clearly defined and are accessible to all relevant stakeholders, especially to teachers, trainers, lecturers, and students. These outcomes are valid and are based on currently accepted technical developments in advanced computer information systems. The intended learning outcomes and the requirements to achieve them have been made transparent to the learners. Formal mechanisms are in place for the periodic review and monitoring of the degree programme. Students are assessed using the published criteria to ensure that the learning outcomes intended by the degree programme have all been achieved. Student achievements have been measured and monitored constantly to make sure that they are competent to take up qualified employment after graduating from the Master Degree programme.

The master's degree provides graduates with knowledge and practical experience across broad IT settings from management to computer security, from design and to development, with a focus on IT management to bring up high skilled IT professionals. The learning outcomes were outlined as follows:

COMMON COMPETENCIES

1. Teamwork

- To be able work as member of a group work in the development of projects practically and responsibly.

2. Information Literacy In Life-Long Learning

- To be able to manage the acquisition, structuring, analysis and visualization of data and information in the area of informatics engineering, and critically assess the results of this effort.

3. Fundamental Skills

- To apply the acquired knowledge and capacity for solving problems in new or unknown environments within broader (or multidisciplinary) contexts related to their area of study.
- To integrate knowledge and handle the complexity of making judgments based on information which, being incomplete or limited, includes considerations on social and ethical responsibilities linked to the application of their knowledge and judgments.
- To communicate their conclusions, and the knowledge and rationale underpinning these, to both skilled and unskilled public in a clear and unambiguous way.
- Possession of the learning skills that enable the students to continue studying in a way that will be mainly self-directed or autonomous.

4. Higher Order Thinking Skills

- To think critically, logically and analytically. To solve problems in their area of study. to create and use models that reflect real situations. To design and implement simple experiments, and analyze and interpret their results. To be able to analyze, synthesize and evaluate.

COMMON TECHNICAL COMPETENCIES

5. Technical Competencies

- To plan, calculate and design products, processes and facilities in all areas of Computer Science.
- To model, calculate and simulate in IT companies, particularly in research, development and innovation tasks in all areas related to Information Systems
- To manage in general, technical and research projects, to participate actively in the development and innovation in companies and technology centers in the area of Computer Science.
- To apply, integrate acquired knowledge and to solve problems into new settings inside broad and multidisciplinary contexts.
- To understand and apply profession related ethical responsibility in IT related facilities.
- To employ projects management principles with the consideration of regulations and standards.

SPECIALIZED COMPETENCIES

6. Competencies related to specialized fields

- To integrate technologies, applications, services and systems of IS, in general and in broader and multidisciplinary contexts.
- To do strategic planning, development, direction, coordination, and technical and economic management in ICT related to: Systems, applications, services, networks, infrastructure or computer facilities and software development centers or factories,

respecting the implementation of quality and environmental criteria in multidisciplinary working environments.

- To comprehend models, problems and algorithms related to computer networks and to design and evaluate algorithms, protocols and systems that process the complexity of computer communications networks.
- To understand models, problems and tools to analyze, design and evaluate computer networks and software systems.
- To manage research, development and innovation projects in companies and technology centers with sense of responsibility and with the consideration of quality of services and products.

SPECIFIC COMPETENCIES

7. Field Specific Competencies

- To model, plan, state IT system architecture, implement, manage, operate, administrate and maintain applications, networks, systems and services.
- To analyze the information needs that arise in an environment and carry out all the stages in the process of building an information system.

2.3 Curriculum

The curriculum is based on achieving the intended learning outcomes at the end of the 2-year study at the department. The “Module Handbook” gives a description of each module. All courses have 8 ECTS, the seminar study and the Thesis work are equivalent to 10 and 54 ECTS points each respectively. Students are required to take up to 3 courses per semester.

Students are encouraged to take 4 courses (12 credits, or 32 ECTS points) in the first semester of their studies. In the second semester the remaining 3 courses (9 credits, or 24 ECTS points) are normally taken. The Seminar course and the Thesis carry no credits.

Students are allowed to take a Seminar course and a Thesis after they complete 7 postgraduate courses at the department and if their average CGPA is at least 3.00. If the GCPA is less than 3.00 then the students are expected to repeat the courses with low grades.

MSc CURRICULUM

FIRST YEAR

| Semester I | | | | | | Semester II | | | | | |
|----------------------|------------------------------------|----|---|---|---|----------------------|----------------------|----|---|---|---|
| Code | Course Name | T | P | C | E | Code | Course Name | T | P | C | E |
| CIS 506 | Scientific Research Methods | 3 | 1 | 3 | 8 | CIS 509 | Software Engineering | 3 | 1 | 3 | 8 |
| CIS 507 | Adv. Object Oriented Prog. Lang. I | 2 | 2 | 3 | 8 | CIS 5XX | Technical Elective | - | - | 3 | 8 |
| CIS 5XX | Technical Elective | - | - | 3 | 8 | CIS 5XX | Technical Elective | - | - | 3 | 8 |
| CIS 5XX | Technical Elective | - | - | 3 | 8 | | | | | | |
| | | | | | | | | | | | |
| Total Credits | | 12 | | | | Total Credits | | 9 | | | |
| Total ECTS | | 32 | | | | Total ECTS | | 24 | | | |

SECOND YEAR

| Semester III | | | | | | Semester IV | | | | | |
|----------------------|--------------|----|---|---|----|----------------------|--------------|----|---|---|----|
| Code | Course Name | T | P | C | E | Code | Course Name | T | P | C | E |
| CIS 500 | M.Sc. Thesis | - | - | - | I | CIS 500 | M.Sc. Thesis | - | - | - | 54 |
| CIS 502 | Seminar | - | - | - | 10 | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Total Credits | | 0 | | | | Total Credits | | 0 | | | |
| Total ECTS | | 10 | | | | Total ECTS | | 54 | | | |

Overall Credits: 21
Overall ECTS: 120

E: ECTS point
T: Theoretic
P: Practice
C: Credit
I: In-process

2.4 Course Descriptions

CIS 500 Master Thesis

The thesis should be a record of original work and/or a critical exposition of existing knowledge. It must make a distinct contribution to the literature and afford evidence of originality, shown either by the discovery of new facts or by the exercise of independent critical power; the literary presentation must be satisfactory, and if not already published in an approved form, the thesis must be suitable for publication either as submitted or in modified or abridged form. The research should be at the postgraduate M.Sc. Degree standard. Students can register to this course from the beginning of their third semester while the research program or write-up of the thesis is in progress.

CIS 502 Seminar

This course must be taken by all the students in the M.Sc. program. The students taking this course are required to write a scientific research article and make at least one presentation at any international or national seminar or conference.

CIS 503 Advanced Database Management Systems

Introduction to DBMS, database planning, database architecture, entity-relationship models, relational models, functional dependencies, normal forms, object data model, database security, distributed database systems.

CIS 504 Advanced Management Information Systems

Introduction to management information systems, information systems and organizations, management and decision making, ethical and social impact of information systems, managing data resources, enhancing management decision making, artificial intelligence, managing international information systems.

CIS 505 Advanced Information Systems Security

The aim of the course is to introduce students to the very important topic of security and risk management in the field of information technology. In this course students learn critical security principles that they can apply to plan and develop secure and risk free systems. The course includes both theory and practice and students learn about the software, hardware, communications, applications, and the policies related to the development of secure IT based systems.

CIS 506 Scientific Research Methods

A brief introduction to characteristics, types and scheduling of research. Research planning and design. Methodologies of research design. Measurement, data analysis. Presenting the results of research.

CIS 507 Advanced Object Oriented Programming Languages I

This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, and problem solving methods, algorithm design, and logic control structures. Upon completion, students

should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language.

CIS 508 Mobile Application Development

Mobile application areas, software architecture, application models, user interface, data saving, networks, mobile device components (acceleration measurement, compass, GPS etc), operating systems, mobile programming languages, mobile application project.

CIS 509 Advanced Software Engineering

Introduction to software engineering, software processes, project management, software life cycle, documentation, program design techniques, reliability, unit testing, integration testing, deliverables, coding principles, small project.

CIS 510 Advanced Object Oriented Programming Language II

Introduces students to advances in programming concepts and techniques. Topics include the development and documentation of logic, syntax, programming control structures, data structures, programming paradigms, and a survey of modern programming languages. Focuses on the problem solving process as it applies to the development of computer programs. In a hands-on environment, students will design, code, and test simple programs.

CIS 511 Ethical Issues in Information Systems

Introduction to ethics, computer piracy, computer viruses, software copyright, information rights and obligations, accountability and control, system quality, responsibility, liability, competition in information systems, political issues.

CIS 512 IT Project Management

In this course students are expected to discuss the techniques, methods, and tools used by organizations in managing their projects on information systems. It is assumed that the project management in modern organizations are complex group based activities where various technologies are used, such as project management software packages. It is also acknowledged that the process of successful project management requires the use of both internal and external resources, where the external resources are usually in the form of contractors specialized in IT project management.

CIS 513 Advanced Computer Networks

Review of computer networking, Ethernet, Token-Ring, internet protocols, TCP/IP, UDP, hubs and switches, routers, network design principles, wireless networks, encryption principles, VPN and tunneling, small computer network project.

CIS 514 Advanced E-Learning Systems

This course aims to combine the networked information technologies and organizational strategy. Students learn to implement a rich variety of business models in the national and global contexts with the aim of connecting individuals and businesses together. In addition, students learn e-business strategies and the development of applications for e-businesses.

CIS 515 Advanced Operating Systems

Fundamentals of concurrent programming. Multitasking operating systems with special emphasis on UNIX. UNIX and WINDOWS. Mutual exclusion problem and critical sections. Semaphores, monitors, and ADA rendezvous. Deadlocks. Transporter and OCCAM language. Distributed mutual exclusion. Fault tolerance. UNIX O/S features and internal structure. UNIX internals, device driver development. Network interfacing, client-server and daemon applications. Process structure, file system, memory management, terminal I/O, network interface, character and block device drivers, graphic interfaces.

CIS 516 Knowledge Management

This course aims at underlying the importance of knowledge in organizations. It focuses on creating, sharing, structuring, using and auditing knowledge in the context of knowledge management life cycle (KMLC). The topics such as knowing process, hierarchy of knowledge, knowledge management discipline and applications and knowledge mapping techniques will be explained during the courses.

CIS 517 Innovations Management

The course aims to equip management students with an understanding of the main issues in the management of innovation and an appreciation of the relevant skills needed to manage innovation at both strategic and operational level.

CIS 521 Soft Computing

Elements of Soft Computing. Hybrid intellectual systems. Fuzzy logic, fuzzy and linguistic modeling. Neural systems, neural modeling. Genetic algorithms, genetic operators. Chaos theory. Fuzzy neural networks and their learning. Neuro-genetic systems. Fuzzy-genetic systems. Neuro-fuzzy-genetic systems. Modeling and application of Soft Computing elements for solving different engineering problems.

CIS 522 Wireless and Mobile Networks

Wireless Link Characteristics, Wireless Media Access, Wireless and Mobile Network Architectures, Mobile Routing, Mobile IP, Transport Protocols over Wireless Networks, Wireless LANs, Bluetooth Technology and Applications, Wireless Cellular Networks, Wireless Application Protocol, Ad-hoc Networks and Routing, Device and Service Discovery, QoS in Mobile Networks, Peer-to-Peer Networks and Applications.

CIS 524 Human Resource Management Systems

Principles and problems of labour relations, employee relations and personnel management, including employment and training of personnel, employee-employer relations, incentives, wage and salary administration, job evaluation and merit rating.

CIS 525 Human Computer Interaction

Human interaction design, implementation and evaluation, usability measures, human interface guidelines, scenario based design, touch based programming, programming for usability.

CIS 526 Advanced Cloud Computing Systems

Definition of basic concepts, technical and economic considerations, advantages and disadvantages of cloud computing systems, distributed systems, virtualization, hypervisors, resource management in the cloud, load balancing, security of cloud computing

CIS 527 Data Mining and Online Communications

Introduction to data mining, data mining algorithms, regularities in databases, performing prediction and forecasting, improving performance through interaction with data, knowledge discovery, data selection, cleaning, coding, using statistical and machine learning techniques, visualization of the generated structures, the role of communication in database structures.

CIS 528 Advanced Web Development

Review of HTML, professional web design techniques, using Javascript, using PHP, using computer aided software packages for web design, web design project.

CIS 529 Advanced System Analysis Methods

Introduction to system analysis, review of classical system analysis methods, system analysis design tools, documentation, testing, system acceptance and delivery, system maintenance, small project.

CIS 530 Data Communication Systems

Digital communication fundamental. Public switching telephone network. Digital modulations methods. Modems. Error detection and correction standards. Data compression. Integrated switched digital network ISDN. Architecture. Protocols. Broadband ISDN. Frame relay. Protocol services. Asynchronous transfer mode. Protocols, traffic and congestion control.

CIS 531 IT Communication Technologies

The aim of this course is to teach students the skills of communications using the information systems, and how communication is used in global organizations in the world. The key elements of the course are information systems, software and hardware, data communication technologies, and people. The course teaches how all these components can be put together and managed to create competitive advantage to an organization. Students learn how information systems are used in organizations and how the quality, speed, and reliability can be improved by using these tools correctly. In addition, the course provides an introduction to the principles of technology acquisition and the use of various application software in modern organizations in order to improve the communication skills and the overall organizational efficiency.

CIS 532 Internet Technologies

The aim of this course is to teach the application of the online Internet technologies for building the skills of research, interview techniques, reporting, and communication. At the end of the course it is expected that the students a) develop an understanding of analysing online resources for information gathering, b) develop the skills of critical understanding and critical analysis c) develop an understanding of the legal and especially the ethical concepts related to online IT technologies d) learn the basic skills of web design, creation, and editing e) and finally, demonstrate in practical sessions the important concepts of web design for usability, through practical hands-on laboratory work.

CIS 533 Computer Graphics

Introduction to graphics, co-ordinate systems, graphics systems and models, graphics programming, OpenGL, geometrical objects and transformations, viewing in 2D and 3D, orthogonal and projective views, light and shading, illumination and shadows, pasteurization, colour systems, texture mapping, animation in graphics.

CIS 534 Advanced Software Testing

Review of software design, software design tools, software documentation, unit testing, integration testing methods, acceptance testing methods, design for testability, design for maintainability, tools for software testing.

CIS 535 Games Programming

Event driven programming, game engine scripting, game engine class structures, learning to plan and to report on a significant programming project, learn to work in programming in teams, and learn to use standard game development environments, graphics design, animation, simple games programming project.

CIS 536 Advanced Simulation Systems

Introduction to simulation, review of probability theory, generating random values and workload, introduction to queuing theory, organization of a discrete-event simulation model, model validation, verification, and output analysis, software simulation techniques, programming for software simulation, small simulation project.

CIS 540 Strategic Management

Introduction to strategic management, strategic management concepts, tools of strategy analysis, analysing resources and capabilities, analysing organisation structure and management systems, management systems for coordination and control, analysis of competitive advantage, cost advantage and managing cost, industry life cycle and competition, technology based industries, technology strategies and innovation, global strategies and multinational companies.

CIS 541 E-Commerce

Introduction to digital business and e-commerce, digital business strategy, managing digital business infrastructure, e-environment, supply chain management, e-procurement, digital marketing, customer management in e-commerce, change management in e-commerce, e-commerce management issues.

CIS 546 Total Quality Management

Introduction to quality management, understanding quality, competitiveness and customers, total quality management concepts, leadership in management, design for quality, performance measurement tools, importance of audits and reviews, quality management systems, continuous design and improvement, human resource management, team work and team development strategies, communication in quality management.

2.5 Master Degree Programme Track List

Information Technology has become an inevitable component of everyday life as well as of academic and professional fields. The MS degree provides advanced training for both academic and professional specialization. Our Master's degree programme is designed to provide a solid background in different aspects of research and profession, while preparing its graduates to become experts in any of the fields of specialization offered in three tracks: Track A; "IT Project Management" for students who would like to specialize in business and managerial aspects of information systems especially for organizations; Track B, "Software Analysis, Design & Development" if for students who aim to acquire deeper knowledge and practical skills in Computer Science, Information Technology, Software Engineering and Information Systems. The Track B is for students who intend to work as IT experts as their future profession. The third track C which is "Network & Security" is for students who plan have an expertise in Information systems security issues. All of the three tracks with mandatory academic research based courses support further academic research work for pursuing PhD study if desired.

Compulsory Courses:

CIS 506 Scientific Research Methods
CIS 500 Master Thesis
CIS 502 Seminar

Technical Elective Courses:

TRACK A: IT PROJECT MANAGEMENT

1. CIS503 Advanced Database Management Systems
2. CIS504 Advanced Management Information Systems
3. CIS511 Ethical Issues in Information Systems
4. CIS512 IT Project Management
5. CIS516 Knowledge Management
6. CIS517 Innovations Management
7. CIS524 Human Resource Management
8. CIS525 Human Computer Interaction
9. CIS529 Advanced System Analysis Methods
10. CIS 540 Strategic Management (new)
11. CIS546 Total Quality Management (new)
12. CIS541 E-Commerce (new)

TRACK B: SOFTWARE ANALYSIS, DESIGN & DEVELOPMENT

1. CIS507 Advanced Object Oriented Programming languages I
2. CIS508 Mobile Application Development
3. CIS509 Advanced Software Engineering
4. CIS510 Advanced Object oriented Programming Languages II
5. CIS514 Advanced E-Learning Systems
6. CIS521 Soft Computing
7. CIS526 Advanced Cloud Computing Systems
8. CIS528 Advanced Web Development
9. CIS529 Advanced System Analysis Methods

10. CIS533 Computer Graphics
11. CIS534 Advanced Software Testing
12. CIS535 Games Programming
13. CIS536 Simulation Systems

TRACK C: NETWORK & SECURITY

1. CIS505 Advanced Information Systems Security
2. CIS513 Advanced Computer Networks
3. CIS515 Advanced Operating Systems
4. CIS522 Wireless and Mobile Networks
5. CIS527 Data Mining and Online Comms
6. CIS530 Data Comms Systems
7. CIS531 IT Communication Technologies
8. CIS532 Internet Technologies

2.6 Structure and Modularity

The Master Degree programme has been organized in a modular way. In the programme each module is a consistent and standalone study material consisting of 3 credit points (8 ECTS points). The course structure has been organized such that students have no difficulties in moving from one semester to the next. Some courses have pre-requisites where students first must take the pre-requisite course successfully before taking the next dependent course. These pre-requisites are outlined in the course program clearly.

The size and duration of each module is such that students can complete a module successfully in a semester. Some modules include practical as well as laboratory times and the theoretical aspects of such courses have been designed so that students can complete both the theoretical and the practical sessions in the given time. Each module is completed in one semester. Graduate students must complete their MSc courses at the Near East University. i.e. the programme does not allow for students to be transferred to other universities during their studies at the Near East University.

2.7 Departmental Assessments and Audits

Departmental assessments and audits is a way of measuring the quality of teaching at the department. Assessments and audits cover the following areas at the department:

- Assessment of the syllabi
- Assessment of the teaching staff
- Assessment of students
- Assessment of teaching material

Starting from 2015-2016 Academic year, assessment of a syllabus is the process of making sure that the syllabus mentioned in a module is covered completely by a teaching staff. This is audited

by asking the teaching staff to give a timetable of the topics they intend to teach. The Head of Department checks the timetable to ensure that all the topics in the syllabus will be covered during the semester.

Assessment of the teaching staff is mainly concerned with the attendance of the teaching staff to their lectures. The aim is to ensure that the lengths of the lectures are as advertised in the departmental weekly timetable. Lecturers are requested to sign in and out when they start and finish a lecture. The attendance is checked by the Head of the department.

Feedback received from the students is invaluable tools for assessing the quality of teaching at the department.

The PDCA (Plan – Do – Check – Act) cycle is not officially employed in the department as a closed-loop system, although the elements of PDCA are used in the overall assessment process. It is however planned to use the PDCA-cycle in the future.

One-to-one help is given to students who may seem to lose their confidence for personal or for family reasons. This help is usually in the form of finding out the root cause of the problem by talking to the student in question, and then trying to help the student to improve his/her confidence.

In order to improve quality standards in aforementioned issues, at the 2016 academic semester, CIS department administration has decided to assign small group committees into each the following evaluations in order to improve quality of the degree programme. The committee members are chosen from the faculty members depending on their expertise:

- **Module - Faculty Evaluation Committee**

Near East University's "Einstein Academic Information System" has launched a new module-faculty evaluation system starting from the academic 2015-2016 Spring semester. With this new system, every faculty member could be able to view his/her students' rating about courses. The former evaluation survey were used in rating module-faculty. The evaluation results were rated out of 5 where 1 represents lowest score and 5 represents highest score. The instructor were evaluated according to the feedbacks of students who filled in the evaluation survey upon five mandatory questions about course, duration, communication, attitude of the instructor towards students. In addition, instructor could be able to view the overall evaluation results for each course taught. For the former evaluation system, an evaluation survey was filled out by students and analyzed by IT center and was given feedback to head of the department and to the instructors indirectly. Students and instructors were involved in this process.

- **Module - Syllabus Evaluation Committee**

The syllabus for each module were evaluated by the committee at the end of each academic semester. The evaluation includes the consideration of syllabus, weekly content, activities, recommended materials and relevancy of the module objectives to the learning outcomes of the programme. At the end of each academic semester, head of the department calls for meeting with faculty members who taught in the corresponding

semester. The evaluation results of the syllabi were communicated with the instructors. With given feedbacks, instructors were informed with these briefings. In the light of these, instructors modify the required parts of their syllabi and hence the module. Instructors were involved in this process.

- **Learning Outcomes Evaluation Committee**

- 1. Instructor-Learning Outcome Evaluation*

Learning outcomes are evaluated by instructors themselves who teach the module and later were assessed by committee. Module Learning Outcome Matrix for both degree programmes. Instructors were involved in this process.

- 2. Graduate/Student-Learning Outcome Evaluation*

In addition, learning outcomes and objectives of the undergraduate and graduate degree programmes are evaluated by graduates starting from the 2016 spring semester. This online survey aims to ensure the achievement of the Computer Information Systems department's quality aims, to identify potential deficits and deficiencies in the curricular and program objectives and to improve program relevant to your professional, social, academic demands. Please read carefully each objective and state best option about how much you acquired the objectives during your study. The questionnaire will be anonymous. Graduates were involved in this process.

- **Degree Programme Evaluation Committee**

Since the department is closely related to IT and it evolves progressively, it is mandatory for every three years cycles for this technical committee to review IS related requirements and in order to keep the department's degree programme uptodate in terms of graduates needs, demands, professional requirements and to maintain its place in the marketplace and prepare a report for future goals and plans for strategic planning. Some modules are added or deleted from the curriculum with respect to the demands of the technological development.

Apart from above, the department has decided to strengthen its bonds with industry.

The Department of Computer Information Systems and TRNC Informatics Association signed a protocol concerning cooperation between the parties.

In order to support university-industry collaboration, added modules that have industry specific content are encouraged to be taught by experts invited to teach/workshop/seminar from the industry. Recently department welcomed PMP workshop from two of Cyprus Informatics Association members.

The department invited and united experts in the field of health and informatics to organize a seminar on health and informatics to enlighten and encourage students about the potential projects that could be done to fill the gap in specific subject area. To identify IT related issues regarding health and informatics, a medical doctor were invited to give a speech on the medical part and to mention the gaps in terms of creating a database for storing, manipulating, analyzing, evaluating and forecasting the risks in the field.

Two projects were recently completed in 2016 by one of the faculty members Prof. Doğan İbrahim, for an external overseas company named Radimetrix Ltd as; The design of a Raspberry Pi based weather forecasting system with cloud interface and Smart Train Collision Detection System Using a Microcontroller.

- **Technological Infrastructure and Hardware & Software Evaluation Committee**

With the result of the degree programme evaluation, the infrastructure, software and hardware essential for all modules particularly recently added modules were updated in the computer laboratories and if these are not available, it shall be purchased by the university administration.

2.8 Academic Staff

- Prof.Dr. İlkey SALİHOĞLU
- Prof.Dr. Doğan İBRAHİM
- Prof.Dr. Rahib ABİYEY
- Prof.Dr. Adil AMİRJANOV
- Assoc.Prof.Dr. Nadire ÇAVUŞ
- Assoc.Prof.Dr. Mustafa SAĞSAN
- Assist.Prof.Dr. Boran ŞEKEROĞLU
- Assist.Prof.dr. Seren BAŞARAN
- Assist.Prof.Dr. Okan YELOĞLU
- Assist.Prof.Dr. Kaan UYAR
- Assist.Prof. Ümit İLHAN
- Dr. Ali TÜZÜNKAN

3. MASTER THESIS

At the final year all students must take a Master Thesis. The Thesis lasts for two semesters. In the first semester students are expected to carry out literature survey and complete the theoretical, related experiment systems are set up, and first prototype of their Thesis are also set by the students. The second semester of their Thesis is allocated to improve their experimental works, prototype and modify their Thesis.

Every student studying for the Degree of Master of Science is required to complete a Thesis at the end of their studies. Students can either select from the offered list, or they can make their own written Thesis proposals which are examined and assessed by the lecturers at the department. A Thesis proposal form is filled by a student who is ready to take a Thesis. This form is signed and authorised by the Head of Department. Then a supervisor is assigned to the student

and a graduation Master's Thesis proposal form is filled in. This form gives the project title, student details, name of the supervisor assigned to the student, and the academic year. This form is signed and dated by the assigned supervisor. Students can start to work on their Thesis as soon as the Thesis is approved and a supervisor is assigned to him/her. Students and supervisors meet once every two weeks to discuss the progress made by the students. These are graded by the Examining Committee and the Thesis grading form is filled in accordingly.

SAMPLE LIST OF MASTER THESIS

| Student Name-Surname | Title of the Thesis | Number of the References | Accepted Year | Average Year of the References |
|-----------------------------------|--|---------------------------------|----------------------|---------------------------------------|
| Abdulqader Jameel Omer | Voice activated smart home system for handicapped people using a mobile device | 72 | 2016 | 2012 |
| Hassan Beleid Muamer Mohammed | A mobile phone based medication reminder system using cloud computing | 40 | 2016 | 2010 |
| Nahro Kamal Saeed | Using wireless body area networks for patient monitoring with the help of a mobile device | 60 | 2016 | 2011 |
| Mokhtar Saad Mokhtar Alkhattali | Development of a computer application for handicapped people to use Gmail | 49 | 2016 | 2012 |
| Kathy Kefas | A GPS-Based Mobile Application for Tourists. | 90 | 2016 | 2010 |
| MAGNUS EZEUDO ELUWA | The Digital Characteristics and Technology Use of Pupils in Nigeria. | 33 | 2016 | 2011 |
| Khaled .M.A. Adweb | Self-Efficacy of University Students' towards Mobile Phone Security. | 74 | 2016 | 2012 |
| Ayaz Khalid Mohammed | Investigating Instructors' Perspectives on Social Media Usage in Educational Context | 48 | 2016 | 2010 |
| Goran Omer Hama | Cloud Computing Adoption by Universities of Northern Cyprus and Northern Iraq | 72 | 2016 | 2009 |
| Fairouz Alhashmi Albahloul Belhaj | Availability of E-Commerce Applications in North Cyprus Universities | 60 | 2016 | 2011 |
| Didar D.H. Ameen | Investigating University Students' Perceptions on the Safe Use of Computer and Internet Security: A Case | 55 | 2015 | 2012 |

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| | Study in North Part of Iraq. | | | |
| D.N. Christina Chingoka | Mobile Banking Acceptance Perspective of University Students in Zimbabwe. | 87 | 2015 | 2010 |
| Salem. M. A. Enajeh | Development of Voice Control User Interface Software for Physically Disabled People Using Social Media. | 43 | 2015 | 2009 |
| Stella Marie Gatera Rukundo | Investigating Instructors' and Students' Ethical Use Of Facebook in Educational Context ": A Case Study in College of Science and Technology, University of Rwanda | 64 | 2015 | 2011 |
| Alaa Ahmed Muhammed | Challenges and Prospects of M-Governance in Education Questionnaire | 55 | 2015 | 2009 |
| Waleed Khalid Murad Rizgo | Developing an Eye Tracking System for Handicapped People. | 31 | 2014 | 2010 |
| Twana Hama Saeed Hama Salh | Developing a Mobile Application for Learning English using Sunrise10. | 54 | 2014 | 2011 |
| Shirwan Khairi Sherko | Security Awareness of University Students Using the Android Mobile Phone: A Case Study in Iraq | 48 | 2014 | 2009 |
| Rebaz Muhammed Khalil | RSTP–Solution to Count-to-Infinity Problem and Forwarding Issues. | 30 | 2014 | 2011 |
| Avin Mohammed Hassan | TOR: Anonymous Communication Enhances the Security in the Networks. | 20 | 2014 | 2011 |
| Luqman Qader Abdulrahman | Handover Time Delay and Call Drop Probability Reductions for Wimax Mobile by Using Mobility Pattern Table | 64 | 2014 | 2010 |
| Diyar Qader Saleem Zeebaree | Contourlet Transformation for Data Hiding. | 84 | 2014 | 2011 |
| Abdulla Jassim Aldarwish | Developing Mobile Application for School Information System with Cloud Computing. | 62 | 2014 | 2010 |

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| Mustafa Asaad Mawlood Alani | Developing Decision Model for Cloud Computing Adoption in Developing Countries: Case Study for Middle East. | 63 | 2014 | 2009 |
| Raghad Baker Sadiq | Developing a Mobile Application for Learning English. | 72 | 2014 | 2010 |
| Zaid Dawad | Comparison of Learning Management Systems Based on Critical Features. | 52 | 2013 | 2008 |
| Abdullah Dhanoon Younus | Investigation of a Mobile Government: A Case Study in Iraq. | 59 | 2013 | 2009 |
| Dilovan Asaad Majee Zebari | Binary-Decision-Diagram (BDD) Approach for Digital Logic Circuits Reduction. | 49 | 2013 | 2009 |
| Kezban Alpan | Search Engine Performance Evaluation. | 90 | 2010 | 2005 |
| Mohammad Musa AL-Momani | An Efficient Integrated System for Mobile Learning. | 22 | 2009 | 2006 |
| Momani, A.M. | Learning Management Systems Evaluation. | 74 | 2008 | 2003 |
| Momani, N.T. | Development of Recommender System by Using Fuzzy Set Theory. | 48 | 2008 | 2004 |

4. EDUCATIONAL METHODS

The Department of Computer Information Systems appreciates modern concepts and new methods in teaching and education methods that support educational objectives in addition to traditional methods. Traditional class attendance is compulsory for all courses except the Thesis in the Faculty of Economics and Administrative Sciences. Problem solving sections of knowledge based courses are integrated with the theory sections.

The Department of Computer Information Systems aims to reach its educational objectives by using several teaching methods. Both the traditional and modern teaching methods are employed at the department. Traditional teaching methods are face-to-face lectures and are class based, requiring all students to attend classes. At least 75% of class attendance is compulsory for all the

courses. Lectures are conducted using standard computer based presentations in the form of pre-prepared slides. In addition, white boards and marker pens are used whenever necessary in order to explain difficult topics in greater detail, or to answer student questions. Students are encouraged to take notes during the presentations and ask questions if there are points that they are not clear about. Electronic copies of the slides are sent to students by e-mail after each class, and students are encouraged to go through the slides in their own time and make sure that they understand all presented information.

In addition to traditional teaching methods, a variety of other methods are used to support the teaching. Most computer based learning requires the use of computers as part of the learning process. Students use the departmental computer laboratories for their practical work in order to improve their practical skills. Students use computers in the laboratory under the supervision of either a teaching assistant or an instructor. Practice on computers, which mainly used for programming courses that results of the written code observed on the screen.

Students are given practical exercises and are expected to complete these exercises in the computer laboratories. This study forms part of the project based learning which is heavily used in the department. Students are then expected to submit their solutions to the course lecturer and markings are given for each exercise. These markings are part of the overall grade given at the end of a semester.

The MOODLE and EDMODO learning management systems used by many universities around the globe, is also used in some of the offered courses in order to support teaching and learning. This system offers many advantages compared to the traditional methods of teaching and enables students to learn in their own time and at their own places of study. Some typical features of learning management systems used in the courses are:

- Assignment preparation and submission
- Discussion groups
- Grading
- File download

- Instant messages
- Online calendar
- Online news and announcements
- Online quiz

There is sufficient range of elective modules that enable students to develop varied skills.

In summary, the following educational methods are in use at the department depending upon the module to be delivered:

- Classical lectures, lectures with discussions, tutorials, class exercises, laboratories, summer training, graduation project.
- Small group discussions, seminars, group work, homework.
- Using computers to carry out laboratory practical work (e.g. programming).

- Using distant learning technologies where appropriate.
- Provision of standard paper textbooks, electronic textbooks, computer presentations, and other electronic teaching aids.

5. EXAMINATIONS: SYSTEM, CONCEPT AND ORGANIZATION

5.1 Examination Methods

The examinations are a way of finding out whether the module objectives have been accomplished. Every module in the degree programme has an examination. The type of examination to be held is laid down in each module description.

At the commencement of the teaching term, students are informed as to examination requirements. All the examinations are done during the examination week. The lectures are cancelled during the examination week. Every effort is made to ensure that no more than one examination is taken by a student on the same day.

The assessment procedures, marking criteria, and examination regulations are available for the students to examine if they wish so. The regulations cover the student absences due to illness, financial, or other reasons.

There are two quizzes in each semester, one before the mid-term examination and one before the final examination. The aims of the quizzes are to prepare the students for the examinations. In some courses the results of the quizzes are not counted in the overall grade calculations. This depends on the structure of the course.

Written examinations are done for each module except for the Thesis. There are two written examinations for each course: mid-term examination, and final examination. The mid-term examinations are done around 6 weeks after the start of a new semester. The final examinations are done at the end of each semester. The examination dates are published in the university calendar at the beginning of each semester.

In some courses a term-project is given to students instead of the final examination. Students in such circumstances are expected to submit both a written report (assignment) in paper form and its electronic version by e-mail. Every student is expected to present their term-projects in-front of the class and the lecturer in charge of the course. Although most projects are carried out on individual basis, some larger projects are done by groups of students. In cases where the project is done by a group of students, each member of the group is expected to present their contribution.

Depending on the nature of the module, oral examinations conducted. For instance, in some information technology modules, instructor directs some questions during the lecture sessions individually to student.

The Master Thesis are completed in 2 semesters. Students are assigned supervisors for the duration of their Thesis. Thesis assessment consists of the preparation of a bound report by the

student, and also an oral presentation (known as the Thesis defend presentation) to jury members. The jury members are selected from the departmental staff and from an external university according to the topic of the presentation and there must be at least 5 members at the jury. Normally one member of the jury is selected from another university. The supervisor of the student must attend the Thesis defend jury. Students are expected to prepare slides and present their Thesis orally. The presentation time is 20 minutes for each student. At the end of the presentation, time is allocated to questions by the jury members. The assessment depends on the style of the presentation, command of the language, confidence of the student, the ability to answer the questions, and the content of the Thesis. Each jury member fills in a separate assessment form. The final grading is taken to be the average grade given by all the jury members. The jury consists of 5 members, including the student's supervisor and an external member from another university. The external jury member is someone working at another university who has knowledge of the field to be presented by the student. The student is successful if at least 3 members of the jury give passing grades to the student. i.e. The final decision is based on the principle of majority voting.

5.2 Examination Organization

Depending upon the class size, the examinations are held in class rooms, in computer laboratories, or in the conference halls of the university. Examination timetables are announced 2 weeks before the start of the examinations in the department. One or more invigilators attend the examinations depending upon the class size. All the examinations finish during the examination week and there are no lectures during this week. Students are expected to be at the examination rooms 20 minutes before the examination starting times.

The following are done before, during, and after the examination (in the given order):

- The invigilator(s) make(s) sure that the students are seated sparingly so as to minimize the possibility of cheating.
- An examination attendance list is taken by the invigilator.
- Blank examination answer sheets are given to students.
- Students are asked to write their names, student numbers, and the course codes at the appropriate places on the answer sheets.
- Examination questions are given to students.
- The examination starting and ending times are told verbally to students. In addition, these times are written on the white board.
- Students are given 10 minutes question time where they can ask for the clarification of the questions.
- Students who are late for more than 15 minutes are not allowed to sit for that examination.

- If any student is caught cheating then the invigilator will take his/her answer and question sheets and write an appropriate note on the answer sheet.
- A student who finishes and wants to leave the examination room hands in both the question and the answer sheets and leaves the room.
- Oral examination is conducted as follows; instructor poses questions to the student in spoken form. The student has to answer the question in such a way as to demonstrate sufficient knowledge of the subject matter in order to pass the exam. One to multiple questions may be asked by the examiner. Depending on the precision of answers an overall grade is assigned in the end that has contribution to the overall grade.

A student who cannot sit an examination because of ill health must bring a valid Doctor's certificate. Such students are given another chance to sit for the examinations that they have missed. Missed examinations are taken as make-up exams under the supervision of the course supervisor. The dates of the make-up examinations are announced within 5 days after the end of the exam week, and these exams are offered within 2 weeks after the end of the exam week. The relevant Doctor's certificate must be attached to the make-up exam application form.

Students are allowed to examine their answer sheets at specified dates announced by the department, usually two weeks after the end of the examinations. If there is a dispute then a Grade Correction Form should be filled in by the student and submitted to the department. Student's answer sheet will be re-assessed and the new grade (if there is a change) will be announced.

After the student finishes his/her Thesis the Master Thesis Deference Request Form is completed. Then Invitation to Master Jury Form is sent to jury members. Each jury member fills the Master Thesis Jury Members Delivery Form and sends back to the Graduate School. The Supervisor uses the Thesis Format Approval Form to check the Thesis format. The jury members use the Master Defense Examination Assessment Form. If the student is successful in the Thesis defense then the Tracking Graduate Students Graduation Procedures Form is filled. Finally, Withdrawal Approval Form is filled in so the student can graduate.

5.3 Academic Assessment And Grades

Mid-term examinations and other semester works for graduate courses and their percentage towards the final grade will be determined by the Department Academic Board. They will be announced to the students at the beginning of each semester; and the scores earned will be included in the final grade.

Final examinations of graduate courses will be assessed over 100 (one hundred) full points by the faculty member(s) carrying out the exam. In order to pass the final exam, master's students must earn a minimum score of 70 (seventy), and doctoral students a minimum score of 80 (eighty) out of 100 (one hundred) points.

Cumulative grade point average must be 80 (eighty) over 100 (one hundred) or 3.00 (three) over 4.00 (four) to earn a master's or doctoral degree.

Re-sit examination will not be offered for a failed graduate course. Students may repeat a failed course or replace it with another course equal in credit value within the maximum period allowed for taking courses. They may also be allowed to repeat a passed course in order to increase their cumulative grade point average by the decision of the Graduate School Administrative Board.

The letter grades, coefficients and percentage equivalents are given below.

| Percentage | Course Grade | Coefficient |
|--------------|--------------|-------------|
| 90-100 | AA | .0 |
| 85-89 | BA | 3.5 |
| 80-84 | BB | 3.0 |
| 75-79 | CB | 2.5 |
| 70-74 | CC | 2.0 |
| 65-69 | DC | 1.5 |
| 60-64 | DD | 1.0 |
| 50-59 | FD | 0.5 |
| 49 and below | FF | 0.0 |

The table drawn by the Graduate School Administrative Board will be used in grading according to the European Credit Transfer System (ECTS) scale.

The grade DZ (Not Attended) is issued by the instructor when students fail to satisfy the requirements of attendance and course practices. The grade (DZ) is computed as equivalent to (FF) in calculating the grade point average.

The grade Satisfactory (S) is given to students who successfully continue their thesis study; and the grade Unsatisfactory (U) is given to students who fail to continue their thesis study. The assessment of students' progress will be based on the report of the Thesis Monitoring Committee in doctoral programs; and on the opinion of the thesis supervisor in master's programs. Also, the special study courses are graded Satisfactory (S) or Unsatisfactory (U). The letter grades DZ and Bg are not included in the cumulative grade point average. In the transcripts prepared in English, they will be coded as DZ (Not Attended) and S (Satisfactory) respectively.

5.3.1 Grade Point Average

A student's academic standing is determined by calculating the general grade point average at the end of each semester. The total credit point for a course is obtained by multiplying the course's credit hours by the final grade's coefficient. The grade point average of any semester is obtained by dividing the semester's total credit points by the number of credit

hours taken by the student for that semester. The obtained average is calculated to two decimal points. The cumulative grade point average is based on all courses taken since admission to the graduate program to meet the minimum course load stipulated by the regulations. The most recent grade earned in a repeated course is used in computing the cumulative grade point average. All grades are shown on the student's transcript. Students whose cumulative grade point average is higher than 3.50 are listed as high honour students.

6. SUPPORT AND ADVICE

Every course lecturer has an office hour type timetable where this time is allocated totally to students. Students are encouraged to go and see their lecturers at these times and get help and advice to their course related problems. The office hours of every lecturer is shown on the door of his/her office. Sufficient resources are available to provide individual support and advice to students. In addition, students can contact with their lecturers and with the chairperson using the communications tools such as e-mail, SMS, Facebook, Twitter, Edmodo, Moodle and so on.

Lecturers provide links to sample module questions and answers and students are encouraged to access these web sites.

Thesis supervisors organize 1 hour every two weeks consultation times to help students in their Thesis.

The chairperson of the department is available to offer assistance in various problems, such as financial, health related, course attendance and so on.

7. ACCREDITATIONS

The Near East University (and all the faculties and departments forming the university) are already accredited by the following international organizations:

YODAK (Higher Education Planning, Evaluation, Accreditation and Coordination Council). This government (TRNC) organization is situated in Northern Cyprus and all the universities in Northern Cyprus must apply to YODAK and get accreditation to their degree programs before a program is started.

YODAK is a member of the following accreditation bodies:

INQAAHE (International Network for Quality Assurance Agencies in Higher Education)

UK NARIC (UK National agency responsible for providing information, advice and expert opinion on qualifications worldwide)

ENQA (European Association for Quality Assurance in Higher Education)

YOK (Higher Education Council). This government (Turkey) organization is situated in Turkey and all the universities in Turkey and Northern Cyprus must apply to YOK to get accreditation before a faculty, department, or a degree program is started. YOK ensures that the applying university has qualified and experienced teaching staff, administrative staff and physical resources to start the applied degree programme. In addition, the degree program module details, syllabus, programme regulations, and details of laboratories and other physical resources must be sent to YOK before an approval is given.

ASIIN The association is supported by many organisations, which view the quality of university education as a central concern. They are associations of universities and universities of applied sciences, expert societies, profession-related organisations, industrial and business associations and unions.

EUR-ACE® is a framework and accreditation system that provides a set of standards that identifies high quality engineering degree programmes in Europe and abroad. The EUR-ACE® label is a certificate awarded by an authorised agency to a HEI (Higher Education Institution) in respect of each engineering degree programme which it has accredited.

ENAAE (European Network for Accreditation of Engineering Education) the European network which authorises accreditation and quality assurance agencies to award the EUR-ACE® label to accredited engineering degree programmes.

8. MOBILITY FOR STUDENTS AND ACADEMIC STAFF

As an incentive for excellence, students' mobility is supported and promoted as well as student participation in educational activities related to university-business cooperation. For this purpose double diploma opportunities are available with the consensus between Tebriz university-Tehran and Near East university for the qualification of MS and PhD degrees.

Each one is based on a number of agreements with other universities and institutions in different countries. All these agreements allow the student to make a stay in a foreign university and attend lectures, do the final project/thesis or accomplish a double degree. The school is constantly working to secure more agreements in order to offer students a wider range of destinations to choose from.

Student participation in educational activities related to university-business cooperation, is called educational cooperation agreements particularly for summer internship. These kinds of activities are extracurricular for BA degree, which is mandatorily associated with the accomplishment of the summer training project in a company.

Academic staff could also work at the University of Kyrenia(Kyrenia, N.Cyprus) which has degree partnership with Near East University.

In addition, below is the list of agreements between Near East university and other universities in different countries which provides academic collaboration, exchange of students, academic staff and researchers.

| UNIVERSITY AGREEMENT LIST | AGREEMENT DETAILS |
|---|---|
| ACADEMY OF ECONOMIC STUDIES OF REPUBLIC OF MOLDOVA | To establish the legal and academic framework for cooperation between the two Parties. |
| AHFAD UNIVERSITY FOR WOMEN | <ul style="list-style-type: none"> • Faculty exchanges • Student exchanges • Exchange of Printed Materials |
| AL -ARIF CENTRE | <ul style="list-style-type: none"> • Document exchange • Master programme provide |
| AL-AHLYYYA AMMAN UNIVERSITY | <ul style="list-style-type: none"> • Faculty exchanges • Student exchanges • Exchange of Printed Materials |
| ALFASHIR UNIVERSITY | <ul style="list-style-type: none"> • Exchange of faculty members • Exchange of students • Joint research activities • Participation in seminars and academic meeting • Exchange of academic materials • Speacial short-term academic programs • Jointly organising of international conferences |
| ARDA BULGARIA UNIVERSITY | <ul style="list-style-type: none"> • Exchange students • Mutual introduction and • Advertising |
| AZERBAIJAN STATE AQRAR UNIVERSITY | <ul style="list-style-type: none"> • To colloborate on research in education, science, culture and art, • To do mutual researches and publications, • To exchange students academic staff at any level, • To provide mutual scientific field trips, • To organize sport facilites scientific meetings, • To do acitivities to introduce both universities properly. |
| AZERBAIJAN STATE OIL ACADEMY | <ul style="list-style-type: none"> • Academic collaboration • Faculty exchange • Student exchange • Exchange of Educational and Research Materials • Financial Agreement |

| | |
|---|---|
| AZERBAIJAN STATE OIL AND INDUSTRY UNIVERSITY | <ul style="list-style-type: none"> • Academic collaboration • Faculty exchange • Student exchange • Exchange of Educational and Research Materials • Financial Agreement |
| AZERBAIJAN STATE ECONOMY UNIVERSITY, BAKU | <ul style="list-style-type: none"> • Education • Research • Social and • Cultural activities |
| AZERBAIJAN STATE PAINTING AKADEMY | <ul style="list-style-type: none"> • Education • Research • Social and • Cultural activities |
| AZERBAIJAN ÜNİVERSİTESİ ODLAR | <ul style="list-style-type: none"> • Exchange of faculty members • Exchange of students • Joint research activities • Participation in seminars and academic meeting • Exchange of academic materials • Development of degree and non degree programs |
| AZERBAIJAN QAFQAZ UNIVERSITY | <ul style="list-style-type: none"> • To improve academic, cultural and scientific collaboration between two nations |
| BAKU EUROSIA UNIVERSITY | <ul style="list-style-type: none"> • Academic staff exchange programs • Researcher exchange programs • Student exchange programs • Joint programs for courses on distant learning • Organization of academic and social events, such as conferences, seminars • Collaborative academic/scientific training programs • Exchange of educational and research materials and sources • Arrangements for programs for common short-term vacations and social activities for academic staff, researchers and students |

| | |
|--|---|
| CARDIFF UNIVERSITY | <ul style="list-style-type: none"> • Academic cooperation • Exchange academic staff • Student exchange • Joint research work • Scientific meetings |
| CONCORD UNIVERSITY ATHENS, WEST VIRGINA USA | <ul style="list-style-type: none"> • International educational and exchange and promotion • Academic staff exchange • Jointly exploring research |
| DAR EL-MA'REFA UNIVERSITY | <ul style="list-style-type: none"> • Coordination and cooperation • Providing necessary documents • Student exchange |
| DILLA UNIVERSITY | <ul style="list-style-type: none"> • Visiting by faculty staffs and students for teaching, resarch and education • Enrollment of qualified students • Sharing academic publications and scholarly information • Promotion pf other academic activities • Undergoing joint research, collaborative projects and capacity building |
| DOC MANAGEMENT GMBH | <ul style="list-style-type: none"> • Academic cooperation • Exchange academic staff • Student exchange • Joint research work • Scientific meetings |
| GRIGORE T. POPA UNIVERSITY OF MEDICINE AND PHARMACY | |
| IRBID NATIONAL UNIVERSITY | <ul style="list-style-type: none"> • Exchange of faculty members • Exchange of students • Joint research activities • Participation in seminars and academic meeting • Exchange of academic materials • Development of degree and non degree programs |

| | |
|---|---|
| ISLAMIC UNIVERSITY OF INDONESIA | <ul style="list-style-type: none"> • Exchange of faculty members • Exchange of students • Joint research activities • Participation in seminars and academic meeting • Exchange of academic materials • Development of degree and non degree programs • Joint graduate degree programme • Exchange of staff • Support contracts between cultural and scientific exchange |
| IZHEVSK STATE MEDIOCAL ACADEMY | <ul style="list-style-type: none"> • academic cooperation • Exchange academic staff • Student exchange • Joint research work • Scientific meetings |
| KHAZAR UNIVERSITY | <ul style="list-style-type: none"> • Exchange of faculty members; • Exchange of students; • Joint research activities; • Participation in seminars and academic meeting; • Exchange of academic materials; • Development of degree and non degree programs |
| KOMRAT STATE UNIVERSITY | <ul style="list-style-type: none"> • Exchange of academic staff and students • Academic recognition • Joint degree/double-degree/twinning programs |
| KORE UNIVERSITY OF ENNA | |
| MALAYSIAN SOCIETY OF EDUCATIONAL ADMINISTRATION & MANAGEMENT | <ul style="list-style-type: none"> • Student exchange • Colloborative organization and participation in gatherings • Shared events |
| MELITOPOL STATE PEDAGOGICAL UNIVERSITY | |
| SHANDONING TEXTILE VOCATIONAL COLLEGE | <ul style="list-style-type: none"> • promotion • Providing necessary documents • Student application • Embassy processes |

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| SOCHI STATE UNIVERSITY FOR TOURISM AND RECREATION | <ul style="list-style-type: none"> • Exchange of faculty members • Exchange of students • Joint research activities • Participation in seminars and academic meeting • Exchange of academic materials • Development of degree and non degree programs |
| TABRIZ UNIVERSITY OF MEDICAL SCIENCES | <ul style="list-style-type: none"> • Exchange of faculty members • Exchange of students • Joint research activities • Participation in seminars and academic meeting • Exchange of academic materials • Development of degree and non degree programs • Joint graduate degree programme • Exchange of staff • Support contracts between cultural and scientific exchange • Future cooperation in the field of health tourism • Tuoms will benefit from the NEU Innovation and Advanced Research Centre |
| THE UNIVERSITY OF MODENA AND REGGIO EMILIA | <ul style="list-style-type: none"> • Scientific research and training of students, scientists and technicians • Existing common scientific programmes • Mutual willingness to extend the collaboration further |
| THE UNIVERSITY OF MOHAGHEGH ARDABILI | <ul style="list-style-type: none"> • Exchange of faculty members • Exchange of students • Joint research activities • Participation in seminars and academic meeting • Exchange of academic materials • Development of degree and non degree programs • Sport competitions • Special short term academic programs • Opportunities for sabbatical levels |

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| ULUSLARARASI AZERBAYCAN ÜNİVERSİTESİ | <ul style="list-style-type: none"> • To do and support research • Exchange of students, researchers and academic staff • Maintain materials • Provide academic personnel • To do mutual research |
| UNIVERSIDADE DE TAUBATE | <ul style="list-style-type: none"> • Exchange of researchers, technical personel • Exchange of research reports • Hosting technicians • Performing collaborative research |
| UNIVERSITÄT KLAGENFURT | <ul style="list-style-type: none"> • Student exchange; • Exchange of faculty and academic staff • Additional activites |
| UNIVERSITY OF APPLIED SCIENCE & TECHNOLOGY | <ul style="list-style-type: none"> • Exchange researchers, postgraduate an undergraduate students • Mutual assitane for teachers' scientific qualifications improvements • Exchange of experiments • Joint conferences • Joint projects and programmes |
| UNIVERSITY OF EXETER | <ul style="list-style-type: none"> • To assess the primary sex rations of both loggerhead and green turtles in Northern Cyprus |
| UNIVERSITY OF MANAGEMENT AND TECHNOLOGY | <ul style="list-style-type: none"> • Student Faculty exchange • İnformation exchange and assitance • Coordination • Course activities for visiting students |
| UNIVERSITY OF SOUTHERN DENMARK | <ul style="list-style-type: none"> • Academic cooperation • Exchange academic staff • Student exchange • Joint research work • Scientific meetings |
| UNIVERSITY OF STRATHCLYDE | <ul style="list-style-type: none"> • Academic cooperation • Exchange academic staff • Student exchange • Joint research work • Scientific meetings |

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| UNIVERSITY OF TEL AVIV | <ul style="list-style-type: none"> • geological investigations • Determine the area of geophysical investigations • Provide an exchange program for faculty members and students for joint projects • Surface and groundwater problems • Geological and tectostratigraphy evolution of Eastern Mediterranean Basin |
| PARTNER UNIVERSITIES AND INSTITUTIONS IN TURKEY | |
| <p>Abdullah Gül University Ağrı İbrahim Çeçen University Akdeniz University Aksaray University Ankara University Ardahan University *Hunting Federation Bartın University Başkent University Bayburt University Boğaziçi University Celal Bayar University Cumhuriyet University Çukurova University Erciyes University Erzincan University Erzurum Technical University Fırat University Hacettepe University Hitit University İstanbul University İzmir Katip Çelebi University Kahramanmaraş Sütçü İmam University Kastamonu University *Kıbrıs Sosyal Bilimler University *Kırgızistan-Türkiye Manas University *TRNC Turkish Agency(in N.Cyprus) Kocaeli University *Lefkoşa Turk Municipality Mohaghegh Erdebil University Muğla Sıtkı Koçman University Mustafa Kemal University Niğde University Nuh Naci Yazgan University Ordu University Selçuk University</p> | <p>To exchange students and academic staff</p> |

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| Siirt University *Social Security Institution Tunceli University Uludağ University Uşak University Yıldız Technical University Yüzüncü Yıl University | |
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9. LABORATORIES

The department makes sure that the laboratories and the library meet the qualitative and quantitative requirements of the degree program. The library offered by the university is one of the biggest libraries in the Middle East, keeping printed and electronic copies of books and other learning material where all is available to the students.

The Department of Computer Information Systems occupies the second floor of this building.

The department has the following undergraduate teaching laboratories:

- Personal Computer Laboratory 1
- Personal Computer Laboratory 2

In addition, students share the following laboratories situated at the Faculty of Engineering:

- Personal Computer Laboratory
- Computer Network Laboratory

The sizes of the laboratories and the equipment list in these laboratories are given below. In general each student is allocated one computer. In the network laboratory the students work in groups:

| Laboratory | Area | Equipment | Student Capacity |
|---------------------|--------------------|---|------------------|
| Personal Computer 1 | 100 m ² | 30 desktop PCs 1 printer 1 scanner | 60 |
| Personal Computer 2 | 100 m ² | 30 desktop PCs 1 printer | 60 |
| Computer Network | 50 m ² | CISCO network experiment kit 1 printer | 20 |

The following software packages are available in all the personal computer laboratories. Students are free to use any software package they like for their studies or for their graduation projects. Help is available by the experienced laboratory assistants on the use of these software packages:

- Word
- Windows 7
- Excel
- PowerPoint
- Access
- Adobe Photoshop CS5
- Adobe Flash Manager CS5
- Delphi
- Visual Studio 2010 (C #, ASP.NET, Visual Basic)
- Apache Friends (XMP, Xmp Control Panel)
- SQL
- Oracle
- Java
- Eclipse
- Matlab
- SPSS

10. RESEARCH CENTER

COMPUTER INFORMATION SYSTEMS RESEARCH AND TECHNOLOGY CENTER

Computer systems are used heavily in all fields of our daily lives. The Computer Information Systems Research and Technology Center has been established with the aim of carrying out studies and research in this field, to give consultancy services, and to give education in this field.

Computer Information Systems research and Technology Center has been established within the Near East University and it is a multi-disciplinary technical research center.

Our center carries out all kinds of studies and research in the fields of computer information systems. With its eminent staff, the center follows the recent developments in the fields of computer information systems and also supports such studies closely.

The Computer Information Systems Research and Technology Center gives consultancy support to private organizations as well as to government bodies. Our center gives specialized training courses to various organizations and helps these organizations to use computers and the information technology efficiently.

The staff at our center follows the most recent scientific papers in the fields of computer information and makes itself up to date with the most recent inventions in this field. The center also encourages and actively publishes scientific papers in the fields of computers and information technology.

Our center, with its eminent staff attends to international and local conferences and seminars and gives talks on their researches and findings, and also collaborates with other specialists in similar fields. As a result of this our staff number is always growing and the staff is always up to date with the latest technology and our research topics are also widening (Available link: <https://neu.edu.tr/academic/research-centers/center-of-excellence/computer-information-systems-research-and-technology-center/>)

11. JOB OPPORTUNITIES

This master's degree empowers graduates to deal with a wide range of IT disciplines and equips them with the management skills that they need to become IT managers and IT experts in their future jobs. The wide range of technologies presented on the master's degree and the analysis and development of real cases provide a realistic scenario in which students are guided through their initial contact with real-world cases. These professionals are highly in demand, as all kind of industries need IT experts and managers in their organizations.

Graduates from our Master's degree programme can virtually find jobs in all government and private organizations where computers are used. Some popular working areas of our graduates are:

- IT departments of private and public companies

- Communications and networking departments of private and government firms
- Independent IT consultancy
- Research and development at universities and in other institutions
- Teaching IT
- Setting up their own businesses

Additionally, Master's degree graduates have the options of continuing with higher education for Doctoral studies in the field of computer information technology or related fields.

12. ADMISSIONS AND ENTRY REQUIREMENTS

The admissions requirements are setup in such a way that it supports the students in reaching the intended programme learning outcomes by the end of the 2-year Master study period at the Department of Computer Information Systems.

The admissions and entry requirements ensure that the students who are admitted to the degree programme possesses the required competences and formal training required to be able to follow the Master Degree programme successfully. These requirements ensure that all admitted students are treated equally.

Students admitted to the department come from three sources:

- Local students, who are citizens of the Turkish Republic of Northern Cyprus (TRNC)
- Students from Turkey, who are Turkish citizens
- Students from other countries (foreign students), such as Iraq, Libya, Nigeria, Palestine, and so on.

Because the medium of teaching is in English, the level of their English is assessed by the Faculty of English language. Those students who have certificates and who have already passed English Language proficiency examinations are exempt from the English preparation school and are admitted directly to the department where they are enrolled for the first year and first semester of their studies. Those students whose levels of English writing and communication skills are below the required standards are admitted to the English preparatory school of the university. The English preparatory school offers concentrated teaching of the English language reading, writing, and communication skills. The duration of the preparatory school is one academic calendar. Successful students are admitted to the department at the end of their studies at the English preparatory school.

Master students joining the department from other fields are required to take scientific preparatory courses from the department's undergraduate programme. The minimum acceptable grade from these preparatory courses is CC. Students completing the scientific preparatory courses successfully can join the Master Degree programme of the department.

Candidates should have a bachelor's degree from a related fields of study before they can join the department. The Bachelor's degrees granted from universities of North Cyprus and Turkey shall be approved by the Council of Higher Education. Applicants must get a minimum score of 55 from the related test parts of ALES (Examination for Academic Personnel and Postgraduate Education) or equivalent grade from GMAT or GRE exams, and a minimum score of 50 from UDS or KPDS (Governmental Foreign Language Proficiency Test English) or equivalent grade from TOFEL, IELTS, CEFLE, ZDF. Candidates, who meet the requirements mentioned above, are given an interview on the study field at the beginning of each fall and spring semesters.

12.1 Requirements for Applications to Postgraduate Programs

The requirements to apply for a postgraduate degree program at the Near East University are as follows:

- 1) Graduating from a BSc or BA level undergraduate program.
- 2) Obtaining a score minimum 55 which is relevant to intended study field from Academic Postgraduate Education Exam (ALES) (only applies to Turkish Citizens).
- 3) Turkish Proficiency (Required only for foreign students applying to Departments whereby the language of instruction is Turkish. Students applying to the Faculty of Medicine or Dentistry are required to have knowledge of the Turkish Language before beginning clinical training).

12.2 Documents Required for Application

- 1) Copy of undergraduate diploma
- 2) ALES result for students from Turkey
- 3) Transcript
- 4) Copy of passport
- 5) 2 passport size photos
- 6) 2 reference letters
- 7) Curriculum Vitae

Application forms can be obtained from this web page or the Registrar's Office. Students whose applications evaluated are called for interviews or exams on previously announced dates and following that, the final decision about the applications are announced. Application dates are different for each term and these dates are announced via media.

Turkish Proficiency is available at the Turkish Language School of Near East University offering foreign students the opportunity to learn Turkish relevant to the department/program they have been enrolled in.

12.3 Recognition of Prior Learning

Lateral transfer is possible for students of Master's programmes who have successfully completed at least one semester at another department of the same university and the same institute, or at a Master's programme of another equivalent institute of another higher educational institute. According to the related bylaws, the courses that a lateral transfer student should take within the scope of "programme Adjustment" are determined by the committee of the relevant department. The determination of which and how many of the previously taken courses should be recognized within scope of the minimum course load, is suggested by the advisor and the Head of Department.

Transfer students join the our Master programme from other universities. These students are exempt from only $\frac{3}{4}$ of the Master courses in our department. These students must take the remaining $\frac{1}{4}$ of the courses from our department in addition to the compulsory Seminar course and the Master Thesis.

Students are required to fill an application form before they are accepted to the university. The university seeks to admit academically qualified students who desire a challenging and comprehensive education in the departments. The filled application form is available online. Students can either send their applications online or alternatively by post.

13. SCHOLARSHIP OPPORTUNITIES

The Near East University offers various scholarship opportunities to aidless students in order to provide them with the opportunity to conduct a higher education, to encourage the successful students, and also to increase the academic quality of the Near East University.

13.1 Scholarship for Foreign Students

In order to provide student inflow and introduce TRNC, this scholarship is assigned for the students from foreign countries. Students within this context are offered special discounts in their tuition fees and ease in payment.

13.2 Scholarships Assigned to Citizens of TRNC

The main objective of this Scholarship Assignment is to provide the native students with higher education in their own country, to support the aidless students and to encourage and motivate successful students. Only citizens of TRNC can benefit from this opportunity.

By passing the exams organized by the university every year, candidates gain the right to be educated with a full or half scholarship within the determined quotas. Information about scholarships is available on the web site of the university.

14. RELEVANT REGULATIONS

The regulations of the degree program are very important documents both for the staff and for the students. These documents are available at the web site of the university. In addition, students can request to see printed copies from the department. The regulations are legal documents and their contents cannot be changed without the approval of the university senate.

- Library regulations
- Academic regulations for postgraduate students
- Master Thesis Guidelines of Graduate School of Applied Science
- Dormitory Regulations
- Student Disciplinary Regulations

15. ACTIVITIES

Some of the activities of the Computer Information Systems Department are displayed in the web site of the Near East University and also published as news in the national papers. Briefly, the displayed and published activities of the department in the last semester are as follows:

4 April 2016 – Joint Venture Between the NEU and the TRNC Information Association

A joint venture was signed between the NEU Department of Computer Information Systems and the TRNC Information Association with the aim of working on joint projects.

3 May 2016 – Information and Health were Discussed

Information and Health were discussed in the activity organized by the Department of Computer Information Systems and the Information Systems and Technologies Research Center which belongs to the Center of Excellence.

3 June 2016 – IT Project Management workshop

The “IT Project Management” workshop was held in cooperation with the Department of Computer Informatics of Near East University, Informatics Association and Chamber of Computer Engineers. The moderator of the workshop was Assoc. Prof. Dr. Nadire Çavuş, Head of the Department of Informatics, and the workshop was held at the labs of the Department of Informatics.