



Department of
Computer Science

Handbook
2021-2022

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1 INTRODUCTION

1.1 WELCOME TO NEW STUDENTS

This handbook should answer your questions about the rules and requirements of the Department of Computer Science. The handbook contains information and regulations for all Computer Science degree programs. It provides a guide to what is expected of you on these programs, and the academic and personal support available to you. [Please retain it for future reference.](#)

We are confident that you will find these programs challenging and demanding, and we hope that you will find your studies at Neapolis University Pafos both stimulating and rewarding. Our courses have been designed to offer students a dynamic, structured and coherent learning experience. Our programs has several features which we believe will contribute to your studies being an effective and enjoyable period of personal and academic development.

The programmes offered by the Department have a strong focus on practical applications without sacrificing academic rigour. They deliver the skills necessary for students to move forward and expand their career path. The curriculum of the Departments' programmes of study are highly integrated and accelerated, allowing for the study and mastery of a broad range of skills. The curriculum of all programmes of study emphasises critical learning outcomes required by students to succeed in the business environment of the 21st century.

If you do encounter problems, with your work or otherwise, please remember that my colleagues and I are all here to help you in any way we can. Each student has an Academic Advisor who can be contacted to provide advice throughout the duration of their studies. We all hope that your time at the Neapolis University will be a happy and rewarding experience for you, and we will do our best to make it so.

I look forward to getting to know you during the coming year,

Savvas A. Chatzichristofis, Associate Professor

Head of the Department of Computer Science

1.2 DEPARTMENT OBJECTIVES

The Department of Computer Science aspires to be a reference point for the quality of education and excellence in research at international level. The Department's vision is based on common goals and mutual commitments among the academic staff and the students of the Department.

The aim of the Department is for students to acquire modern knowledge and skills that will enable them to be integrated and contribute in effectively to the scientific-socio-economic and cultural development. The Vision of the Department focuses on its graduates, to participate critically in the progress of science, the evolution of the University and the well-being of the community in terms of freedom, meritocracy and respect for different views.

The academic staff of the Department seeks to remain open to dialogue and ideas and feels the obligation to contribute to society. Furthermore, the Department promotes research and innovation and maintains a high sense of excellence in the production of knowledge. The experienced academic staff develops international collaborations and co-competes in cutting-edge research projects by providing feedback to the Department with additional scientific knowledge, experience and financial resources.

The Department's goal can be better understood through the perspective of the University's general mission, which is the pursuit of excellence in teaching, research and community service.

Specifically, the Department aims to:

- Encourage and support academic principles, innovative teaching and the integration of theory with practice in all the scientific areas that are offered.
- Create an academic environment that appreciates and promotes free, active and original intellectual research among its faculties and students.
- Provide programs that meet local and national needs, and work with other state as well as private actors to promote economic growth and knowledge.
- Welcome students, faculties and staff from different backgrounds and beliefs, and create a sense of community that facilitates their development and strengthens their career aspirations.

The Department offers curricula that meet local and national needs and promotes links with local ICT communities, that need to be informed using modern educational methods and learning technologies. At the same time, the Department enhances its co-operation with the other Departments of the University, by including in the curriculum of interdisciplinary courses from the fields of Economics, Finance and Business to help the students acquire entrepreneurship skills.

1.3 MISSION STATEMENT

Axis 1: Excellence in teaching: The goal of the Department is to become a nursery for graduates, from academics and internationally recognized scientists, becoming a model of excellence, with an emphasis on innovative and human-centered teaching and research in the scientific field it serves. The Department aspires to educate its students thoroughly. At the same time, they are educated to work dynamically, with team spirit and adaptability to their future work environment. The aim is to establish the Department as a center of methodical and modern education, which will award diplomas that will certify high quality studies.

Axis 2: Excellence in research: The Department aims to acquire and consolidate a strong presence and contribution to international dialogue and scientific progress. The Department aspires to actively support the conduct of cutting-edge and high-level research in all disciplines of computer science.

Axis 3: Excellence in Cooperation, partnerships and community service: The Department aims to develop and consolidate scientific and research collaborations with other institutions of research and innovation. It also supports collaborations with the local and international economy, the business world, social organizations and other organizations to promote innovation, sustainability, social cohesion and quality of life.

1.4 STAFF

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Head of the Department	Savvas A. Chatzichristofis
Coordinator of the BSc in Applied Computer Science	Savvas A. Chatzichristofis
Coordinator of the MSc in Information Systems and Digital Innovation	Zinon Zinonos
Erasmus Committee	Zinon Zinonos
Internal Quality Assurance Committee	Savvas Chatzichristofis Panagiotis Christodoulou
Industry Liaison	Panagiotis Christodoulou

2 STUDIES

2.1 ADMISSION CRITERIA

The University admits students irrespective of nationality, race, religion, or gender, provided that they meet the admission criteria of the Programme. The admission criteria are based on the type and quality of previous studies, the grade obtained in previous studies, and the suitability of the candidate for the programme of study that has been applied for.

The University's admission policy is to make admission offers to applicants, who on account of their background and abilities are likely to benefit from university study and to complete successfully the Programme.

In particular, candidates for the [BSc in Applied Computer Science](#) should submit a school leaving certificate from a recognized six-form secondary school (high school) with an average grade of 75% (Greek Cypriot secondary schools) or a grade "C" or its equivalent (other secondary schools), or equivalent qualification. Candidates who submit a six-form secondary school leaving certificate but do not meet the above grade requirements may be admitted on a probationary status, if they show potential for educational advancement. The probationary status will be removed, subject to a satisfactory academic performance. Candidates admitted on probationary status may also be asked to enroll in foundation courses in order to improve their skills and/or to take reduced load.

Candidates who have graduated from a recognized six-form secondary school and have completed university level work in an accredited program at an institution other than the Neapolis University Pafos, are eligible to apply for transfer admission. Such candidates should, along with their application form, submit the following documents:

- A six-form secondary school (high school) leaving certificate or equivalent qualification.
- Official transcripts (grade reports) and syllabi (course descriptions) for all University coursework taken to date.

Transcripts are evaluated by the relevant department to determine the number of credits to be transferred in accordance with the Neapolis University curriculum requirements and the candidate's academic performance.

Transfer students, regardless of the number of credits transferred must complete a minimum of two-year full-time study (120 ECTS) at the Neapolis University in order to be eligible to graduate.

Candidates who have Informal or Non-formal prior learning, such as professional examinations (i.e. LCCI, CISCO, etc), non-University level examinations (i.e. A' Levels, GCSE, IELTS, TOEFL, etc), business or industrial training programs, or other achievements, are eligible to apply for transfer credits. Work experience can be granted transfer credits after evaluation and verification. According to the University's regulations these candidates can apply for up to 10% of the total ECTS credits which are required for the completion of each program of study.

In order to be admitted to the MSc program of [Information Systems and Digital Innovation](#) (Conventional or Distance), candidates must possess a Bachelor Degree or equivalent in Computer Science, Computer Engineering, Business, Economics or in any other related field of Information System and Digital Innovation with grade 6.5/10 or 2:1 or equivalent. The general admission criteria are based on the type and quality of previous studies, the grade obtained in previous studies and the suitability of the candidate for the program of study that has been applied for. In any case, the application file of each applicant will be considered on its own merit. The Program Coordinator will be actively involved in the review of applications and his/her approval will be required before admitting any student to the program.

2.1.1 Admission of Students with Special Needs

The University offers equal opportunities to all students regardless of their physical abilities. Candidates who have a form of disability, which is mentioned in their application, will be examined on equal terms as all other candidates. Should any University employee reject a candidate due to physical disability, then this is considered to be a disciplinary matter.

The candidates should explain in their application form the nature of their disability and inform the admissions office concerning the special needs they will require during their studies.

2.1.2 Application Forms

For a candidate to be considered for admission to the Programme he/she needs to complete an Application Form, obtainable from the Admissions Office. Once completed the application form should be returned directly to the Admissions Office with any additional documentation required. An electronic version of the Application Form can be downloaded from the Admissions Office homepage and can submitted on-line.

2.1.3 Documents Required

A student who applies to the Programme of [Applied Computer Science](#) should submit the following documents:

- Completed Application Form.
- Certified results for all examinations mentioned on the Application Form and/or confirmation of the award of the student's qualification(s).
- Evidence of English language proficiency.
- An official transcript of academic work completed to date.
- Two confidential recommendation letters one of which must be from an instructor familiar with the student's academic work.
- A personal statement of interest in pursuing undergraduate or graduate studies.

A student who applies to the MSc Programme of [Information Systems and Digital Innovation](#) should submit the following documents:

- Application form
- ID/Passport copy
- Secondary School Leaving Certificate

- Bachelor degree and transcript
- Two reference letters
- English language certificate
- Personal statement (up to 500 words)
- Two passport photos

International students must provide to the Admissions Office, a Financial Statement attesting to their ability to meet the costs of their study at the University.

2.1.4 English Language Requirements

For the English speaking programme, the minimum English language requirements are:

- TOEFL - a minimum score of 550 (paper based) or 213 (computer-based) or 80 (internet based) in the TOEFL test.
- IELTS - The British Council/University of Cambridge Local Syndicate's test of Academic English, International English Language Testing System (IELTS) with a composite score in the range of 6-6.5 and not less than 6 in any one component.
- GCE O Level English Language at Grade C or above.
- GCSE English language at Grade C or above.
- CSE Grade 1 Pass in English.
- Hong Kong Certificate of Education, English Language Syllabus B, Grade C or better.
- A pass in the Use of English examinations administered by bodies as listed under GCE Examination Board.
- A pass in the Oxford Examining Body's English as a Foreign Language (Higher Paper).
- A pass in English in the Joint Matriculation Board (JMB) Test in English (Overseas) examination.
- A matriculation examination from European countries where English is presented as a subject and an acceptable level is achieved.
- A grade C or higher on a Certificate of Proficiency in English (CPE).
- Grade A on a Certificate in Advanced English (CAE).

Applicants whose native language is not English and do not comply with the above, may be required to take the University's English Placement Test (EPT). Candidates whose English is below the required standard will be offered additional English-language classes.

2.1.5 Admissions Procedures

The Admissions Office on reception of application forms and supporting documentation will record and forward applications to the Programme Director who chairs the Admissions Committee for a decision to be made.

2.1.6 The Decision to Admit

Once a decision to admit is made, the Director of the Programme will send the Application for ratification. In order to avoid any unnecessary delay, the ratification will normally be done by Chairman's action and it will be an agenda item under

Chairman's business at the next meeting of the Board. The Admissions Office will officially inform the student of its decision only after the ratification of the Board. If an offer is made this offer is considered an agreement, which both the student and the school are expected to honor.

2.1.7 Admissions Appeal Process

Where an applicant is dissatisfied with a decision of the University relating to admission to the programme, the applicant may appeal to the relevant Admissions Office within ten (10) working days of notification of the decision. The appeal will be considered by the Admission Appeals Committee comprising of three faculty nominees of the Dean, of the respective School, who were not involved in the decision to which the appeal relates.

2.1.8 Registration

Students confirm their registration after they submit the course registration form.

2.1.9 Accreditation of Prior Learning (APL)

Any student registered on a taught program leading to an award of the University who has pursued appropriate studies in this or another institution, or who possesses appropriate qualifications, or experience has the right to be considered for the accreditation of prior learning (APL). The credit permissible via APL shall not normally exceed 50% of the total credit of the program.

The procedure to be followed is described below:

- The student with his/her application for registration asks for the recognition of courses.
- The Admissions Office enters the data of the student and forwards the application to the Tutor responsible for reconnaissance of the certain School, to prepare the courses correspondence table.
- When the Tutor prepares the courses correspondence table sends it to the Admission Office.
- The Admission Office sends the acceptance letter to the student with the courses correspondence table. In the acceptance letter it is noted that the student shall submit original or true copy of the courses marks list of the University from which the courses have been recognized.
- When the student submits the courses marks list, the application is forwarded to the Registrar to register the courses and the credits of the student.

If the student after the beginning of the semester provides the University with additional documents and request for additional recognition or request for correction of the first recognition of courses then another process is followed by the School Secretariat.

2.1.10 Graduate Student Association

All students are entitled to join the Graduate Student Association and Student Union and become automatic members upon registration with the University.

2.1.11 Student Intake

Up to 30 students on each programme.

3 UNIVERSITY RULES AND REGULATIONS

General rules, regulations, policies and procedures of the University (i.e. suspension policy, duration of completion of studies policy, exams regulations and procedures, financial information) are written in the University Student Handbook for Undergraduates, Postgraduates and Distance Students.

All relevant documents are uploaded on the Moodle page “General Information”.

4 INTERNAL REGULATIONS

4.1 STUDENTS' EVALUATION

The procedure and method of evaluation of each course are described in the Syllabi of the courses. Grading ranges in the scale between 0 (complete failure) to 100 (absolute success).

Evaluation standards:

Numerical grade	Descriptive grade	
85-100%	Excellent / First Class Honours	A
65-84%	Very well / Second Class Honours	B
50-64%	Well / Third Class Honours	C
0-49%	Rejection	F

In general, midterm exams, formative assessment methods and assignments aim at assessing students' progress and at the same time, prepare them for the final exams. In this respect, midterm exams and assignments test the students analytical and synthetical skills, their understanding of the content of course, as well as their ability to form and present arguments related to the content of the course in a clear, logical and coherent way. It also aims at boosting the students' research and/or (verbal and written) presentation skills.

In case of the conventional form, the summative assessment methods which are used are the following: [written essays](#), [quizzes](#), [oral presentation](#), [review of state-of-the-art research papers](#), [software development](#) and [case studies](#). Assignments are typically submitted by the end of 8th week of each semester. Alongside with grading, qualitative feedback

is provided by tutors to students within ten days from the day of the submission of their assignment. Comments made by tutors aim not only to show students what they need to improve, but also provide guidelines on how to improve.

Each course may implement multiple formative assessment methods that can provide a greater and more qualitative variety of information about students' knowledge and skills and give students the opportunity to become themselves active shareholders of the evaluation process and its criteria. In this context, peer-reviewing is encouraged as the procedure by which students are involved in a process that the traditional evaluation is conducted solely by the tutor. In several courses, after the submission of the tutor's comments on the assignments, students are asked to participate in a peer review process by evaluating the work of other students using specific assessment criteria given to them. By evaluating their fellow students' work students realize mistakes and omissions in their own work and on the one hand they learn on the other they cultivate assessment, justification and self-assessment skills.

A midterm exam is an exam given near the middle of an academic grading term, or near the middle of any given semester. Midterm exams measure students' grasp of the course materials and identify areas that need work.

Final exams take place at the end of each academic semester. Their aim is to assess the students' progress during the whole academic semester. Final exams take the form of written exams, such as essay-type questions and/or short-answer questions and/or multiple-choice questions.

If a student misses the final exam for a valid reason, his/her participation in the September exams will be considered as his/her first attempt. Valid reasons include absence due to certified medical reasons (a medical certificate must be submitted to the University within 10 days from the end of the examination period) or other reasons of force majeure.

Within 14 days from the announcement of the results, students have the right to ask to be informed personally on the method of evaluation of their examination scripts and request for a remarking if they so desire.

4.2 ASSESSMENT CRITERIA

Undergraduate program: The student's evaluation typically includes final written exams and midterm assessments (e.g. written exams, assignments, interactive activities). The students' evaluation typically includes final exams (50%) and other methods of assessment (50%). The curriculum of each course determines the percentage of the grade of each assessment.

In order to secure a passing grade in a course, students need to secure a passing grade, 40% or higher, in both the midterm assessment and the final exams.

Students who have completed courses that correspond to up to twelve (12) ECTS throughout the academic year and must repeat the year. That is, in the following year of study, these students will, compulsorily, enroll courses that they have failed last year

Postgraduate program: The students' evaluation typically includes three graded components: final exams (60%), a project (28%), and activities (12%). **In order to secure a passing grade in a course, students need to secure a passing grade, 50% or higher, in each of the three graded components (final exams, project, activities).**

It is worth noting that in midterm exams, assignments and final exams, special provisions apply for students with special needs, as well as with reading and writing disorders (such as dyslexia), in compliance with the University's general policies and procedures.

Please note that:

1. The mid-term evaluation procedure is completed before the start of the final examination period.
2. The weight of mid-term evaluation is set at 50%. However, the instructor may set a different weight provided students are informed on a timely basis.
3. If the student has failed to take part in the mid-term or final evaluation procedure or has failed during this procedure, is obliged to go through the procedure in the September examination period.
4. The maximum mark that can be awarded from taking part in the evaluation procedure during the September examination period is 64%.

4.3 DEGREE GRADE CALCULATION

For Grade calculation, the final grade of each course is multiplied by its credit units (ECTS). Then the multiplier results are added and divided by the number of credits (ECTS) required to complete the programme of study.

To the Degree Grade do not count the courses that receive a descriptive "score" (Pass, Transfer course, Erasmus Course).

Example:

Academic Year: 2013-2014 semester: 1				
Code	Course	ECTS	Final Grade	Status
MPA520	Leadership and Organisational Behaviour in the Public Sector	7.5	84	P
MPA604	Communication and Cooperation at School	7.5	84	P
MPA605	Administration and Management of School Units	7.5	86	P
MPA606	Planning and Development of Analytical Curricula	7.5	63	P
Total for semester 1		30.0	79	

Academic Year: 2013-2014 semester: 2				
Code	Course	ECTS	Final Grade	Status
MPA500	Introduction to Public Administration	7.5	95	P
MPA510	Economics for Public Sector Management	7.5	73	P
MPA540	Managing Human Resources in the Public Sector	7.5	77	P
MPA570	Public Policy Design-Evaluation and Implementation	7.5	75	P
MPA600	Dissertation	30.0	91	P
Total for semester 2		60.0	85	

Averages & Totals				
Total ECTS		90	83	

The calculations that the specific student should perform are described below:

Code	ECTS	Final Grade	
MPA520	7.5	84	$7.5 \times 84 = 630$
MPA604	7.5	84	$7.5 \times 84 = 630$
MPA605	7.5	86	$7.5 \times 86 = 642$
MPA606	7.5	63	$7.5 \times 63 = 472,5$
MPA500	7.5	95	$7.5 \times 95 = 712,5$
MPA510	7.5	73	$7.5 \times 73 = 547,5$
MPA540	7.5	77	$7.5 \times 77 = 577,5$
MPA570	7.5	75	$7.5 \times 75 = 562,5$
MPA600	30.0	91	$30 \times 91 = 2730$

$$7507.5 / 90 = 83.4$$

4.4 ASSESSMENT OF STUDENTS

Each syllabus describes the overview and the objectives, the learning outcomes of the course, the topics, the teaching methods, the assessment methods and the proposed bibliography and references.

Learning Outcomes Example

Learning Outcomes:

Students will be able to:

- O1. Describe the function of the basic components and peripherals of a computer and its uses in the modern world.
- O2. Examine and apply number and data conversion techniques and understand the importance of binary coding and the operations permitted on binary digits.
- O3. Describe and distinguish the different areas of Computer Science and appreciate the value and contribution of each area of CS.
- O4. Describe and understand the function of the basic components of computer networks and their uses in the modern world.
- O5. Explain how the various areas of computing complete the sphere of knowledge of Computer Science.

Concerning the assessment methods, all syllabi include an essential table, which shows the assessment methods used by the instructor and the mapping with the specific learning outcomes of the course (see the example below).

	Percentage	O1	O2	O3	O4	O5
Midterm Exam	I: 20%	√		√		√
Assignments / Project	II: 30%		√		√	
Final Exam	III: 50%	√		√		√
	I+II+III=100%					

This mapping is essential for the students, as the Instructor will give them the feedback of succeeding the learning outcomes of the course.

Concerning the assignments, on each course, a table illustrates the requirements and the implementation method as required by the instructor and the nature of the course (see the example below).

	Written Essay	Quiz	Oral Presentation	Research Papers	Software Development	Case Study	
Assignments / Project	√		√				
Percentage	A:15%		B:15%				A+B=II

Each assignment is assessed by the following criteria:

The assignments, are submitted by the students during the 8th week of the course program as follows:

Week 2: The Instructor is submitting the subjects of the assignments.

Week 2 – Week 7: During those weeks the students are participating and interacting, in order to find the content of ideas

Following this frame, the instructor is required to submit the following on Moodle (see section formative assessment for more details):

- Discussion forum question/s for a current area of subject in order to comment and analysis by the students **and/or**
- A Wiki project **and/or**
- Videos for discussion **and/or**
- Topics for oral presentations

Week 8 – Submission of the assignment

Week 9 – (Optional) Peer review by the students. The peer review has the aim to comment the content of the assignment, to analyze and to give the opportunity to students to obtain critical thinking in cooperation with their Instructor.

Week 10 – Assessment of the assignments by the Instructor

Week 11 – Feedback and discussion on the assignments.

Neapolis University is committed to provide timely and appropriate feedback to students on their academic progress and achievement, thereby enabling students to reflect on their progress and plan their academic and skills development effectively. Feedback, and acting on feedback, is therefore part of the active learning process throughout a student's course of study.

Methods of feedback will vary according to assessment type, discipline, level of study and the needs of the individual student.

It is crucial for students that the feedback they receive is meaningful and useful. Therefore, any comments made should be clear, directly related to areas of assessed performance, and sufficiently detailed to be useful for the student in their personal and academic planning. Where brief comments such as "good" or "satisfactory" are used they should be used consistently across the programme and if possible, the Department or School. It may be appropriate to align this type of comment to

grading descriptors. Students should be given advice on how to interpret feedback comments and be able to ask questions if the feedback given is not clear to them.

Each student must feel that appropriate consideration has been given to their piece of work and their personal development as a learner. Students are very clear that feedback must be personal to them. Generic feedback is only acceptable as additional feedback, and substantive feedback must be given to each and every student in a unit.

This policy applies to all courses. It sets out the principles under which feedback should be planned and delivered and relates to both formative and summative work.

4.4.1 Assessment Guidelines for Written Assignments

CONTENT OF IDEAS (40 points)

GUIDELINE	POINTS
<p><i>The student fully understands the wording of the question and fully meets the requirements of the assignment:</i></p> <ul style="list-style-type: none"> • The student fully understands the wording of the question, in its varied shades, hints and implied conditions. • The answer covers most of the points provided in the Answer Guide. • The student structures, organizes and develops his argument completely. The arguments are organized, documented and convincing. Thought shows consistency, sequence and logical escalation. • The student structures, organizes and develops his argument more fully. The arguments are organized, documented and convincing. Thought shows consistency, sequence and logical escalation. • Even if it does not necessarily lead to strictly original conclusions, however, the student exhibits synthesizing ability and creativity in the way he uses the curriculum and the stimuli of the additional bibliography. 	40-30
<p><i>The student adequately understands the wording of the question and meets the requirements of the assignment in a satisfactory manner:</i></p> <ul style="list-style-type: none"> • <i>The student understands the wording of the question, even if some of the subtleties, hints and implied conditions draw his attention.</i> • The answer covers quite a few, but not all the points provided in the Answer Guide. • The student structures, organizes and develops his argument in a satisfactory manner covering all aspects of the subject. The arguments are organized, documented and generally convincing, but in some cases there is a sense of circularity or repetition. • The student handles parts of the curriculum creatively and comfortably, but presents some stiffness and uncertainty in others. He also doesn't have particular familiarity with the subject matter beyond the teaching manual. 	29-19
<p><i>The student does not adequately understand the wording of the question and only partially responds to the demands of the assignment:</i></p> <ul style="list-style-type: none"> • There are serious gaps in the way the student understands the wording of the question. Parts of it are omitted during the development, while the subtle shades, hints and implied conditions are not captured. The student often deviates from the scope of the answer. • The arguments are often empty, with logical gaps and jumps. Little to a few of the points provided by the Answer Guide are covered. • The student does not seem to have absorbed the curriculum. He makes serious mistakes in 	19-10

managing the material and is subject to misunderstandings and distortions.	
<p><i>The student does not understand the wording of the question and does not meet the requirements of the assignment:</i></p> <ul style="list-style-type: none"> • The student does not understand the wording of the question and what it entails. Important aspects of the issue remain intact. The assignment does not result in clear and easy-to-understand positions that are in line with the requirements and generally goes beyond the scope of the answer. • His argument is unreasonably delayed and constantly undermined. The student is unable to establish positions with a sequence, consistency and logical escalation. • The student has not understood the teaching material. 	9-0

STRUCTURE (20 points)

GUIDELINE	POINTS
<i>Words Limit (as given by the instructions)</i>	20-15
<p><i>The student fully understands and applies well the rules of structuring a scientific assignment:</i></p> <ul style="list-style-type: none"> • The assignment has a distinct three-part structure (introduction - main part - conclusion). The structure fully responds to the development needs of the subject by correctly distributing the material to the relevant sections, based on its importance and weight in the whole argument. • The student does not fail to place headings and sub-headings in strategic points of the assignment, which contribute to easier access of the provided material. 	14-10
<p><i>The student generally understands and largely applies the rules of structuring a scientific assignment:</i></p> <ul style="list-style-type: none"> • The assignment has a distinct three-part structure (introduction - main part - conclusion). The structure responds to a great extent, but not perfectly, to the development needs of the subject. In general, the material is correctly allocated to the relevant sections based on its importance and weight in the whole argument. However, there are cases of material displacement where it is inappropriate. • The student places headings and sub-headings in strategic points of the assignment, which contribute to easier access of the provided material, but not with absolute consistency and not always with alignment. • The student generally understands how to use footnotes or endnotes, but occasionally makes mistakes and inconsistencies. 	9-5
<p><i>The student has significant shortcomings in applying the rules of structuring a scientific assignment:</i></p> <ul style="list-style-type: none"> • The assignment does not have a distinct three-part structure (introduction - main part - conclusion), which as a result makes monitoring the progress of the argument difficult. The material is not distributed correctly to relevant sections based on its importance and weight in the whole argument. • The assignment is unstructured. The argument does not show logical escalation. Thought is disordered and extremely incomprehensible. The student does not understand the methods of developing a scientific argument. 	4-0

- | | |
|---|--|
| <ul style="list-style-type: none"> • The assignment is a single, indistinguishable body, without any visible indication of its structure and organization. | |
|---|--|

PRESENTATION (10 points)

GUIDELINE	POINTS
<p><i>The student fully understands and applies well the rules of presenting a scientific assignment:</i></p> <ul style="list-style-type: none"> • The student understands how to use footnotes or endnotes, based on a particular system • He knows where, how, when, and why you put footnotes in a scientific assignment. He places the footnote markers at the appropriate points so that it is absolutely clear what it refers to and why. • The footnote itself is clear about the material the reader is asked to identify in the primary or secondary source it refers to. • The student uses quotations from the primary and secondary sources as they are written, sparingly and appropriately. He knows how to clearly distinguish his own speech from the one he has taken from elsewhere, without allowing any suspicion of plagiarism. • The student presents his bibliography structurally and systematically, in both the footnotes and the end of the paper, based on a specific system. • The assignment presents a perfect typographical appearance, without inconsistencies and lack of aesthetics. 	10-7.5
<p><i>The student generally understands and largely applies the rules of presenting a scientific assignment:</i></p> <ul style="list-style-type: none"> • The student generally knows how to use footnotes or endnotes, but occasionally makes mistakes and inconsistencies. • The student does not prove that he is fully aware of where, how, when, and why he uses footnotes in a scientific assignment. He does not always place the footnote markers at the appropriate points, so that it is absolutely clear what it refers to and why. • The footnote itself is not always clear about the material the reader is asked to identify in the primary or secondary source it refers to. • There are imperfections in the composition of the bibliography both in the footnotes and at the end of the document. • The assignment shows minimal mistakes in typographic appearance. 	7.5-5.0

LANGUAGE (10 points)

GUIDELINE	POINTS
<p><i>The speech is absolutely flowing, precise and stylistically appropriate:</i></p> <ul style="list-style-type: none"> • The language is grammatically and syntactically fluent. The syntax is clear and easy to read. The speech is submissive and creative, but not overly long and chaotic. • The language is in line with the stylistic coordinates of a scientific essay. It is not simplified, it is not archaic, it is not pretentious and self-referential. The speech has personality, but not to the extent that it becomes peculiar. • Expression is eloquent, rich and varied, always within the ethics of scientific speech. 	10-7
<p><i>The speech sometimes lacks precision:</i></p> <ul style="list-style-type: none"> • There is a fairly large number of barbarism and solecism that makes it difficult to understand the speech. The text is generally difficult to read. • The student appears to not completely and always understand the stylistic specifications of a scientific essay. • The expression is poor, the vocabulary is limited and repetitive. 	6-0

RESEARCH (20 points)

GUIDELINE	POINTS
<p><i>The assignment presents unequivocal evidence of individual research:</i></p> <ul style="list-style-type: none"> • The student makes full and not selective use of most of the bibliography indicated. • The student discovers and utilizes relevant and useful sources beyond the teacher's initial indications. • The use of bibliography for forming the argument is perfect. The bibliographic documentation of positions, views and arguments is compact. The bibliography is used as a means to substantially enrich the argument with ideas, information, evidence, examples etc. 	20-15
<p><i>The assignment presents clear indications of individual research:</i></p> <ul style="list-style-type: none"> • The student uses a significant part of the provided bibliography. • The use of the bibliography to construct the argument is adequate, but not complete. References are made to scientific studies related to the subject, but it is not entirely clear how these studies have contributed to the development of the student's argument. 	14-9
<p><i>The assignment shows little or no evidence of individual research:</i></p> <ul style="list-style-type: none"> • The student has sufficed with the material of the teaching manual and/or the basic compulsory bibliography, which proves however that he knows it very well. References to the wider literature provided are rare and selective. • The use of bibliography for the formation, extension and depth of the argument is limited. • The student has the sense of the need for bibliographic documentation of positions, views and arguments. 	8-0

4.4.2 Assessment Guidelines for Programming Assignments

Programming assignments will be graded based on a 32-point rubric.

- **Rough Draft:** You should submit code that runs and that implements or sets up a small part of the larger assignment.
- **Program Correctness:** Your program should work correctly on all inputs. Also, if there any specifications about how the program should be written, or how the output should appear, those specifications should be followed.
- **Readability:** Variables and functions should have meaningful names. Code should be organized into functions/methods where appropriate. There should be an appropriate amount of white space so that the code is readable, and indentation should be consistent.
- **Documentation:** Your code and functions/methods should be appropriately commented. However, not every line should be commented because that makes your code overly busy. Think carefully about where comments are needed.
- **Code Elegance:** There are many ways to write the same functionality into your code, and some of them are needlessly slow or complicated. For example, if you are repeating the same code, it should be inside creating a new method/function or for loop.
- **Assignment Specifications:** The assignment will likely ask you to include certain information as comments, or save your program with a certain file name, or other such specifications. These tasks fall under "assignment specifications."

Rough Draft Correctness		2 points	1 point	0 points
		Rough draft runs and implements some part of the assignment.	Rough draft submitted but does not run.	No rough draft submitted.
Program Correctness	15 points	10 points	5 points	0 points
	Program always works correctly and meets the specifications	Minor details of the program specification are violated, program functions incorrectly on some inputs.	Significant details of specification are violated, or the program often exhibits incorrect behaviour.	Program does not compile, or errors occur on input similar to sample.
Readability	6 points	4 points	2 points	0 points
	Code is clean, understandable, well-organized	Minor issues such as inconsistent indentation, variable naming, general organization	At least one major issue that makes it difficult to read	Several major issues that make it difficult to read.
Documentation	3 points	2 points	1 point	0 points
	Code is well commented.	One or two places could benefit from comments, or the code is overly commented	Major lack of comments makes it difficult to understand code.	No comments.
Code Elegance		4 points	2 points	0 points
		Code appropriately uses for loops and methods for repeated code, and there is minimal hard-coding.	Code uses a poorly chosen approach in at least one place, for example, hard coding something that could be implemented through a for loop	Many instances where code could have used easier/faster/better approach.
Assignment specifications		2 points	1 point	0 points
		Assignment meets specifications	Minor specifications are violated	Significant specifications ignored or violated

4.4.3 Assessment Guidelines for Case Study Assignments

Case study assignments will be graded based on a 0-100-point rubric. Although the exact marking approach may differ depending on the idiosyncrasies of the particular case study and the angle/focus of analysis, the following assessment rubric provides the general qualifying guidelines for marking case-study assignments.

Criterion	A-level qualities (90–100)	B-level qualities (80–89)	C-level qualities (70–79)	D- or F-level qualities (60–69 or below 60)
Completeness	Complete in all respects with some or all answers exceeding requirements demonstrating a brilliant and thorough approach incorporating insights and depth of analysis in addition and in excess of the material taught in class	Complete or minimal gaps in addressing fully, critically and correctly all relevant aspects of the case study under consideration	Incomplete in some respects; reflects critically and correctly the majority of requirements,	Incomplete in several respects; a number of requirements are partially covered or not addressed at all;
Understanding	Demonstrates an excellent, complete and sophisticated understanding of the topic(s) and issue(s) pertaining to the particular case study	Demonstrates an accomplished understanding of the topic(s) and issue(s)	Demonstrates an acceptable understanding of the topic(s) and issue(s)	Demonstrates an inadequate understanding of the topic(s) and issue(s)
Analysis, evaluation, and recommendations	Presents an insightful and thorough analysis of all issues identified exceeding some or all requirements	Presents a thorough analysis of most issues identified;	Presents a superficial analysis of some of the issues identified;	Presents an incomplete analysis of the issues identified
	Makes appropriate, critical, multi-level connections between the issues identified and the strategic concepts studied in the reading;	Makes appropriate connections between the issues identified and the strategic concepts studied in the reading; demonstrates good	Makes appropriate but somewhat vague connections between the issues and concepts studied in the reading; demonstrates limited	Makes little or no connection between the issues identified and the strategic concepts studied in the reading

	demonstrates complete command of the strategic concepts and analytical tools studied	command of the strategic concepts and analytical tools studied	command of the strategic concepts and analytical tools studied	
	Supports diagnosis and opinions with strong arguments and evidence; presents a balanced and critical view; interpretation is both reasonable and objective	Supports diagnosis and opinions with reasons and evidence; presents a fairly balanced view; interpretation is both reasonable and objective	Supports diagnosis and opinions with limited reasons and evidence; presents a somewhat one-sided argument	Supports diagnosis and opinions with few reasons and little evidence; argument is one-sided and not objective
	Presents detailed, realistic, and appropriate recommendations clearly supported by the information presented and concepts from the reading	Presents specific, realistic, and appropriate recommendations supported by the information presented and concepts from the reading	Presents realistic or appropriate recommendations supported by the information presented and concepts from the reading	Presents realistic or appropriate recommendations with little, if any, support from the information presented and concepts from the reading
Research	Supplements case study with relevant and extensive research; clearly and thoroughly documents all sources of information	Supplements case study with relevant research; documents all sources of information	Supplements case study with limited research; provides limited documentation of sources consulted	Supplements case study, if at all, with incomplete research and documentation
Writing mechanics	Writing demonstrates a sophisticated clarity, conciseness, and correctness; includes thorough details and relevant data and information; extremely well-organized	Writing is accomplished in terms of clarity and conciseness and contains only a few errors; includes sufficient details and relevant data and information; well-organized	Writing lacks clarity or conciseness and contains numerous errors; gives insufficient detail and relevant data and information; lacks organization	Writing is unfocused, rambling, or contains serious errors; lacks detail and relevant data and information; poorly organized
APA guidelines	Uses APA guidelines accurately and consistently to cite sources	Uses APA guidelines with minor violations to cite sources	Reflects incomplete knowledge of APA guidelines	Does not use APA guidelines

4.4.4 Assessment Guidelines for Oral Presentations

Oral Presentations will be graded based on a 0-100-point rubric.

Category	Scoring Criteria	Total Points
Organization (15 points)	The type of presentation is appropriate for the topic and audience.	5
	Information is presented in a logical sequence.	5
	Presentation appropriately cites requisite number of references.	5
Content (45 points)	Introduction is attention-getting, lays out the problem well, and establishes a framework for the rest of the presentation.	5
	Technical terms are well-defined in language appropriate for the target audience.	5
	Presentation contains accurate information.	10
	Material included is relevant to the overall message/purpose.	10
	Appropriate amount of material is prepared, and points made reflect well their relative importance.	10
	There is an obvious conclusion summarizing the presentation.	5
Presentation (40 points)	Speaker maintains good eye contact with the audience and is appropriately animated (e.g., gestures, moving around, etc.).	5
	Speaker uses a clear, audible voice.	5
	Delivery is poised, controlled, and smooth.	5
	Good language skills and pronunciation are used.	5
	Visual aids are well prepared, informative, effective, and not distracting.	5
	Length of presentation is within the assigned time limits.	5
	Information was well communicated.	10

4.4.5 Assessment Guidelines for Research Papers Study and Discussion

Research Papers Study and Discussion assignments will be graded based on a 0-100-point rubric.

Category	Scoring Criteria	Total Points
Deadlines	Met topic deadline, outline deadline and draft deadline	5
Introduction	A thesis statement makes the research topic clear.	10
	Background information is provided to establish the importance of the research topic.	5

Report of Research	Scientific terms and concepts are properly used.	10
	Research findings are presented in the student's words, not "cut and pasted".	15
	Table, graphs, and figures properly labelled and referred to in body of report.	5
	Research correctly referenced	5
Conclusion	The most important research findings are restated.	10
	Student's final thoughts about the research topic are stated.	10
Bibliography	A single page annotated bibliography is provided.	5
Appendix	Professional Vernacular - a single page with all relevant terms defined.	2.5
	Diagram - at least one diagram or picture of importance related to the research topic is included.	2.5
Professionalism	Paper demonstrates an effort to produce a professional paper free of grammar, spelling, and typing errors.	5
		10

4.4.6 Formative Assessment

Well-designed formative assessment methods contribute to students' learning. Formative assessment methods are tasks that are administered and completed during the course and which partly determine the final result of students. Formative assessment methods are **Not for Grading** group of specific teaching strategies designed to provide assessment of students learning by engaging them in reflective evaluation of course materials, and through a systematic collection of student's reflections on learning. Formative assessment is used to monitor student's learning to provide ongoing feedback that can be used by instructors to improve their teaching and by students to improve their learning.

For each course, a table illustrates the adopted formative assessment strategies (see the example below).

	Peer Assessment	Discussion boards/forums	Video activity	Wiki	Oral presentation
Formative Assessment	√		√		√

a. Peer Assessment

In this context, peer assessment is encouraged as the procedure by which students are involved in a process that the traditional evaluation is conducted solely by the tutor. This process is proposed in two ways. In one of them students are

asked to evaluate the work of other students using specific assessment criteria given to them and in the second way they also undertake the design of the evaluation criteria.

By evaluating their fellow students' work, students come up with mistakes and omissions in their own work and on the one hand they learn on the other they cultivate assessment, justification and self-assessment skills.

b. Discussion boards/forums.

The discussion boards/forums are used in each week. The students can ask or answer questions specifically on the content of the week. Discussion boards is also a good opportunity for instructors to get and provide feedback and it is also a way for interaction.

c. Video activity and discussion

The students after studying a video or any other media, they are advised to answer some questions and assess themselves. The correct answers of the questions or the place to find the answers are provided to them. The self-assessment activity results are not evaluated by the instructor.

d. Wiki

Wiki is an online application that allows users to contribute to or edit its content. Wiki is a creative and open environment where everyone has a voice. The significance of wiki lies in the fact that there is no assigned "leader" or "head writer". Incorporating wiki into the classroom provides a very different kind of online experience for the students as they are encouraging to be producers, rather than just consumers, of information. By doing so, they function as a social learning environment, that, through student contribution and collaboration, promotes learning which is more effective than the sum of individual work.

e. Oral presentation

Students can give an oral presentation on a topic that is being assigned to them. Studies have shown that oral presentations also promote other personal skills, such as self-confidence.

Additionally, following the completion of a lecture, in several courses, students engage in activities designed to involve them in retrospection (reflective review) and consolidation ("locking in") of information received during the lecture. The **one-minute paper** is, by far, the most popular post-lecture strategy for promoting student reflection. The one-minute paper may be defined as a short, [not for grading](#) writing activity (taking one minute or less to complete) designed to encourage students to reflect on the meaning or personal significance of the day's lesson. For example, any of the following questions may serve as prompts of a one-minute paper at the end of a lecture:

- What is the most significant thing you learned today?
- What question is at the top of your mind at the end of today's class?

4.4.7 Assessment Boards

Recommendations on student progression, degree award, and award of credit or withdrawal from the Programme as a result of academic failure are made by the Assessment Board of the Programme which comprises all the internal and external examiners of the programme. The Assessment Board makes such recommendations through their consideration of student results. It also considers recommendations from Extenuating Circumstances Panels and Academic Misconduct Panels and makes recommendations to Senate based on the performance of students. **The Assessment Board has the authority and responsibility to decide on matters relating to examinations and student performance evaluations, especially regarding the successful completion either of a specific subject or of a year of studies.**

4.4.8 Internal Examiners

For each programme the Internal Examiners are those who teach a course and who have been appointed as an Internal Examiners by the appropriate Board(s) of Studies. Internal Examiners are responsible for all the aspects of assessment of a course.

4.4.9 External Examiners

Each programme has an External Examiner appointed by Senate who provides an independent review of the programme. The External Examiner has a right to see all assessment material if they wish and attend meetings of the Assessment Board(s).

4.5 STUDENTS' ATTENDANCE POLICY

Neapolis University expects students to participate and attend the classrooms during their studies and also supports students with their progress. Neapolis monitors students' attendance as a method of recording the progress of students. Using this method and obtaining this information, the University will help and support the students to anticipate some challenges that may face in their progress at NUP. All students are expected to engage fully with their studies. This means commitment in the learning activities such as the lectures, assessments, projects, assignments and other activities which support students' progress. The requirements and the obligations of students are described in the Study Guide.

- I. Students should achieve at least the 60% of attendance for timetabled learning sessions or events and undertake assignments as specified in the syllabus of the course to be eligible for formal assessment and/or continuation on their program of studies. The minimum percentage of attendance in a given course does not include medical reasons.
- II. Students who do not achieve the above minimum percentage of attendance in a given course, must provide a formal justification at the School administration.
- III. The attendance of the Labs is obligatory. The attendance must be at least 80%.
- IV. In case a student does not achieve the minimum attendance requirement (60%):

- Physical attendance for all activities and assessments requiring class participation (exams, mid-term assessment, participatory activities with summative components) is mandatory. In case the student is not physically present, no mark can be awarded.
 - Summative participatory activities (requiring class attendance) do not count towards the final mark and are accordingly detached from the total grade.
 - In case a student does not achieve the minimum attendance requirement (60%) of the course, then the maximum percentage that a student can achieve is 80%.
- V. If a student has not attended a specific course (less than 60%), then the Personal Tutor has to discuss this issue with the student and find a solution. The decision is upon the Personal Tutor, if the student is eligible to participate in the Final Exam. If the proposal of the Personal Tutor is negative, then the Department Council is authorized to make final a decision for the student.
- VI. Non-attendance of 10 consecutive calendar days due to medical reasons requires a medical certificate for the duration of the absence. No medical certificate is required for further absence due to the same ongoing illness

4.6 PLAGIARISM CONTROL

Stage 1 – Prevention

- At the prevention stage, plagiarism control is achieved by educating members of the university and students about what plagiarism is and ways to control it using modern technologies such as the Turnitin tool.
- The submission is permitted only one time. Students are not allowed to resubmit their assignments.
- Education on plagiarism and mechanisms for controlling and preventing it exists in a variety of sources, such as in general education courses (eg. Writing Academic Essays, Communication Skills and Foreign Language I and II), as well as core lessons related to Research Methodology, in the corresponding Course Guides, the printed and published electronic resources on the specifications for undergraduate, postgraduate and doctoral theses and the library's resources about the Turnitin tool and training for lecturers and students on how to use it.
- When submitting any work, undergraduate, postgraduate or a doctoral dissertation, the student or doctoral candidate is required to state whether he/she has used the work and views of others. Copying is considered as serious academic misconduct.
- Turnitin can help prevent plagiarism, since it is an effective tool for copying texts to ascertain their originality. This specific tool supports documents in the Greek language, among others.
 - For each assignment the tool gives a percentage of plagiarism with other sources already published. The acceptable percentage of plagiarism, is 10-15% without including the bibliography and the

references. It is noted, that the supervising tutor, must clarify what exactly this percentage refers to and evaluate to what extent it concerns copying or quoting text, shapes, and so on, with references.

- The plagiarism control mechanism is adjusted, so that plagiarism rate $\leq 1\%$ does not contribute to the calculation of the overall plagiarism score.

Stage 2 – Investigation

- For each assignment submitted via the electronic platform, the Turnitin tool gives a percentage of content identification with other sources already published. This gives the teacher the opportunity to examine whether the text highlighted is common knowledge or a result of plagiarism.
- Each tutor has to examine in depth the identification of the submitted text with other sources already published and must not rely solely on the automatically calculated percentage of plagiarism. The final judgment and decision of plagiarism lies with the teacher, in order to avoid mistakes from using the tool. The Turnitin tool simply facilitates this procedure.

Stage 3 – Penalties

- In case of plagiarism, students are penalized by marking the relevant work with zero and receiving feedback from the teacher in order to avoid future plagiarism. The student can make up for this during the re-examination, where he/she will be able to submit his work without plagiarism in order to successfully complete his/her course or dissertation. In the examination or assignment of a course during a re-sit examination, a grading penalty is enforced where the maximum grade that can be credited to the student is 50%. This also works as a deterrent to plagiarism, as students know that plagiarism will result in their work receiving a mark of zero and the grade they can achieve in the re-examination will not exceed the maximum attainable mark for re-sits
- The penalty for single circumstances of plagiarism is not strict, for educational reasons. The student is given the opportunity to make up for and avoid repeating plagiarism in case plagiarism was done by mistake or unconsciously.
 - In case of multiple plagiarism offenses by the same student, upon recommendation from the tutor, the relevant department may choose to refer the student to a Disciplinary Committee, which may propose more serious penalties that can resort to expulsion from the university. The members of the Disciplinary Committee are appointed by the Dean of the department and must include at least four faculty members.
- The Disciplinary Committee must give the student the opportunity to submit his or her opinion, in writing or verbally, before formulating its decision. Any sanction proposed must be proportionate to the extent of plagiarism. For its execution, any sanction that is proposed by the Disciplinary Committee must be voted by

the majority of the standing faculty members of the department concerned. For the expulsion of the student from the University, the approval of the Council is required.

4.7 PEDAGOGY

All the programmes are designed to provide an academic experience that transcends that of the traditional classroom in which the flow of information is primarily from the instructor to student. As the programmes proceed from semester to semester, the instructor of each course uses the up to that point-built experience of the students to establish a vigorous dialogue in their classes. The intention in education is that each participant contributes to the education of the full class through sharing expertise and leading discussion when the participant's skills and background make this possible.

4.7.1 Modes Of Teaching

The Programme's teaching methodology involves a combination of lectures, tutorials, seminars, examinations, projects, presentations, assignments, case-study applications and independent research. In addition, it is designed to provide an academic experience going beyond that of the traditional classroom, in which the flow of information is primarily from the instructor to the student. The intention of the Programme is that each participant will contribute to the education of the entire class through active participation in the learning procedure.

In case of the conventional programmes, teaching is through lectures and laboratory sessions. In lectures, students have the opportunity to ask questions, discuss problems and generally explore the subject with the help of the teacher. In laboratories, students work as individuals or in groups using computers.

4.7.2 Independent Learning

The learning platform of the programmes offered by the Department of Computer Science aims to make full use of each participant's time by combining traditional lectures, case studies and group projects.

4.7.3 Study Teams and Collaborative Learning

Study teams are a key feature of the programmes offered by the Department, contributing to the learning process in the collaborative manner of a productive workplace environment. The study team addresses, in case that is applied, team-based assignments and receives team-directed feedback and grades from faculty. Even in individually prepared work, team members frequently contribute educationally.

Most study teams find that, over the long run, all team members contribute equally to the team's work product. However, the study team provides a critical support mechanism for a student who experiences a difficult week and cannot contribute adequately to an assignment. The assisted team member is expected to, in turn, provide support to others when needed. The concept of the study team presupposes that all participants endeavour to function as effective members of their teams.

There is no presumption that a team must “carry” a member who does not contribute adequately.

Students are expected to make every possible effort to resolve problems before considering team membership changes. For most teams the stimulating environment of their programme of study coupled with the high standards and initiative of the team members, will result in a smooth-functioning team. However, from time to time, teams should stop to assess and fine-tune their working relationships to maximize the value of team education and ensure equitability. Problem areas, if any, should be addressed early and forthrightly. The power of the team to improve itself is one of the benefits of the programme. However, if a team is unable to resolve its differences, the coordinator of each programme of study may be asked to intercede.

4.7.4 Course handbook

All lecturers must distribute the syllabus to the students at the beginning of the course. In the syllabus students will find more detailed aims and objectives of the course, learning outcomes, syllabi, coursework details, methods of assessment and extensive reading list.

4.7.5 Learning by Doing

This model followed by the programmes is one of learning facilitation instead of the traditional approach of instructor teaching. In every course students will be provided with several opportunities to apply concepts and techniques to "real-world like" scenarios.

4.7.6 Student-Centered Learning

This approach encourages students to develop their own context for learning. Meaning and relevancy of concepts can be highly enhanced when students are able to relate what is covered in the course to their own professional experience. Projects from a student's work environment or from an area of their interest are encouraged. Projects should reflect applications that demonstrate improvement over conventional methods and cover technological skills that are considered current.

4.7.7 Course Attendance

Students are required to attend all sessions of every course, including regular classes and residencies. Attendance at all class sessions is essential to maintain academic quality and to benefit from as well as contribute to the dynamic learning environment of the class.

4.7.8 Class Preparation

Preparation means that students read the materials, consider the critical issues raised in the cases and discussion questions, and carry out appropriate quantitative and qualitative analysis in order to arrive at and provide support for their thoughtful position concerning the options that face the firms and managers in the cases. In addition, preparation involves developing a personal position on the issues raised in the cases and readings and contributes to fruitful exchange of ideas.

Unless students have thought about and developed a personal position, it is difficult to learn from others' contributions to the class.

4.7.9 Class Participation

For the learning process to be effective students will need to participate actively during every class or the sessions organized on the moodle platform LMS for the departmental distance learning programme. Only by actively participating in class discussions will they sharpen their own insights and those of their classmates. They will learn the content of the course and, just as important, the process of analysis and implementation that is critical to successful strategic management. The expectations are that students analyze, comment, question, discuss, and build on others' contributions. Participation enables students them to learn from their colleagues.

Class participation involves being clear about one's position and supporting it with facts, while also being willing to seek alternative perspectives on the situation. The ability to present one's ideas concisely and persuasively, and to respond effectively to ideas of others, is a key success factor in any management position. There is clear value of, and reward attached to, effective participation. Most of the professors have adopted active learning teaching methods.

4.7.10 Practical component

The practical components of the programmes are expressed in nearly all courses of the programmes through the method of case study that is employed as the main pedagogical device.

4.7.11 Research-related aspects of programme

The *Thesis* and Research Methods courses are the main elements of the programmes through which students develop their research skills. However, every course of the programmes has a coursework requirement that is designed to make students learn how to work autonomously and use bibliographical and other resources.

4.7.12 Language of Instruction

The programmes will be taught in Greek and English.

4.8 MANAGEMENT & QUALITY ASSURANCE

4.8.1 The University Management and Quality Framework

The University has established a robust system of managing programmes as well as of monitoring quality in order to ensure that the academic standards of the degrees are retained at a high level and the performance is aligned to the mission of the University. The key personnel, bodies and procedures are described below.

4.8.2 The Programme Coordinator

The Programme coordinator is the person responsible for ensuring that the Programme is aligned with the strategic direction and values of the Department and is responsive to the changing needs of students, the marketplace, and the University. The coordinator is accountable to the Director for planning, developing and administering the Programme. A major responsibility of the position is to oversee admissions and to enforce all the quality assurance procedures of the University.

4.8.3 The Department's Council

The Department's Council is chaired by the Director. Its purpose is to consider and make recommendations to the School on matters of policy and curriculum. The Department's Council comprises all the academic staff of the Department and allows student representation.

4.8.4 Department's Internal Evaluation Committee

The Internal Evaluation Committee is composed of three academic staff of the Department and is appointed by the Department's Council. It is responsible for preparing the various evaluation questionnaires for each individual course and each activity of the Program, but also for the teachers, and to prepare the evaluation reports which will be published on the website and communicated to the teachers.

4.8.5 The Senate

The Senate is the highest academic body of the University. The Senate defines the policy and takes the decisions based on advices of the QAC, and according to the powers that have been delegated by the University's Council to the Senate. The group includes the following persons: Rector, Vice rector, Director of Administration and Finance, Campus Director, Deans of Schools, Heads of Departments, Faculty Members representatives and a Student Representative.

4.8.6 The University quality assurance committee

This group consists of persons with a managerial function, administrative staff with a key role in information management, planning and organization, the Quality Assurance Coordinator, and a selection of academics. The QAC supervises the strategic quality management in NUP (e.g. the choice of models and mechanisms in QM), the installed working groups, and the development and updating of the QM Handbook. The QAC also evaluates and endorses documents to be used in quality assurance, as well as assessment reports that are made. The QAC formulates propositions which are endorsed by the top management. Members participate on the basis of their role, expertise and personal motivation. They are appointed by the Senate. For the total group 40% FTE time investment is allocated, to be divided under the members.

4.8.7 Review of Programs by self-Assessment

The yearly production of a program review has been replaced by a long-term cyclic self-assessment every 3 to 5 years, so that a Self-assessment report can be done thoroughly, and more time comes available for quality improvement as follow-up.

4.8.8 Four-year course evaluation

The four-year evaluation of a programme is carried out by a team which is appointed by the Senate. The members of the team include an external assessor and a graduate representative.

4.8.9 The External Advisory Panel

Each programme of the Department has an External Advisory Panel which offers advice on the content and structure of the programme. The Panel also provides advice on other activities, such as progression, marketing, general strategy etc. The panel is chaired by the Dean of the Academic School which offers programme and consists of various experts, eminent academics and the Programme Director.

4.8.10 Student Evaluations

The evaluation of the quality of teaching and learning is monitored by using feedback from students as the beneficiaries of (and active participants in) the process of teaching & learning. The quality assurance office is responsible for the planning and organization, the production of reports, and the forwarding of these to the staff of the course unit and to the persons responsible for the study program. The planning is made in consultation with the program coordinators and is approved by the program council.

The evaluation of the quality of teaching and learning is monitored by using feedback from students as the beneficiaries of/and active participants in the process of teaching & learning. The evaluation is done every semester for all the courses.

4.8.11 Annual Student Survey

Every student completes the Annual Student Survey form which records the views of the students on several issues including quality of teaching, facilities etc.

4.8.12 Personal Advisor

Each student is assigned an Advisor, responsible for assisting the student in defining and developing realistic educational goals, abilities, skills, interests, and career aspirations. **All students (conventional and distance)** have their own Academic Advisor who is shown on Moodle. Advisors are also responsible for ensuring the student is aware of university regulations and policies. Students are encouraged to contact their Advisor at any time during the academic year. However, it is mandatory to meet at least once a semester to discuss course options. Meetings may be arranged during office hours or by appointment. Distance Students can discuss their issues through skype or email.

The designation of the Personal Advisor for first-year students is made by the Department according to the University's Charter at the beginning of academic year.

4.8.13 The right for appeal

In the case where a student believes that the grade received is different from what was expected, he/she must exhaust all possibilities of resolving the problem with the pertinent instructor first. If this does not lead to a resolution, the student may appeal against the grade by filing an appeal form to the Department Administrator.

4.9 LABORATORY USE REGULATIONS

The library of Neapolis University Pafos offers access to a rich collection of sources of information, ranging from printed books to electronic data bases. It supports the educational and research activities of Neapolis University and its academic community.

The Library's printed collection consists of 10 thousand books, whereas its digital collection consists of 300 thousand e-books and more than 5 million articles in electronic format which are drawn from 17 world famous publishing houses and data bases, such as Springer, Taylor & Francis, Ebsco, Emerald, Wiley, JSTOR, Cambridge University Press, Oxford University Press, Sage, Fame, Orbis, Westlaw, Proquest, TLG, CYS etc. It also offers to users as series of research tools, thus enabling them to search on all available electronic resources.

Users have access to both the printed and the digital material of the library through the federated search engine EDS (Ebsco Discovery Service). Through EDS (<https://www.nup.ac.cy/learning-resources/library/collection-discovery-tools/discovery-tools/>) you can submit generic-type queries to the sum of NUP Library resources and get back a list of relevant items. Depending on the format of material and your location (in campus or remote) you can even have access to the full text of resources.

The library has adopted a reference morphotype based on the Harvard style guide (author-date). Users may consult the short guide that has been prepared by the library concerning the Harvard morphotype.

For the organisation and management of bibliographic references, the library suggests the use of the Mendeley system. Mendeley is a free tool for the management of bibliographical references which helps students organizing and writing assignments.

Each user has his/her own library card which has codes that help the user to acquire the material he/she is interested in. The process for getting access to library material is very simple (see the library regulations:<https://www.nup.ac.cy/wp-content/uploads/2014/03/NUPs-Library-regulations-eng.pdf>).

For more information concerning the library of Neapolis University you may contact the library staff: email lib@nup.ac.cy, tel. +357 26843313.

4.10 DEPARTMENT STUDIES PROGRAMS

School of Economics, Administration and Computer Science					
	Name of program of study			Type of the program of study	Duration of studies
BScACS	Bachelor in Applied Computer Science	BSc	Undergraduate	Conventional Program	4 years (8 academic semesters)
MScISDI	Information Systems and Digital Innovation	MSc	Postgraduate	Conventional Program	3 Academic Semesters
DMScISDI	Information Systems and Digital Innovation	MSc	Postgraduate	Distance Program	3 Academic Semesters

4.11 BACHELOR IN APPLIED COMPUTER SCIENCE

4.11.1 Programme Aims and Objectives

The aim of the BScAI Programme is to provide a course of study to those who aspire to become experts in the field of ICT applying them effectively in the public and the private sector. The programme's curriculum is designed to explore the essential elements of Applied Computer Science and to prepare students for increasingly complex technical responsibilities in the public or the private sector, local government, and business organizations. The core curriculum emphasizes both the skills and knowledge required to effectively manage and develop technical Information resources and to understand the larger academic, industrial and business setting in which ICT, is developed, deployed and assessed in the field.

The programme provides up-to-date knowledge in several diverse areas that comprise the field of Informatics, such as Theory of Computation, Software development, Information Systems, and applications in the fields of Management, Finance, Economics and Business. In addition, the Programme aims to equip students with technical, analytical, ethical, accountability, and leadership skills to enhance their decision-making ability and to promote organizational well-being within the context of a continually changing and competitive technological and economic environment.

A fundamental philosophy of the programme is its empirical approach to the study of Applied Computer Science, where the acquired new knowledge and skills are blended with the participants' experience and are applied from the beginning to real-life scenarios.

This approach broadens and deepens student understanding of applying techniques and processes from the area of Informatics; it fosters skills of research, analysis, synthesis and creativity; and it encourages innovation and awareness of the role of information and technology in innovation. Finally, it develops awareness of ethical, social, environmental and global issues affecting management decisions in relation to ICT.

The programme is quality assured by Middlesex University and students receive a Middlesex award on successful completion.



FACTS



The computing industry boasts one of the highest starting salaries for new college graduates.

68.7% of computer science majors had at least one job offer before walking the stage at graduation. (According to NACE)

Communication skills are also an important part of computer science

A bachelor's degree is sufficient for a number of jobs related to computer science (higher level roles often require a PhD)

MYTHS

If you get a degree in computer science, you will be chained to a computer forever.

Computer science is about programming. Programming is just a tool.

Computer scientists are anti-social nerds who sit in their basement typing code.



4.11.2 Learning outcomes

The overall learning outcome for students completing the BSc in Applied Computer Science is to develop a broad conceptual understanding of the theory and practice of applying ICT in public or private organizations. At the end of the course students shall therefore have:

- O1. Gain theoretical and practical knowledge in most areas of Informatics and the way Informatics intersects and interacts with other scientific disciplines.
- O2. Have the ability to analyze and design Information Systems meant to cover needs in various sectors and environments.
- O3. Deal with the operational side of Computing and Information systems and the way these integrate with an organization.
- O4. Think laterally, critically, innovatively, creatively, and to make connections among diverse fields of study in analyzing real world problems and applying Informatics -based solutions
- O5. A global perspective based on an understanding of both the technical and the operational environments of an organization when applying ICT.
- O6. Lead and to interact effectively in group situations and to manage in diverse technological and operational environments.
- O7. Gained experience in applying ICT methods and tools.
- O8. Achieved substantial competency in analysis and design, and in management techniques; and understood the political, economic and social context of Informatics.
- O9. Developed skills related to critical thinking and autonomous learning.
- O10. Developed communication, and teamwork skills.

4.11.3 Programme Foundations

The BScCS Programme is offering a modern undergraduate programme in Applied Computer Science based on the latest recommendations given jointly by two top international scientific organizations, namely, the Association for Computing Machinery (ACM), and the IEEE Computer Society (CS), enriched with interdisciplinary courses from the areas of Economics, Management, Finance and Business. The end result is to produce graduates capable to respond to requirements of their professional endeavor in all sectors of economy including industry, commerce, education, health, and research.

In particular, the Programme offers:

- a degree that certifies besides basic knowledge in Informatics focused knowledge in two orientations;
- a Programme structure according to the European Credit Transfer and Accumulation System (ECTS);

- sound foundational knowledge through a carefully reduced set of core courses in comparison to similar BSc Programmes;
- reduced classroom hours per week by adopting a free lectures day for the first two years of study;
- an introductory course covering the broad area of Informatics that helps the student to formulate his own pathway through the Programme; and
- free electives in any discipline, including the case through the ECTS and Erasmus.

4.11.4 Programme breakdown

The programme is implemented in 8 semesters and requires 240 ECTS units to be accumulated by a student for graduation. It is divided into two 2-years cycles; the basic cycle and the focused cycle of studies:

- Basic cycle (1st to 4th semesters): It is composed of,
 - a. an introductory course in Informatics,
 - b. 16 compulsory core courses in Computer Science
 - c. 1 compulsory laboratory
 - d. 4 introductory interdisciplinary courses.

This cycle corresponds to Tier 1 of the ACM/IEEE CS model curriculum.

- Focused cycle (5th to 8th semester): It is composed of,
 - a. 11 additional compulsory core courses
 - b. Six free elective courses
 - c. A course about research methods
 - d. Thesis (compulsory).

The focused cycle effectively corresponds to Tier 2 and Electives of the ACM/IEEE CS model curriculum.

The table below gives the core courses of the Program:

Compulsory core courses		
Course ID	Course	Semester
CS111	Introduction to Computer Science - Introductory course	1 st
CS112	Programming Principles I	1 st
MATH103	Introduction to Mathematics	1 st
CS121	Programming Principles II	2 nd

CS122	Data Structures	2 nd
CS123	Computer Architecture I	2 nd
CS124	Management Information Systems	2 nd
STAT103	Probability & Statistics	2 nd
FINA200	Financial Theory	3 rd
CS231	Fundamentals of Database Systems	3 rd
CS232	Communication Networks	3 rd
CS233	Linear Algebra	3 rd
CS241	Algorithms and Complexity	4 th
CS242	Operating Systems	4 th
CS243	Advanced Databases Concepts	4 th
CS244	Computer Graphics	4 th
CS361	Software Engineering	6 th
BUSN104	Principles of Marketing	6 th

The inclusion in the core courses of the course on Financial Theory and that on Principles of Marketing is something not met normally to traditional core sets of Computer Science. Their inclusion in our core set shows our intention to educate students capable to deal, as early as possible, with real applications of Informatics in diverse areas.

In line with the above argument, the Programme includes the four (4) compulsory courses listed in the table below. The first two of them are our interdisciplinary introductory courses and help the students to get a global view of the real world in Economy and Business. The course on Psychology is essential to let students deal and react properly in their public and customers' relations. These courses are to be delivered by staff of the relevant schools of NUP. The 4th course (i.e., CSCS100) will allow the students to develop language and communication skills for both oral and written presentations and reports.

Compulsory Interdisciplinary Courses			
Course ID	Course	ECTS	Semester
ECON101	Principles of Microeconomics	6	1 st
BUSN100	Introduction to Business	6	1 st
PSYC100	Introduction to Psychology	6	3 rd

LCS01	Language for Science	3	4 th
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The table below gives the laboratory course.

Laboratories			
Course ID	Course	ECTS	Semester
CS245	Communication Networks Laboratory	3	3 rd

The table below gives the Focused Cycle Compulsory Courses.

Focused Cycle Compulsory Courses		
Course ID	Course	ECTS
CS355	Computational Numerical Analysis	6
CS362	Artificial Intelligence	6
CS351	Distributed Systems	6
CS352	Software Project Management	6
CS353	Image Processing	6
CS354	Advanced Computer Networks	6
BUSNA210	Digital Economy	6
CS363	Principles of Cybersecurity	6
CS364	Web Application Technologies	6

Free Elective courses

Course title	ECTS
Introduction to Innovation and Entrepreneurship	6
Compilers	6
Distributed Ledger Technologies	6
Pattern Recognition and Machine Learning	6
Data Science & Big Data	6

Game Design & Development	6
Data Mining Techniques	6
IoT Networks and Protocols	6
Cyber Crime and Legal Considerations	6
Robotics & Computer Vision	6
Human Computer Interaction	6
Industrial Experience	6
Computer Architecture II	6
Analysis and Design of Information Systems	6
Network Management	6

The Thesis is compulsory and is equivalent to two (2) semester courses with 15 ECTS in total.

ECTS breakdown

Based on the above analysis the table below shows the ECTS structure of the Programme and the allowed number of free and other electives. Note that the table below lists the minimum requirements for completing the 240 ECTS requirement. A student in the course of securing a specialization may exceed the 240 ECTS barrier. In any case, all passed courses are taken into consideration for the calculation of the degree classification and are to be listed in the transcript of studies.

Course type	ECTS
Introductory course	6
Core compulsory courses	156
Compulsory interdisciplinary courses	21
Research Methods	3
Thesis	15
Electives	36
Lab Courses	3
Total	240

A/A	Type	Course Name	Course Code	Weights	Periods per week	Period duration	Number of weeks/ Academic semester	Total periods/ Academic semester	ECTS
1st Semester									
1	I	Introduction to Computer Science	CS111	50% (Midterm) 50%(Final)	3	50'	13	39	6
2	CC	Programming Principles I	CS112	50% (Midterm) 50%(Final)	5	50'	13	65	6
3	CC	Introduction to Mathematics	MATH103	40% (Midterm) 60%(Final)	3	50'	13	39	6
4	CI	Introduction to Business	BUSN100	40% (Midterm) 60%(Final)	3	50'	13	39	6
5	CC	Principles of Microeconomics	ECON101	40% (Midterm) 60%(Final)	3	50'	13	39	6
2nd Semester									
1	CC	Probability & Statistics	STAT103	50% (Midterm) 50%(Final)	3	50'	13	39	6
2	CC	Programming Principles II	CS121	50% (Midterm) 50%(Final)	5	50'	13	65	6
3	CC	Data Structures	CS122	50% (Midterm) 50%(Final)	3	50'	13	39	6
4	CC	Algorithms & Complexity	CS241	50% (Midterm) 50%(Final)	4	50'	13	52	6
5	CC	Management Information Systems	CS124	50% (Midterm) 50%(Final)	3	50'	13	39	6
3rd Semester									
1	CI	Financial Theory	FINA200	50% (Midterm) 50%(Final)	3	50'	13	39	6
2	CC	Fundamentals of Database Systems	CS231	50% (Midterm) 50%(Final)	3	50'	13	39	6

3	CC	Communication Networks	CS232	50% (Midterm) 50%(Final)	4	50'	13	52	6
4	CC	Linear Algebra	CS233	50% (Midterm) 50%(Final)	3	50'	13	39	6
5	CI	Introduction to Psychology	PSYC100	40% (Midterm) 60%(Final)	3	50'	13	39	6
4th Semester									
1	CC	Computer Architecture I	CS123	50% (Midterm) 50%(Final)	4	50'	13	52	6
2	CC	Operating Systems	CS242	50% (Midterm) 50%(Final)	4	50'	13	52	6
3	CC	Advanced Databases Concepts	CS243	50% (Midterm) 50%(Final)	3	50'	13	39	6
4	CC	Computer Graphics	CS244	50% (Midterm) 50%(Final)	4	50'	13	52	6
5	CI	Language for Science	LCS01	40% (Midterm) 60%(Final)	3	50'	13	39	3
6	CL	Communications Networks Lab	CS245	50% (Midterm) 50%(Final)	3	50'	13	39	3
5th Semester									
1	CC	Software Engineering	CS361	50% (Midterm) 50%(Final)	3	50'	13	39	6
2	CC	Software Project Management	CS352	50% (Midterm) 50%(Final)	3	50'	13	39	6
3	CC	Image Processing	CS353	50% (Midterm) 50%(Final)	4	50'	13	52	6
4	CC	Advanced Computer Networks	CS354	50% (Midterm) 50%(Final)	4	50'	13	52	6
5	CC	Computational Numerical Analysis	CS355	50% (Midterm) 50%(Final)	3	50'	13	39	6
6th Semester									

1	CC	Distributed Systems	CS351	50% (Midterm) 50%(Final)	3	50'	13	39	6
2	CC	Artificial intelligence	CS362	50% (Midterm) 50%(Final)	4	50'	13	52	6
3	CC	Principles of Cybersecurity	CS363	50% (Midterm) 50%(Final)	3	50'	13	39	6
4	CC	Web Applications Technologies	CS364	50% (Midterm) 50%(Final)	3	50'	13	39	6
5	CI	Principles of Marketing	BUSN104	50% (Midterm) 50%(Final)	3	50'	13	39	6
7th Semester									
1	CC	Thesis I	CSTHE01		-	-	-	-	3
2	CC	Research Methods	CSTHRM	50% (Midterm) 50%(Final)	-	-	-	-	3
3	CC	Digital Economy	BUSN210	50% (Midterm) 50%(Final)	3	50'	13	39	6
4	E	Free elective		50% (Midterm) 50%(Final)	4	50'	13	52	6
5	E	Free elective		50% (Midterm) 50%(Final)	3	50'	13	39	6
6	E	Free elective		50% (Midterm) 50%(Final)	3	50'	13	39	6
8th Semester									
1	CC	Thesis II	CSTHE02		-	-	-	-	12
2	E	Free elective		50% (Midterm) 50%(Final)	4	50'	13	52	6
3	E	Free elective		50% (Midterm) 50%(Final)	4	50'	13	52	6
4	E	Free elective		50% (Midterm) 50%(Final)	3	50'	13	39	6

CI: Core Introductory

CC: Core

E: Elective

CL: Compulsory Lab

CI: Compulsory interdisciplinary

4.11.5 Course Descriptions

CS111 Introduction to Computer Science

This introductory course serves as a guide to the new student to find his/her way through the multi facet and vast area of Computer Science and Networks. Its main objectives are:

- To get familiar with the various branches of Computer Science and Networks.
- To get a feeling of the various courses that will be taught during his/her studies.

CS112 Programming Principles I

This is the course where the student meets programming. The main objectives of this course are described as follows:

- Introduce students to the syntax and semantics of a structured high-level programming language.
- Provide students with working knowledge of programming constructs such as expressions, selection statements, loops, functions and arrays.
- Provide practical experience in problem solving and coding.
- Guide the student in order to develop good programming practices.

MATH103 Introduction to Mathematics

This course is an introduction to the mathematical concepts of calculus suitable for computer science majors and will enable students to follow more advanced topics in other courses. The course fulfils the general educational requirements for quantitative reasoning in calculus problems related to computer science.

BUSN100 Introduction to Business

The aim of the course is to provide a survey of the field of business management, by introducing students to topics such as business organization, the human factor in business, technology in business, ethical behaviour, the environment, global and economic forces, organization, quality, products and services, functional management, and current issues and developments.

ECON101 Principles of Microeconomics

Microeconomics is concerned with the behaviour of individual decision-makers in the economy—households, business firms, and governments—and how they interact. The course provides a foundation of Microeconomics. It examines how households form their demand for goods and services and how business firms set their supply of goods and services. Because modern societies rely heavily on markets to coordinate the interactions between demand and supply, the course focuses on how markets are structured and what kinds of results markets' structures produce. Finally, the course considers how governments can modify the workings of markets and describes the effects of government's policies.

STAT103 Probability & Statistics

The main objectives of the course are to:

- Provide the students with in-depth knowledge of how to summarize and present univariate data.
- Cover probability concepts, random variables and their distributions in detail.
- Discuss the concept of expectation of functions of random variables.
- Make students aware of the importance of the central limit theorem and the laws of large numbers.

CS121 Programming Principles II

The main objectives of the course are to:

Discuss and acquire the knowledge and programming experience of basic principles of the object-oriented programming with specific reference to the Java programming language.

Demonstrate and analyze the basic object-oriented concepts for simple concepts as well as for more complex (private classes, objects, encapsulation, inheritance and polymorphism).

Identify the key Object-Oriented Concepts (OO Concepts) required to build an OO system

Critically assess, plan, and build simple applications using the concepts of OO programming in the Java context.

CS122 Data Structures

The course emphasizes the use of Abstract Data Types (ADT) with references to our daily lives (e.g., in a bank queue management).

The work has given four objectives:

- Consolidate and advance knowledge in data structure programming,
- The use and development of ADT,
- Introduction to most renowned data structures (hash, list, queues, graphs)

- The connection of the course with real-world applications.

CS123 Computer Architecture I

In the lectures of the course, the student is initially taught the basic concepts of organization and computer technology while learning about the challenges of modern computer architecture. Then the student is taught the instruction set architecture as the interface between the hardware and software using as a vehicle for systematic and in-depth teaching of the instruction set architecture of MIPS, and the RISC architecture. At this point, the student is taught the basic principles of low level programming in symbolic language (a.k.a. assembly language). In particular, the course reviews computer technology, commands and levels of representation, representation of numerical and non-numerical data, typical computer organization, instruction set architecture (ISA), microarchitecture, computers, RISC and CISC, MIPS ISA, registers, format and coding of instructions, addressing modes, arithmetic functions, logical and data transfer functions, program flow control, support processes by the hardware, using the stack, basic concepts of compilation, evaluation and understanding of the performance, performance measurement, factors affecting performance, performance evaluation, processor design, components of the data path, data path design, control unit design, implement a machine cycle, implementation of many cycles, microprogramming.

CS124 Management Information System

The main objective of this course is the investigation of the role and impact of information systems in the business functions, through the examination of major models of strategy and management information systems used in today's business environment. Additionally, is a conceptual approach through the use of case studies, of a series of information systems applied in the "extended" or "digital enterprise", such as Enterprise Resource Planning Systems (ERP), Customer Relationship Management Systems (CRM), Supply Chain Management Systems (SCM), and Decision Support Systems.

FINA200 Financial Theory

Students are introduced to the following concepts and practices in Finance:

- Understanding the basic concepts in Financial Analysis and Management
- Ability to use these concepts as tools of analyzing the function of finance in firms.
- Decision making based on the results of the specific financial analysis.
- Competence in using spreadsheet type of software to solve problems in finance.

CS231 Fundamentals of Database Systems

The main objectives of the course are to:

- Analyze data models and data modeling techniques.
- Cover relational database design by converting a conceptual data model to a database schema.
- Explain normalization and use it to design normalized relational databases.
- Cover Structured Query Language's (SQL), data definition (DDL), data manipulation (DML), and data control (DCL) components.

CS232 Communication Networks

Communication networks are one of the most interesting and important technological fields of our times. Internet connects billions of computers, providing a global communications, computing and storage infrastructure. A remarkable increase in new applications is imminent with the completion of Internet technologies with the mobile/wireless communications. Much has changed in our daily lives with the development of networks of fatal condition during the 60's until today. But this is only the beginning - a new generation of creative scientists and engineers and communications will lead to a future Internet bullets might not have even imagined. This course aims to give a good introduction to the background that one needs to travel and explore this interesting cognitive area.

The aim of the course is to understand the principles of operation and design choices of communication networks, as well as learning the basic characteristics of the prevailing network technologies. The main focus of the course is the Internet, covering issues related to the planning, implementation and operation of communication networks with emphasis on fundamental concepts and principles.

The course is organized into five main sections. Introduction to basic principles and technologies of Networks. Internet (Internet): architecture, addresses, routing and transport protocols. Local networks: multiple access algorithms access to common media, study efficiency technologies, Ethernet. Asynchronous Transfer Technology (Asynchronous Transfer Mode - ATM): architecture, routing, services from end to end. Function link layer protocols, retransmission, congestion control mechanisms and flow on the Internet. The lab on "Computer Networks" is optional and separate from this course.

CS233 Linear Algebra

The main objectives of the course are to:

- Provide students with the theory of linear systems of equations.
- Cover in detail the theory of Matrices, and develop the necessary skills in order for the students to be able to apply Matrices to Linear Systems.
- Introduce students to eigenvalues, eigenvectors, and diagonalization of square matrices.
- Cover the elementary concepts from the theory of linear transformations and utilize their main applications.

- Provide the necessary skills, in order the students be capable of comprehending abstract algebraic notions, related to vector space theory.
- Discuss the fundamental concepts and the elementary theory of finite dimensional vector spaces in detail.

PSYC100 Introduction to Psychology

The main objectives of the course are to:

- Provide students with an overview of psychology as a scientific field and a solid foundation for more advanced study
- Become familiar with all major theoretical perspectives, as well as the empirical methods and data regarding all topics that are involved.
- Become familiar with some of the practical applications of psychological knowledge and methods in many fields

CS241 Algorithms & Complexity

The course covers topics on:

Fundamentals, technical analysis, and runtime algorithms asymptotic notation O , Ω and Θ ;

- Some data structures (eg, heaps and priority queues);
- Sorting and searching algorithms;
- Three basic algorithm design techniques: Greedy approach, divide-and-conquer, dynamic programming;
- Basic graph algorithms (search by width and depth, applications, coating trees, shortest paths, matching); and NP-completeness, reductions.

CS242 Operating Systems

The main objectives of the course are to:

- Introduce Operating System (OS) structuring methods like monolithic, layered, modular, micro-kernel models.
- Provide deep knowledge of abstractions, processes, and resources.
- Make aware the concept of protection through the transition between user and system (kernel) mode.
- Thoroughly discuss OS structures e.g., ready list, process control block etc.
- Provide deep knowledge of the concept of processes and threads.
- Thoroughly discuss dispatching, context switching, pre-emptive, and non-preemptive scheduling
- Cover in detail the “mutual exclusion” problem with some of its solutions.
- Provide knowledge of deadlock including: causes, conditions, and prevention.

- Provide knowledge of synchronization models and mechanisms (semaphores, monitors, condition variables, rendezvous).
- Explain in detail: physical memory, memory management hardware, paging, and virtual memory.

CS243 Advanced Databases Concepts

The course Implementation of Database Systems (DBs) will cover a number of key issues related to the organization and storage of data to external storage, drives. The specific topics to be discussed include the concept of file storage peripherals and physical characteristics, layout and sort files located on disks, primary file organization, secondary file organization, static and dynamic data structures, Indexed Sequential Access Method (ISAM), static and dynamic fragmentation (hashing), B+ trees and multidimensional data structures (e.g., R-trees). It will also cover issues of relational algebra, query processing and data operators of relational algebra, algorithms used, and the corresponding overhead, with or without the use of indexes. In addition, the course addresses the concept of transaction, concurrency control, concurrent access and disaster recovery.

CS244 Computer Graphics

This entry level course in computer graphics is focused on understanding the geometry of two and three dimensions and basic algorithms for coloring and lighting design two-and three-dimensional direct imaging. Students have the opportunity to learn the algorithms currently used to design graphics and real-time photorealistic graphics, learn about the related hardware and graphics to practice while in the corresponding laboratory course of three-dimensional graphics programming in OpenGL / C ++.

LCS01 Language for Science

As English is considered an international language, it is essential for every student to be able to communicate successfully in all aspects of the language. This course offers the students the opportunity to improve their academic English language skills to the level needed to study a research degree in science, technology and/or engineering.

Through a variety of topics, students will learn how to use academic reading, writing, speaking and listening skills in the context of their subject area, preparing them for postgraduate research in the fields of science, technology, engineering and/or engineering. They will also have the opportunity to practice communication skills, through various activities and exercises.

CS245 Communications Networks Laboratory

The purpose of this Laboratory is to enable the students to evaluate the advanced networking concepts in a realistic working environment. This Lab will help the students in understanding the working concept of LAN, WLAN, WAN, computer network security using firewall and the implementation of the corresponding networking protocols.

CS351 Distributed Systems

Distributed systems help programmers aggregate the resources of many networked computers to construct highly available and scalable services. Most of the applications and services we interact with today are distributed. This course teaches design and implementation techniques that enable the building of fast, scalable, fault-tolerant distributed systems.

CS352 Software Project Management

Software project management is an art and science of planning and leading software projects. It is a sub-discipline of project management in which software projects are planned, implemented, monitored and controlled. This course will teach you software project management fundamentals and explain how to use those fundamentals in different business situations.

The main objectives of the module are:

- (a) Understand how effort estimates, project plans, risk plans, etc., are made;
- (b) Understand how projects are monitored and controlled

CS353 Image Processing

This course is an introduction to image processing and image analysis techniques and concepts. Areas examined include: Imaging sensors and their principles; Image representation and storage, coding and compression techniques, lossy versus lossless; Techniques for noise reduction. Image enhancement including contrast manipulation, histogram equalization, edge highlighting; Filtering and transform techniques for image processing including two dimensional Fourier transforms, wavelets and convolution; Spatial transformations and image registration. Segmentation and thresholding techniques; Image Retrieval

CS354 Advanced Computer Networks

This course is aimed at those who have already completed a first course in the basic technologies of communication networks and the Internet. It aims to cover, at the undergraduate level, the following major themes: Analysis of the queuing delay in packet switched networks (queuing systems $M / M / 1$ and variants, $M / G / 1$, systems and priorities, queuing networks) , Wireless / Mobile Networks (WLANs, support mobility in the Internet, mobile networks 3G) , Networking and Multimedia, and Network Security.

CS355 Computational Numerical Analysis

The main objectives of the course are to provide knowledge, understanding, and skills for programming mathematical problems, as well as critical evaluation of their numerical solution. It aims to assist students to develop analytical skills and hence to prepare them for problem-solving with the use of effective and efficient computer programming. Additionally, to collate, manage and interpret data, and apply systematic problem-solving skills and creative problem-solving strategies

CS361 Software Engineering

Familiarization with and assimilation of the approaches, methodologies, models and tools used to develop quality software systems. Understanding of software architectures, software modeling and testing. Understanding of software testing process and of software architecture design patterns. Applications of software creation methodologies on the construction of a real software system. Understanding of software testing procedures. Use and application of architecture design patterns.

CS362 Artificial Intelligence

To provide an introduction to the theory and practice of Artificial Intelligence (AI). This course is designed to develop an understanding of the fundamental issues associated with the field such as: problems and search, knowledge representation and reasoning, game playing, rule-based systems. Advanced topic areas such as probabilistic reasoning and Bayesian networks are also introduced.

CS363 Principles of Cybersecurity

In this course, we will look into such topics as fundamentals of information security, threats and attacks, information security technology and principles, access control mechanisms, cryptography algorithms, network and physical security, security management, risk assessment, basics of forensics and finally, the legal and ethics issues of information security. By the end of this course, students should understand of various types of security incidents and attacks, and learn methods to prevent, detect and react incidents and attacks.

CS364 Web Applications Technologies

Internet technologies are playing an increasingly crucial role in the development of information systems, setting new standards in user interface and supporting new functions and business models. The objective of this course is to give the student a complete picture in relation to the development of information systems in general and web applications in particular, the technologies used for this purpose, as well as applications that can be supported. The course will cover

theoretical and practical issues in relation to design, development and software testing, modern environments and development tools, as well as the Internet technologies.

BUSN104 Principles of Marketing

The objective of this course is to introduce students to the concepts, analyses, and activities that comprise marketing, and to provide practice in assessing and solving marketing problems. The course is also a foundation for advanced electives in Marketing as well as other business/social disciplines. Topics include marketing strategy, customer behavior, segmentation, market research, product management, pricing, promotion, sales force management and competitive analysis.

BUSNA210 Digital Economy

The course offers an up-to-date account of key topics, discusses open questions, and provides guidance for future research in digital business. It offers a blend of theoretical and empirical approaches that are central to understanding the digital economy. In this context, it covers infrastructure, standards, and various platform industries that rely heavily on recent developments in electronic data storage and transmission, including software, video games, payment systems, mobile telecommunications, and B2B commerce.

CSE01 Introduction to Innovation and Entrepreneurship

Entrepreneurship and innovation are increasingly important in all areas of business and government. Entrepreneurial start-ups galvanize the economy by identifying new opportunities and redirecting resources to them. Established firms innovate in order to outmaneuver or respond to their competition. And in the public sector, the need for effective policies to deal with new challenges and for increasing service delivery with declining budgets also places a premium on innovative thinking. The course focuses on the skills necessary for the planning, development and launch of entrepreneurial and innovative ventures. The material covered includes the foundations of entrepreneurship, techniques for creative thinking, and processes for developing, planning and launching a new venture including protecting intellectual property, evaluating markets, developing innovative business models, budgeting, and raising finance.

CSE02 Compilers

In this course we explore the fundamental concepts and techniques behind a compiler: (1) Formal languages: regular languages, context-free languages, attribute grammars; (2) Meta-tools to create lexical analyzers; (3) Parsing: top-down and bottom-up, error recovery, meta-tools to use and create syntax analyzers; (4) Symbol tables. Semantic analysis: kinds

of semantic checking, static type systems, dynamic type checking; (5) Generation of intermediate code; (6) Optimization, register allocation; (7) Generation of object code.

CSE03 Distributed Ledger Technologies

Blockchain and Distributed Ledger Technologies (DLT) have the potential to change many applications and services. The underlying technology is required to provide decentralization mechanisms. Blockchain is one of the most significant technologies to impact law and business in many years. Blockchain is also one of the most interdisciplinary areas, bringing together new questions and opportunities at the intersection of technology, business and law. The purpose of this course is to give the student a thorough understanding of what blockchain and DLTs are to be able to evaluate how and to what extent such systems can bring change to their life.

CSE04 Pattern Recognition and Machine Learning

Pattern Recognition is the scientific area that aims automation with the help of a computer and categorize entities in specific categories. For example, such entities can be an image or a signal derived from recording voice or music, or any other mark that needs to be categorized. An example of such classifications is the classification of a medical image, corresponding to a medical finding, in the class of benign or malignant finding. The aim of this application is to assist the physician in diagnosis. In the case of voice, one goal is to recognize the words corresponding to the recording. In the case of music, one goal may be to identify the type of music, shuffling, etc. Other scientific areas which Pattern Recognition finds direct application is Computer Vision, Information Search in Multimedia Databases based content etc.

Objective of this course is to present the basic concepts and methodologies of the area and standard methodologies from statistics, to the latest technical methodologies neural networks. Apart from familiarity with the methodologies of pattern recognition in the context of this course is attempted a systematic presentation of statistical concepts, covering subjects beyond the narrow confines of the course.

CSE05 Data science & Big Data

The main goal of this course is to help students learn, understand, and practice big data analytics and machine learning approaches, which include the study of modern computing big data technologies and scaling up machine learning techniques focusing on industry applications. Decision-makers are using more computerised tools to support their work to drive better business decisions with an overview of how big data is organised, analysed, and interpreted. Many domain leaders companies using Hadoop with MapReduce, Spark, Pig and Hive and perform predictive modelling and leverage graph analytics to model problems.

CSE06 Game Design & Development

This course covers an introduction to the electronic game design and developments. It includes the history and philosophy of games, the game production process, employee factors for success in the field, and current issues and practices in the game development industry. Other topics include the programming environment, game hardware, mathematical concepts, physical concepts, and graphics.

CSE07 Data Mining Techniques

This course is an introductory course on data mining. It introduces the basic concepts, principles, methods, implementation techniques, and applications of data mining, with a focus on two major data mining functions: (1) pattern discovery and (2) cluster analysis.

CSE08 IoT Networks and Protocols

The internet of things (IoT) is a computing concept that describes the idea of everyday physical objects being connected to the internet and being able to identify themselves to other devices. IoT has emerged as a new paradigm aimed at providing solutions for integration, communication, data consumption, and analysis of smart devices. To this end, connectivity, interoperability, and integration are inevitable parts of IoT communication systems. Whereas IoT, due to its highly distributed and heterogeneous nature, is comprised of many different components and aspects, providing solutions to integrate this environment and hide its complexity from the user side is inevitable. In this course, different building blocks of IoT, such as sensors and smart devices, M2M communication, and the role of humans in future IoT scenarios are elaborated upon and investigated. The major focus will be to provide an overview on IoT tools and applications including sensing devices, actuation, processing and communications and to introduce hands-on IoT concepts including sensing, actuation, and communication through lab exercises with IoT development kits.

CSE09 Cyber Crime and Legal Considerations

This course provides an overview of cybercrime and the digital law enforcement practices put in place to respond to them. The course focuses on the types and extent of current cyber-crimes, how the justice system responds to these crimes, the various constitutional protections afforded to computer users, the law and policies that govern cybercrime detection and prosecution, and related technologies.

CSE10 Robotics & Computer Vision

This course presents the most useful representations of the position and orientation of a body in space, the kinematics of the joints most commonly found in robotic mechanisms, and a convenient convention for representing the geometry of

robotic mechanisms. Moreover, this course provides an introduction to computer vision including fundamentals of image formation, camera imaging geometry, feature detection and matching, stereo, motion estimation and tracking, image classification and scene understanding.

CSE11 Human Computer Interaction

The course focuses on the analysis, design, implementation and evaluation of user-friendly interactive systems, which allow users to perform tasks successfully and efficiently, in a way that satisfies them. The course covers introductory concepts of computer vision, natural language processing and other technologies used in modern natural user interfaces.

CSE12 Analysis and Design of Information Systems

The course will address the basic notions on IS, namely, basic development life cycle; analysis and design techniques; information systems planning and project identification and selection, requirements collection and structuring, process modeling, conceptual and logical data modeling, database implementation. Examine several development methodologies, which may be used to manage the software development process. Such methodologies include: Structured Systems Analysis and Design Methodology (SSADM) and the Systems Development Life Cycle (SDLC); agile and iterative methodologies including

Prototyping, Rapid Application Development and other agile software development approaches; Object-Oriented Analysis and Design using UML and other methodologies.

BUSN104 Principles of Marketing

The course will introduce students to the concepts, analyses, and activities that comprise marketing. It will also provide practice in assessing and solving marketing problems.

CSE13 Network Management

This class has a goal of arming students with the valuable skills and tools that they need to hit the ground running in most network operation roles within a company. Topics will range from technical to soft skills and include best practices and the key theories behind them.

1. The course will provide information to students on how to install, maintain, and manage Local Area Networks and internetworks.

2. Students will have an understanding of network management architectures and protocols.
3. Students will be comfortable using a variety of network management tools.
4. Students will be familiar with a variety of computer network security issues.

CSE14 Computer Architecture II

This course belongs to the Basic subjects from Orientation B of the Undergraduate Program in Applied Computer Science and is taught during the 5th semester. The course includes lectures as well as laboratory exercises. During the lectures students are taught the basic techniques to enhance the performance of a computer; the parallelism ILP (Instruction Level Parallelism, ILP) emphasizing Pipelining, speculation and the use of the memory hierarchy (Memory Hierarchy). The teaching of these techniques is based on the architecture of the microprocessor instruction set MIPS; a RISC architecture with which students are already familiar since been used for teaching the core course of Computer Architecture I.

The objective of this course is that, starting from the basic background of the organization and architecture of computers that students have learned during the Computer Architecture I course, to obtain the necessary knowledge with regards to basic techniques that enhance the performance of computers. More specifically, the parallelism level command, the caches and the system input and output.

CSIE Industrial Experience (Placement)

In this course, students will select a company for practical training base and apply for internship. Students must create a practical training plan in co-operation with a practical training base side supervisor and finally to complete the practical training and defend it. The overall objective of this course is to help students to acquire real work experience in an IT related company.

CSTHERM Research Methods

The course aims at making students familiar with the methods of academic research so that they are able to write academic papers of every kind (university assignments, theses, academic articles etc.). Special emphasis is given on issues like research planning, the collection of data/information, the evaluation of sources, and the writing of the text of an academic paper. Special research topics will be presented by the department academics based on their recent research activities.

Thesis

The Thesis is the main element of the programme through which students develop their research skills. However, every course of the programme has a coursework requirement that is designed to make students learn how to work autonomously and use bibliographical and other resources.

4.11.6 Additional Details

4.11.7 Information about Industrial Experience (Placement)

In this course, students will select a company for practical training base and apply for an internship. Students must create a practical training plan in co-operation with a practical training base side supervisor and finally to complete the practical training and defend it. The overall objective of this course is to help students to acquire real work experience in an IT-related company.

Learning Outcomes:

Students will be able to:

- O1. Assume operational, supervisory, and where possible, management tasks and duties within the organisation.
- O2. Improve their knowledge and skills relevant to Computer Science
- O3. Construct Communication skills (verbal & written skills)
- O4. Develop specific and transferable set of skills for solving problems, critical thinking and reasoning.
- O5. Demonstrate both the process and outcomes of reflection through the use of a reflective log and the presentation of the agreed work-based project

Assessment methods and mapping with Learning Outcomes

	Percentage	O1	O2	O3	O4	O5
Student Report	50%	√	√	√		√
Presentation	20%			√	√	
Employer Report	20%	√	√			
Reflective log	10%					√

The students should complete the 'Student placement evaluation report' at the end of the placement which includes:

- The evaluation of the purpose of the placement.
- The evaluation of the working environment of the host organization.
- The evaluation of the student's performance in the host organization during the placement.
- The evaluation of placement program in general.

This report is kept in the Liaison Office's archives and is totally confidential according to the General Data Protection Regulation (GDPR).

More Details:

Students who will choose the placement as an elective course in their curriculum must contact the Academic Responsible for the placement program as well as the Liaison Office in order to set off the procedure of their placement in the industry. Then, the student needs to complete the respective application form ('Expression of interest for placement (for students)') and submit it to the Liaison Office.

The students may be placed to a host institution related to their area of knowledge and studies. The Liaison Office has a comprehensive database of enterprises, organisations and institutions in the District of Pafos and all over Cyprus, related to the various fields of study offered by Neapolis University.

If a student wishes to be placed in an enterprise that is not included in the Liaison Office's database, then he/she needs to present the company's profile to the Liaison Officers. However, the Liaison Office will contact the host institution (enterprise) and will send the respective application form ('Expression of interest for placement') to be completed by them; the host must also state clearly the number of the offered student placement positions.

At the beginning of the placement, the 'Cooperation Agreement' is signed between the Department of Studies of Neapolis University, the host institution, the student and the Academic supervisor. The 'Cooperation Agreement' defines the placement's duration and its objectives as well as the obligations and responsibilities of the relevant parties. A copy of the Agreement is given to the host institution while the original document is archived in the Liaison Office.

During the placement, the trainee / student is obliged to fill in the weekly work record (timesheets) describing the tasks assigned to him / her (3.8 Weekly work record of student report/ Timesheet). At the end of the placement the student needs to submit the weekly work record report along with the final report (3.11 Final Report of the student) to the Liaison Office). Also, the host institution needs to fill in the 'Student's Performance report' and send it to the Liaison Office. The Liaison Office forward the above documents to the student's Academic supervisor for assessment. Furthermore, the student needs to complete the 'student placement evaluation report' (3.10 Student placement evaluation report) and submit it to the Liaison Office for its records.

The Academic supervisor will assess the student's placement performance and will give a pass or fail mark ('Placement evaluation report by the Academic supervisor'). The Academic Responsible, taking into account all the information on the aforementioned documents, will complete the 'Placement Report by the Academic Responsible' and submit it to the Liaison Office.

The Liaison Office keeps a full archive of all the documents concerning every student that participated in the placement.

Academic Supervisor:

The Department will designate a supervisor for each student during the placement. Usually, the Academic tutor is assigned to be the academic supervisor for each student. The supervisor's role is a decisive parameter for the successful outcome of the students' placement. The Academic supervisor is not get paid and his/her obligations are within the framework of his/her academic role. The role of the supervisor includes the following:

- Planning and coordination of the placement.
- Signing the 'Cooperation Agreement'.
- General supervision of the placement.
- Visiting the host organization, if needed, and in cooperation with the Liaison Office.
- Monitoring the weekly work record of the students and their performance during their placements.
- Cooperation with the students and the host institution to resolve any issues.
- Direct collaboration with the Academic Responsible for the placement and the Liaison Office of Neapolis University Pafos.
- Receiving the performance reports of the students by the placement host organisations.
- Receiving the documents that will be submitted by the student after the end of the placement (Weekly work record of student-timesheets, student placement evaluation report, final report from student).
- Assessment of students' placements and marking.
- Completing the 'Placement Evaluation Report from Academic Supervisor'.

Obligations of the host institution:

The host institution in which students will be placed needs to appoint a working mentor (responsible manager). The role of the working mentor should be assumed by an employee of a related scientific subject with the student's program of study. The working mentor undertakes the following:

- Provision of support, guidance, training and feedback to the student regarding the tasks assigned to him / her during the placement.
- Ensuring that the tasks assigned to the student comply with those agreed in the placement program and the 'Cooperation Agreement'.
- Ensuring that the risk arising from any activities and operations in which the student participates in, has been properly assessed / evaluated.
- Monitoring and assessing the student's performance during the placement.
- Signing the 'Cooperation Agreement'.
- Completing the 'Performance Report of a Student by the Placement Host' at the end of the placement.

- Direct cooperation with the Liaison Office of Neapolis University Pafos.
- Feedback provision on the progress of the student's' placement to the Liaison Office and conducting on-site visits by the Liaison Officers in order to ensure its effective implementation.
- Avoiding the implementation of any disciplinary measures against the student without the prior disclosure/notification of the University on the matter.
- Ensuring to the student the appropriate working environment, which is consistent with the relevant legislation provisions, concerning:
 - the incorporation of the Employer's Liability Insurance.
 - Safety and Health at work (including accessibility issues if disabled).
 - Protection from any form of harassment and / or discrimination.
 - the maintenance of the agreed working hours.
 - the Protection of Personal Data of the Student in accordance with the General Data Protection Regulation (EE) 2016/679.
 - the right to leave of absence (defined / justified), rest periods and breaks.

Generally, the host organization should provide a well-organized training program for the student during his/her placement, which will be in line with the curriculum placement program. In addition, the student should be involved in activities and operations related to the subject of his / her program of studies. However, if the student fails to comply with the pre-defined regulations, the host organization should inform Liaison Office on this matter and discontinue the placement. In this case, the student will not be able to successfully complete the placement elective course as he/she could not perform his/her duties and obligations.

Responsibilities and rights of the student:

The student is committed to follow the safety and working regulations as well as any other policy applicable to the host institution. In addition, the student should follow the agreed working hours and be actively involved in carrying out his/her tasks and duties during the placement. The student is required to:

- Complete the documents that will be provided by the Liaison Office of Neapolis University Pafos.
- Complete the weekly work record (timesheets) describing briefly the tasks and activities assigned to him/her during the placement.
- Regular contact with the Academic supervisor with regards to the learning outcome of the placement and the Liaison Officer concerning the operational part of the placement.
- Prepare and deliver of the Final Report and the student placement evaluation report at the end of the placement in accordance with the templates provided by the Liaison Office.

- Submit all the deliverables, in printed and electronic form, within 2 weeks of the expiration date of the placement.
- Participate, when and where appropriate, in any occasion in order to present the outcomes of the placement program and the experience gained during his/her placement.
- Comply with the instructions and recommendations of the Responsible Manager assigned by the host organization (if and when they are reasonable and / or ethical and / or are consistent with the relevant State Legislation).
- Respect the Protection of Personal Data of the Host Organization pursuant to the General Data Protection Regulation (EE) 2016/679.

In addition, the student, among the rights that holds during the placement, is the following:

- Limitation of placement's time schedule within the legal hours and in accordance with the work framework approved by the Academic supervisor and the relevant 'Cooperation Agreement' signed with the host organization.
- Legitimate absence only for serious reasons. In this case, the student must provide the necessary supporting documents and then cover the required hours at the end of the placement in order to complete the placement. Unjustified absences can lead to the placement's suspension. If the student fails to complete the placement, then he/she should select another elective course since the placement cannot be repeated.
- A placement can be suspended only for serious and substantiated reasons, which will be referred to the Academic supervisor and the Liaison Office. In this case the student can be placed to another host institution to complete the rest of the placement.
- If the placement is not in line with the curriculum placement program, the student has the right to inform the Academic Responsible for the placement and the Liaison Officers who will decide whether the student needs to be placed in another host institution or not.

There is no provision of student's compensation during the placement. It is at the discretion of the host institution whether or not to offer an "allowance" to the student during the placement. In addition, students are not entitled to bonus, leave allowances and pension scheme rights.

However, according to the European project "University Labor Market Liaison Offices" for the programming period 2014-2020, which is financed by the European Union Structural Funds through the European Social Fund Unit in Cyprus and by national resources, in which the Neapolis University Pafos is participating and within the framework of the Liaison Office, the students who will be placed at host institutions within the timeframe will receive a specific fee during the placement.

During the placement, the host institution should ensure students the appropriate working environment that is in line with the relevant provisions of the Law and will concern:

- the incorporation of the Employer's Liability Insurance.
- Safety and Health at work (including accessibility issues if disabled).

4.11.8 Information about Bachelor Thesis

The Bachelor Thesis is an individual student project at the end of the Bachelor programme that is worth 15 ECTS credits. The student should show, using the skills acquired during their studies, that they can deal with a computer science task independently. The student can perform a literature survey, or develop a piece of software, a device, or an algorithm, for example. Writing a dissertation (final report) on the project carried out and giving a final presentation is part of the Bachelor thesis.

Bachelor's Thesis Learning Outcome

The purpose of the bachelor's thesis is to give students an opportunity – by working in depth with a limited subject area – to independently demonstrate their ability to formulate a CS-related topic, select relevant literature, process data, conduct analyses, apply methodologies, make critical assessments and present answers to questions raised in the problem statement. Students should show the ability to analyze and solve a well-defined problem with scientific approaches, a critical reflection of the status quo in scientific literature, and an original development of their own ideas.

Students will be able to:

- Carry out an independent, systematic and clear treatment of a certain topic.
- Identify and analyse relevant problems
- Solve a practical problem by systematic use of an appropriate choice of theory and methodologies.
- Independently acquire and handle academic knowledge through independent studies of relevant literature, and to cultivate the ability to evaluate and briefly account for the central elements in a large literature base.

Substance

Each Bachelor's Thesis must contain sufficient information that reflects the student's initiative, independent study and productivity (originality, in the broad sense).

The Bachelor's Thesis may be of theoretical or practical nature or a combination of both. A Bachelor's Thesis may include, for example, an application of existing techniques, extension of known methods in the theory, software, hardware

or applications areas, development of a prototype system, address theoretical problems, a survey review or study of a theoretical or practical area, etc.

Form

A Bachelor's Thesis must be a comprehensive document structured in chapters and must follow the rules of the technical guidance report called Standards for Preparation the Bachelor's Thesis. The length of the thesis should be no less than 7,500 words, plus Bibliography or Works Cited.

The Bachelor's Thesis should include an introduction to the subject, an analysis of the importance of project, a description of the related work, a review the work in the area of the topic, a description of the methodology used, listing, classification and evaluation of the results of the work and finally conclusions and suggestions for possible extension of the work.

Parts of the thesis should be ordered as follows:

1. Title page	Required
2. Acknowledgements or dedications	Optional
3. Table of contents	Required
4. List of Figures, Tables or Illustrations	Where required
5. List of Abbreviations	Where required
6. Body of the thesis	Required
7. Appendices	Where required
8. Glossary	Where required
9. Bibliography/Reference list	Required

Bachelor's Thesis where software was created and/or used should also include the code of the software in a specific Annex, a description and analysis of the software a separate section, and instructions for the use of the software. The code of such software may not be used as the Thesis document.

PROCEDURE

Each member of the Faculty submits to the Department, end of March of each year, a number of Bachelor's Thesis topics greater than the ratio of the number of students per Faculty member.

Each topic has a title. It is expected that a brief description of each topic is made available to the students by the proposing faculty. Each student should choose a Bachelor's Thesis topic. To this end, the students shall discuss with the corresponding faculty members that have offered the topics, in meetings during a specified period of time. Throughout the process of submission of preferred topics, the students obtain the agreement of the faculty member for the supervision of the corresponding project. This Faculty member will be the Bachelor's Thesis Supervisor for that student.

With the selected choice of the topics, the student completes a special Registration Form, available electronically on the website of the Department which includes the title, description, and any specialized software / hardware or other resources necessary for the preparation of the Bachelor's Thesis . The Registration Form is signed by the Faculty member, the Academic advisor of the student and it is deposited to the Department no later than the period of registration of students for the semester the student prepare the first part of the Bachelor's Thesis .

Supervision

The supervision of a student who prepares a Bachelor's Thesis is the responsibility of the Bachelor's Thesis Supervisor. The monitoring and controlling of the Bachelor's Thesis progress is done through regular meetings between the student and the supervisor. In some cases a co-supervisor may be indicated. The supervisor must be a PhD holder and may either come from the Department of Computer Science or from an institute or organization outside the Department. During the examination period of the first semester in which the student enrolled in the Bachelor's Thesis, the student submits to the Supervisor a brief Progress Report. Following the submission of the Progress Report, the Supervisor shall submit a written assessment of the progress of the student to the Department, which is also sent to the student.

Evaluation

The final evaluation of the Bachelor's Thesis takes place towards the end of the semester where the student is registered for Bachelor's Thesis II.

Second Assessor

The Bachelor's Thesis is assessed by the supervisor, and the co-supervisor (if assigned), together with another member of the Faculty, known as the Second Assessor. The Bachelor's Thesis Coordinator with the collaboration of the Supervisors, publishes a list of Assessors and Program of Bachelor's Thesis presentations.

Presentations

The Bachelor's Thesis Coordinator publishes the Program of Bachelor's Thesis presentations for three days during the week immediately following the examination period. The Program of Bachelor's Thesis presentations must be made publicly available to all faculty members of the department and the presentations are open to the public.

Evaluation Criteria

The main criteria for the evaluation of the Bachelor's Thesis are the following:

- Quality of work (e.g. accuracy and completeness of analysis, appropriateness of methodology, validity of theoretical results, software quality, implementation, consistency of material presented and association of ideas).
- Degree of the objectives achieved of the Bachelor's Thesis.

- Degree of understanding by students of the area of the Bachelor's Thesis topic.
- Quality of the written language of Bachelor's Thesis (e.g. structure and organization, clarity, ease of reading and understanding).
- Quality of Presentation. (e.g. oral speech, the adequacy and suitability of multimedia used (such as slides), proper utilization of the allowed time of presentation, and most importantly to point the contribution of Bachelor's Thesis through the presentation).

Assessment of Bachelor's Thesis Grading

The following criteria and features are considered in the assessment of the thesis:

- 10% research proposal
- 30% research of sources
- 35% writing of the dissertation
- 15% defense of the dissertation

4.11.9 Curriculum Map with Learning Outcomes

Module code	Module Description	O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
CS111	Introduction to Computer Science	√			√		√			√	√
CS112	Programming Principles I	√			√		√				√
CS233	Linear Algebra	√					√				
BUSN100	Introduction to Business			√	√	√					
ECON101	Principles of Microeconomics			√	√	√					
MATH103	Introduction to Mathematics	√					√				
CS122	Data Structures	√			√						
CS123	Computer Architecture I	√			√					√	
CS124	Management Information Systems		√	√		√		√	√		
FINA200	Financial Theory			√	√	√					
STAT103	Probability and Statistics	√					√				
CS121	Programming Principles II	√	√		√		√				√
CS232	Communication networks	√			√		√			√	√

PSYC100	Introduction to Psychology					√				√
CS241	Algorithms and Complexity	√			√					
CS231	Fundamentals of Database Systems	√	√			√	√			
CS244	Computer Graphics	√			√					
LCS01	Language for Science					√				√
CS242	Operating Systems	√			√				√	
CS355	Computational Numerical Analysis	√			√				√	
CS245	Communications Networks Lab	√			√				√	
CS354	Advanced Computer Networks	√			√				√	
CS353	Image Processing						√		√	
CS363	Principles of Cybersecurity			√	√		√		√	
CS364	Web Applications technologies	√					√			
BUSNA210	Digital Economy				√	√	√	√		
CSE02	Compilers	√			√				√	
CSE04	Pattern Recognition - Machine Learning	√			√				√	
CSE07	Data Mining Techniques			√	√		√		√	
CSE13	Network Management	√			√				√	
CSE11	Human Computer Interaction	√		√			√			
BUSN104	Principles of Marketing				√	√	√			
CSE12	Analysis and Design of Information Systems	√	√				√	√		
CS243	Advanced Databases Concepts	√	√				√	√		√
CSE14	Computer Architecture II	√			√				√	
CS361	Software Engineering	√		√		√			√	
CS362	Artificial Intelligence	√			√				√	√
CS351	Distributed Systems	√	√		√			√		

CS352	Software Project Management	√		√					√		√
CSE03	Distributed Ledger Technologies	√		√				√			
CSE05	Data Science and Big Data	√	√					√		√	
CSE08	IoT Networks and Protocols	√					√	√			
CSE06	Game Design and Development	√						√		√	√
CSE10	Robotics & Computer Vision	√						√		√	
CSE01	Introduction to Innovation and Entrepreneurship			√	√						√
CSIE	Industrial Experience						√				√
CSE09	Cyber Crime and Legal Considerations	√		√	√			√			
CSTHERM	Research Methods				√		√			√	√
	Thesis	√			√			√	√	√	

4.11.10 Type of Assignments

Module code	Module Description	Written Essay	Quiz	Oral Presentation	Research Papers	Software Development	Case Study
CS111	Introduction to Computer Science	√		√	√		
CS112	Programming Principles I		√			√	
CS233	Linear Algebra	√	√				
BUSN100	Introduction to Business			√	√		√
ECON101	Principles of Microeconomics	√		√			

MATH103	Introduction to Mathematics	√	√				
CS122	Data Structures		√			√	
CS123	Computer Architecture I	√			√		
CS124	Management Information Systems			√			√
FINA200	Financial Theory		√				√
STAT103	Probability and Statistics	√	√				
CS121	Programming Principles II		√			√	
CS232	Communication networks	√		√	√		
PSYC100	Introduction to Psychology						√
CS241	Algorithms and Complexity	√	√			√	
CS231	Fundamentals of Database Systems		√			√	
CS244	Computer Graphics		√			√	
LCS01	Language for Science	√	√	√			
CS242	Operating Systems	√	√				
CS355	Computational Numerical Analysis	√	√		√		
CS245	Communications Networks Lab		√				√
CS354	Advanced Computer Networks		√	√	√		
CS353	Image Processing				√	√	
CS363	Principles of Cybersecurity	√	√		√		

CS364	Web Applications technologies			√		√	
BUSNA210	Digital Economy		√	√			√
CSE02	Compilers		√		√	√	
CSE04	Pattern Recognition - Machine Learning				√	√	
CSE07	Data Mining Techniques			√	√	√	
CSE13	Network Management		√				√
CSE11	Human Computer Interaction	√	√	√			
CSE12	Analysis and Design of Information Systems		√		√		
CS243	Advanced Databases Concepts		√		√	√	
CSE14	Computer Architecture II		√		√	√	
CS361	Software Engineering		√				√
CS362	Artificial Intelligence		√	√	√		
CS351	Distributed Systems	√		√	√		
CS352	Software Project Management			√			√
BUSN104	Principles of Marketing	√		√			
CSE03	Distributed Ledger Technologies			√	√	√	
CSE05	Data Science and Big Data				√	√	
CSE08	IoT Networks and Protocols	√		√	√		
CSE06	Game Design and Development		√			√	

CSE10	Robotics & Computer Vision			√	√		
CSE01	Introduction to Innovation and Entrepreneurship	√		√			
CSIE	Industrial Experience						
CSE09	Cyber Crime and Legal Considerations	√	√				
CSTHERM	Research Methods			√	√		√

4.12 MSc IN INFORMATION SYSTEMS AND DIGITAL INNOVATION (CONVENTIONAL AND DISTANCE)

4.12.1 Programme Aims and Objectives

This program aims at postgraduate education and scientific specialization in Information Systems and Digital Innovation, with the aim of acquiring more professional knowledge and a broader education of students with a specific interest in this subject. It is primarily aimed at graduates of Computer Science, Computer Engineering and Economic Studies. This program is an innovative and multidisciplinary program that integrates knowledge about the development and management of Information Systems with the study of emerging technologies of Digital Innovation. Examples of such innovative technologies are Big Data, the Internet of Things, Artificial Intelligence, and Robotics. The aim of the program is to provide each student with a comprehensive understanding of how to use Digital Technology to improve businesses in today's digital economy and to explore the management and innovation aspects of Information Technologies. Companies are developing more on the basis of new technologies, creating a critical need for professionals who bring skills in both Business Management and Technology. The ultimate goal of the MSc in Information Systems and Digital Innovation is to bridge the gap between Business and Technology, giving our graduates a distinct market advantage.

4.12.2 Learning outcomes

With the end of this postgraduate program in Information Systems and Digital Innovation, graduates will have acquired:

- [O1] The tools and skills for designing, developing and implementing systems that solve important organizational and social problems.
- [O2] The basic skills and the knowledge needed to manage Digital Innovation.
- [O3] Knowledge of how Innovative Information and Communication Technologies can be used to achieve strategic goals.

[O4] A deeper understanding of the broader business framework of Information Systems, and how it should be designed to achieve good technical performance and interacting attributes.

[O5] Knowledge and understanding of the basic concepts for using computational methods to solve complex problems.

[O6] Research experience and its exploitation for further research and study.

[O7] Skills related to Critical Thinking and Autonomous Learning.

4.12.3 Programme Foundations

Programme Duration

The duration of these studies is three semesters. Entries for the Postgraduate Program are held in September and February / March of each academic year. Each course lasts an academic semester. All students enrolled in the Postgraduate Program, either in the winter semester or the spring semester can choose the courses offered in the relevant semesters. For successfully completing their studies, students need to accumulate a total of 90 Credits (ECTS).

4.12.4 Programme breakdown

The curriculum is structured as follows:

Semester A			
Code	Course Title	Type	ECTS
IS506	Digital Innovation and Entrepreneurship	Compulsory	7.5
IS503	IT Project Management	Compulsory	7.5
IS507	Disruptive Technologies	Compulsory	7.5
IS509	Research Methodology	Compulsory	7.5

Semester B			
Code	Course Title	Type	ECTS
IS502	Problem Solving Programming	Compulsory	7.5
IS501	Information Systems Analysis and Design	Compulsory	7.5
IS508	Big Data and Analytics	Compulsory	7.5
MDB505	Digital Marketing	Elective	7.5
IS504	Information Security	Elective	7.5

IS505	Mobile Application Development	Elective	7.5
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Semester C			
Code	Course Title	Type	ECTS
IS510	Dissertation	Compulsory	30

4.12.5 Course Descriptions

IS506 Digital Innovation and Entrepreneurship

Entrepreneurship and digital innovation are increasingly important in all areas of business and government. The course focuses on the skills necessary for the planning, development and launch of entrepreneurial and innovative ventures. The material covered includes the introduction in digital economy and platforms, the foundations of entrepreneurship, techniques for creative thinking, and processes for developing, planning and launching a new venture including protecting intellectual property, evaluating markets, developing innovative business models, budgeting, and raising finance.

IS507 Disruptive Technologies

At this course, we will try to understand how Disruptive Technologies are expected to create a new world of opportunities and risks in the business world and in our lives. We will review in detail the basis of disruptive innovation. We will then focus on the major disruptive technologies. Some of these technologies are: Robotics, Machine Learning, Artificial Intelligence, Blockchain, Cryptocurrencies Computer Vision and Internet of Things.

IS503 IT Project Management

The course is divided into three parts. The first part describes the basics of software project management. Software project management is an art and science of planning and leading software projects. It is a sub-discipline of project management in which software projects are planned, implemented, monitored and controlled. The second part investigates the basics of IT Project Management, Leadership and Organizational Behavior, which is a field of study that investigates the impact that individuals, groups, and structure have on behavior within organizations, for the purpose of applying such knowledge toward improving an organization's effectiveness. Finally, the third part defines leadership as the ability to influence a group toward the achievement of a vision or set of goals. The source of this influence may be formal, such as that provided by managerial rank in an organization. But not all leaders are managers, nor, for that matter, are all managers' leaders. Just because an organization provides its managers with certain formal rights is no assurance they will lead effectively. Organizations need strong leadership *and* strong management for optimal effectiveness.

IS506 Research Methodology

The course aims at making students familiar with the methods of academic research so that they are able to write academic papers of every kind (university assignments, theses, academic articles etc.). Special emphasis is given on issues like research planning, the collection of data/information, the evaluation of sources, and the writing of the text of an academic paper.

IS501 Information Systems Analysis and Design

System analysis and design deal with planning the development of information systems through understanding and specifying in detail what a system should do and how the components of the system should be implemented and work together. This course will cover the principals of information systems including analysis and design. Students will learn techniques in data requirements collection and analysis along with methods to modeling data needs. Modeling of data will occur at the conceptual, logical, and physical levels along with an ability to compare and contrast the different approaches given their merits and limitations. Students will understand the importance and constraints imposed by the domain of the information system along with business rules that guide the design.

IS502 Problem Solving Programming

This is a programming course that aims to develop problem-solving techniques for numerical and non-numerical problems from various disciplines. Students will design the solution to each problem and implement it in the Java programming language. The goal is to introduce the students to problem solving methods and algorithm development and data abstraction that serve as the basis of complex algorithms and applications.

IS508 Big Data and Analytics

Analytics has become the technology driver of this decade. More and more organizations these days use their data as decision supporting tool and to build data-intensive products and services. Decision makers are using more computerized tools to support their work. Even consumers are using analytics tools, either directly or indirectly, to make decisions on routine activities such as shopping, health/healthcare, travel, and entertainment. Analytics includes a range of activities, including business intelligence, which is comprised of standard and ad hoc reports, queries and alerts; and quantitative methods, including statistical analysis, forecasting/ extrapolation, predictive modeling (such as data mining), optimization and simulation.

IS504 Information Security

In this course, we will look into such topics as fundamentals of information security, threats and attacks, information security technology and principles, access control mechanisms, cryptography algorithms, network and physical security, security

management, risk assessment, basics of forensics and finally, the legal and ethics issues of information security. By the end of this course, students should understand of various types of security incidents and attacks, and learn methods to prevent, detect and react incidents and attacks.

MDB505 Digital Marketing

The aim of the Digital Marketing Course is to provide students with the knowledge about business advantages of the digital marketing and its importance for marketing success; to develop a digital marketing plan; to make e-SWOT analysis; to define a target group; to get introduced to various digital channels, their advantages and ways of integration; how to integrate different digital media and create marketing content; how to optimize a Web site and SEO optimization; how to create Google AdWords campaigns; social media planning; to get basic knowledge of Google Analytics for measuring effects of digital marketing and getting insight of future trends that will affect the future development of the digital marketing. The application of the gained knowledge, skills and competences will help future managers in forming digital marketing plan in order to manage a digital marketing performance efficiently.

IS505 Mobile Application Development

The aim of Mobile Application Development to understand the capabilities and limitation of mobile platforms that affect the today application development and deployment. At the end of this course you will comprehend the enterprise-scale requirements of mobile applications as well as develop a mobile application using an existed framework.

IS510 - Dissertation

A Dissertation is prepared by a student in accordance with the Programme of Studies of the Department. Each Dissertation must contain sufficient information that reflects the student's initiative, independent study and productivity (originality, in the broad sense). The Diploma Project may be of theoretical or practical nature or a combination of both.

Each member of the Faculty submits to the Department a number of Dissertation topics greater than the ratio of the number of students per Faculty member. Each Faculty member reserves the right not to supervise a number of Dissertations larger than the nearest integer above the ratio of students per Faculty member.

4.12.6 Curriculum Map with Learning Outcomes

The program is structured in a way that the Courses Learning Outcomes (CLOs) match the Program Learning Outcomes (PLOs):

	Module Description	O1	O2	O3	O4	O5	O6	O7
Courses								
IS501	Information Systems Analysis and Design	√				√		
IS502	Problem Solving Programming	√	√					
IS503	IT Project Management		√	√				
IS504	Information Security	√				√		
IS505	Mobile Development	√				√		
IS509	Research Methodology						√	√
IS507	Disruptive Technologies			√		√		
MDB505	Digital Marketing		√	√	√			
IS508	Big Data and Analytics			√		√		
IS506	Entrepreneurship and Innovation			√	√			
IS510	Dissertation						√	√

4.12.7 Type of Assignments

Courses	Module Description	Written Essay	Quiz	Oral Presentation	Research Papers	Software Development	Case Study
IS501	Information Systems Analysis and Design	√				√	√
IS502	Problem Solving Programming	√	√			√	
IS503	Introduction to IT Project Management		√	√			√
IS504	Information Security	√	√		√		√
IS505	Mobile Development	√		√		√	
IS509	Research Methodology			√	√		√
IS507	Disruptive Technologies	√		√	√		
MDB505	Digital Marketing		√	√	√		
IS508	Big Data and Analytics		√	√		√	
IS506	Entrepreneurship and Innovation		√		√		√
IS510	Dissertation				√		√