

BSc (Hons) in Digital Multimedia

**FACULTY OF COMPUTER & INFORMATION SCIENCES - AIN SHAMS
UNIVERSITY (FCIS- ASU)**

COURSE HANDBOOK 2020/21

Collaborative edition



**University of
East London**

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INTRODUCTION / WELCOME FROM THE PRINCIPAL

Credit Hour Programs – Faculty of Computer and Information Sciences are ones of the leading specialized programs in Computers and Information established in Egypt which offer high-quality and standard-based education. The FCIS – CHP aim to make progress in ICT in tandem with the information revolution and the knowledge economy, both at the level of development of the current recent industrial and society needs, and at the concept of professional education, including curricula and applied materials taught to students, computer labs and specialized training. The FCIS – CHP learning environment focuses on enhancing the students' knowledge, practical and transferrable skills according to the latest recent learning and technological trends.

To ensure leadership and offer our students the best progressive careers, the faculty holds close relationship with industrial and international partners. The faculty regularly holds its annual employment day, scientific conference, and various events and programs to help its students and researchers develop their technological and research capabilities, in addition to their personal skills.

Today, FCIS – CHP extend their success by providing a dual award of BSc (Hons) in its programs. Students enrolled onto the dual award Course means that they are students of FCIS – ASU, and also students of the Department of Engineering and Computing at the University of East London (one of the leading modern Universities in the UK for Engineering and Computing). The development of professionalism and career prospects that are fundamental aspects in UEL 2028 vision and in alignment with ASU ethos is guaranteed through well integrated mental wealth modules at the different levels of Digital Multimedia Course. Both institutions work together, now and continuously, to ensure the quality and standards of the Course on which you are registered.

This handbook is intended for all students taking the BSc (Hons) **Digital Multimedia** dual award from ASU and UEL. You will find it a useful information guide at the start and during your study in the Course (Program).

We trust that you will benefit and enjoy studying with our new programs and we warmly welcome you to FCIS – CHP.

Sincerely,

Prof. Dr. Nagwa Badr

(Dean of Faculty of Computer & Information Sciences - Ain Shams University)

Assoc. Prof. Dr. Sherine Rady

(CHP Director, Faculty of Computer & Information Sciences - Ain Shams University)

INTRODUCTION TO THE COURSE

Course Duration and Modes of Study

The dual award BSc (Hons) Digital Multimedia Course is a 3-year full-time course. The Course offers dual awards of Bachelor of Science Degree from both Ain Shams University and the University of East London. The minimum allowed study duration is 6 main semesters. The maximum allowed study duration is 8 main semesters (4 years).

Course Aims and Objectives

The BSc (Hons) Digital Multimedia Course focuses extensively on computer science with a strong emphasis on Digital Multimedia. The DMM Course aims to prepare graduates with the ability to produce applications that can store information in various forms including text, images, animation and sounds, and display them in an interactive manner according to different uses. The DMM Course exposes the students to the diverse use of science in the fields of advertising, art, education, entertainment and special effects in films, animation and games.

Course Intended Learning Outcomes (ILOs)

The graduates of the Digital Multimedia Course should be able to:

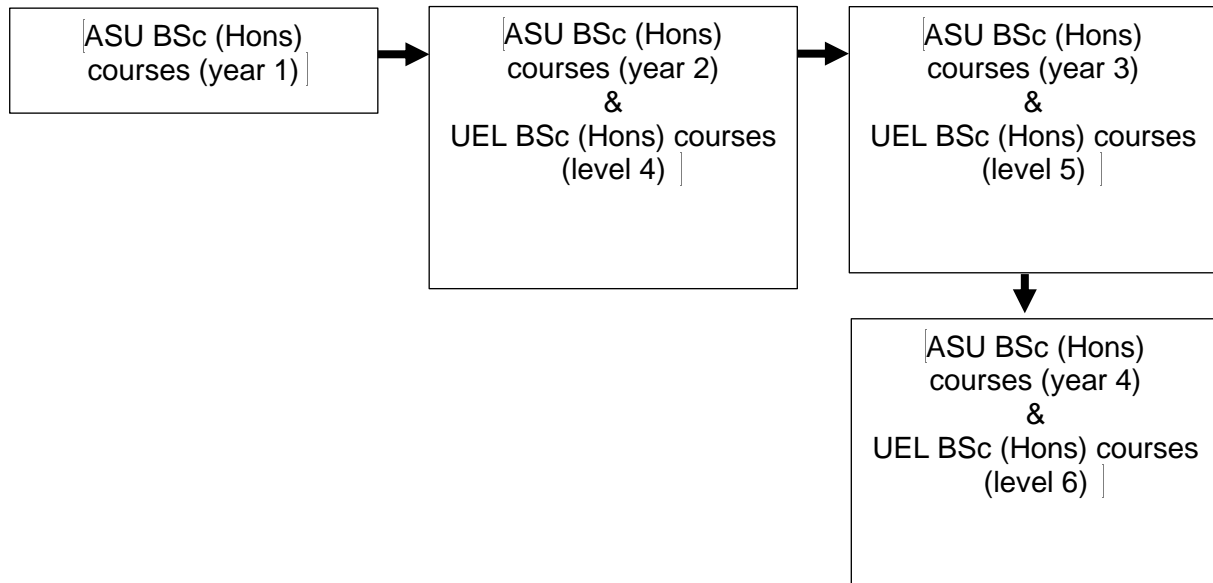
- Understand the current and underlying technologies and skills and the professional standards necessary to begin practice.
- Recognize the principles and techniques of several fields informed by the research directions of multimedia.
- Know the tools, programming languages, practices and methodologies used in the specification, design, implementation, and critical evaluation of multimedia systems.
- Compare between different multimedia methods and techniques.
- Identify criteria to measure and interpret the appropriateness of a computer system for its current deployment and future evolution for multimedia systems.
- Analyse problems from written descriptions and derive requirements specifications from an understanding of problems (analysis, synthesis) and Select appropriate solutions for problems in software design and development.
- Develop a range of fundamental research skills, using online resources, technical repositories, and library-based material.
- Use appropriate programming languages, tools, design methodologies, and database systems.
- Deploy the equipment and tools used for the construction, maintenance and documentation of computer applications and assess the implications, risks or safety aspects involved in the operation of computing equipment within a specific context.
- Collaborate effectively within multidisciplinary team.
- Reveal communication skills, public speaking and presentation skills, and delegation, writing skills, oral delivery, and effectively using various media for a variety of audiences.

- Demonstrate analytic thinking and the ability to solve problems.

Course Structure & Content

The Course conforms to UEL’s Academic Framework structure for dual degree Courses. All modules will be taught by ASU academics in the Faculty of Computer and Information Sciences at Ain Shams University.

COURSE STRUCTURE



The Course structure can be seen in Table 2.1 (module codes are subject to change).

Table 2.1 BSc (Hons) Digital Multimedia Course Structure

Level	Year	Code	Module Title	Credit	Core/Option
4	2	AS4001	Fundamentals of Programming	20	Core
4	2	AS4002	Mathematics for Computer Scientists	20	Core
4	2	AS4071	Data Statistics and Representation	20	Core
4	2	AS4004	Mental Wealth: Professional Life 1 (Operations Research and Communication Skills)	20	Core
4	2	AS4072	Project Management and Economics	20	Core
4	2	AS4073	Introduction to Digital Multimedia	20	Core
5	3	AS5007	Mental Wealth: Professional Life 2 (Algorithms and Professional Ethics)	20	Core

5	3	AS5074	Software Engineering and Database Systems	20	Core
5	3	AS5006	Computer Networks and Operating Systems	20	Core
5	3	AS5075	Artificial Intelligence for Gaming	20	Core
5	3	AS5076	Computer Graphics and Visualization	20	Core
5	3	AS5077	Numerical Computing Methods and Computer Security	20	Core
6	4	AS6078	Virtual Reality and Real Time Systems	20	Core
6	4	AS6079	Digital Signal and Speech Processing	20	Core
6	4	AS6080	Fundamentals of Digital Image and Video Processing	20	Core
6	4	AS6081	Mobile Embedded Systems	20	Core
6	4	AS6020	Mental Wealth: Professional Life 3 (Project)	40	Core

Modules are allocated credits, with each year consisting of 120 credits. Over the three years this will give a total of 360 credits.

The credits for a module indicate the time a student will need to spend on a module (either in classes or in self-study), with 10 student hours for each unit of credit. Therefore, a 20-credit module will map onto 200 student hours for example. The final Graduation Project is a 40-credit module that is delivered over two semesters.

All modules are core, which means that they must all be passed in order to gain the final BSc (Hons) Digital Multimedia Award.

KEY STAFF, CONTACT DETAILS AND STAFF ROLES

The Key Staff and Contact Details are correct at point of publication. You will be notified of any changes.

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DMM Course Leader and Contact Link ASU – FCIS
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Dr. Maryam Nabil
DMM Course Coordinator
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Dr. Yasmine Afify
Academic Advisor
yasmine.afify@cis.asu.edu.eg

Mr. Mohamed Ayad & Mr. Amr Abdel Azim
DMM Course Secretary and Students' Affairs
info.chp@cis.asu.edu.eg

Dr. Sin Wee Lee
Head of Partnerships, School of Architecture, Computing and Engineering, UEL
sinwee@uel.ac.uk

Students' Affairs Inquiries: +20-02-26855585 (ext.: 174)
Other Inquiries: +20-02-26855585 (ext. 323)
chp@cis.asu.edu.eg

UEL Academic Partnership Office:
+44 20 8223 2463 (apo@uel.ac.uk)



Link to the Student Handbook page for When to Contact UEL Directly:
<https://uelac.sharepoint.com/sites/studenthandbooks/SitePages/When-to-Contact-UEL-Directly.aspx>

COURSE OPERATION AND STUDENT REGISTRATION

1 Course Delivery

At level 4, there will be a reliance on traditional methods of delivery consisting of a lecture Course with tutorial support. In addition, other methods of delivery, such as Computer Underpinned Learning or research-based tasks, may be used; these styles are more student-centred and put more responsibility onto the students to achieve the intended learning outcomes.

Certain modules at level 4 lend themselves to group working and assessment or operate in a mode where written examinations are less appropriate. The Course team is very experienced in group assessment via its successful workshop modules.

At levels 5 and 6, whilst certain modules are delivered by traditional methods, there is more reliance on student-centred learning. Several modules take the opportunity to introduce students to research methods and encourage investigation of current published work.

You will be allocated to a tutorial group for each module of study. You are required to attend the group for which you are registered, and you may not attend an alternative group informally.

4.2 Assessment Regulations

The Module Handbooks each give detailed breakdowns of the weightings and volume of assignments. For a formal description of the assessment process you should refer to the Academic Framework Module Regulations at: www.uel.ac.uk/academicframework/.

Assessment Boards

Assessment Boards control and consider all assessments undertaken by students. The Board comprises a Chair, all those substantially involved as tutors and/or examiners and the external examiner(s). For more detailed information about the terms of reference of Assessment Boards within the Academic Framework Modular Regulations, please see details at www.uel.ac.uk/academicframework/

Examinations and other assessments undergo a rigorous quality assurance process as follows:

- Module lecturers write the questions and produce solutions with marking schemes.
- Another lecturer checks the assessment questions, solutions and marking scheme.
- Copies of the assessment questions, solutions and marking scheme are sent, via the University of East London, to one of the External Examiners for checking and approval.
- Following the examinations, student answers are marked by the module lecturers.
- A sample of students' marked work is reviewed for accuracy by another lecturer.

- Marked samples of student submissions are sent to the University of East London for review.
- External Examiners visit the University of East London and check the students' work and the lecturers' marking.
- The results are considered at assessment boards at the University of East London.

4.3 Course Organisation

The organisation and administration of the Course will be carried out through the following:

The Dean of FCIS

Prof. Dr. Nagwa Badr is the Dean of FCIS - ASU. She has overall responsibility for maintaining the high standards of quality and innovation in all the academic teaching and research activities.

The Course Leader

Assoc. Prof. Sherine Rady is the Course Leader for the BSc (Hons) Digital Multimedia Course. The Course leader coordinates the day-to-day business of Course and has overall responsibility for students on the Course. The role of the Course leader is to ensure guidance and support for the Course and students through the Course duration and is the first port of contact when Course level issues occur. The Course leader's responsibility is to resolve any issues that may arise at the Course level and will mediate between module leaders & the academic support team to drive and resolve Course level issues. For problems at a particular module, which have not been resolved by talking to the Module Leader, the matter should be brought to the Course Leader to resolve. Course Leaders are also responsible for liaison with Course Representatives for the year. They also have other duties, which vary from year-to-year and are often connected with quality improvement projects.

The Course Coordinator

Dr. Maryam Nabil is the Course Coordinator for the BSc (Hons) Digital Multimedia Course. The Course coordinator is responsible for ensuring that the Course is efficiently running in terms of student and staff time and all assessment tasks (coursework, examinations, etc) are appropriately handled according to submission dates and mapped to the Course and Modules' learning outcomes. She is additionally responsible for meeting the proper delivery of formative and summative feedbacks to students. Course coordinator is additionally accountable for the delivery and the academic management of all modules of the Course.

The Module Leaders

Module Leaders are responsible for delivery and academic management of the module, including all module assessment tasks. The module leader is responsible for the delivery of an individual module and is tasked with providing the students with the necessary lecture and tutorial material and assessing the work submitted. They are also responsible for the module accompanied assessment criteria, tasks guidelines, submission dates and ensuring the information regarding return of work to be clearly published to students. As far as possible, any problems or questions concerning individual modules should be addressed to the Module Leader. General academic advice can also be obtained from them.

The Course Management Team

The Course Management Team consists of the Course Leader, Course Coordinator, Module Leaders, School Administrators, and the Student Representatives. They are collectively responsible for day-to-day running of the Course. The team forms Course committees who hold regular meetings to discuss any issues that arise throughout the academic teaching and/or other subjects and these happen at least once per term.

External Examiners

External Examiners are responsible for providing an independent check that proper standards are being maintained and are allocated to modules by subject area. They review each piece of assessment before it is available to students, review samples of work each semester, and review student feedback and results.

Circumstances in which student can access UEL directly

You will find that for most issues that arise during your studies academic and administrative staff at your location of study will be able to help, and further details are provided in this handbook. If, however you have concerns that lie outside the remit of these staff you can contact the UEL link person [see further details below] in the first instance who will be able to re-direct your enquiry as appropriate.

The UEL Academic Link Tutor is appointed to manage the relationship between the Course Leader at ASU-FCIS and UEL. Students may meet the UEL link person at Course committee meetings.

Please contact your local Student Support/Administrative Office if you have any queries, in the first instance. If you have been advised by your local office to contact UEL then please send an e-mail to the contact UEL then please send an e-mail to the UEL Academic Partnerships Office at apo@uel.ac.uk.

4.4 Study Timings and Registration

The academic year comprises two semesters:

§ **First main semester (Fall):** Begins early September and lasts for 15 weeks.

§ **Second main semester (Spring):** Begins early February and lasts for 15 weeks.

There is also an optional **summer semester** before the academic year, which begins late June and lasts for 7 weeks.

- New students' enrolment in the Courses starts two weeks before the starting of the Fall semester, after fulfilling all the Courses requirements and paying the enrolment fees, as recommend by the Courses Administration Council and set by the Council of the Faculty of Computer and Information Sciences.
- Registration for any semester takes place within two weeks before the starting day of the semester. Registration is not final until the full tuition fees of the semester are paid.
- Registration in the Summer semester is optional.
- The student must register 60 credits per semester. Registration is not final until the student pays the educational service fees for the semester.
- The student may register in the Summer semester in a maximum of two modules, unless it results in graduating the student conditional the approval of the academic advisor.
- Students enrolled in disciplinary program (formally known as mainstream) can transfer to CHP following the faculty transfer rules. In-between CHP transfer is also allowed. ASU modules' equivalency will take place for the modules studied in disciplinary programs or in the different CHP programs.
- The Course academic regulations are available at [http:// chp-cis.asu.edu.eg/index.php/important-bylaw-regulations/](http://chp-cis.asu.edu.eg/index.php/important-bylaw-regulations/)
- The Local Attendance and Engagement policy is available at [http:// chp-cis.asu.edu.eg/index.php/important-bylaw-regulations/](http://chp-cis.asu.edu.eg/index.php/important-bylaw-regulations/)
- UEL University's academic regulations are available at <https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations>

It is essential that you log in to UEL's web-based student record system, **UEL Direct**, and enrol with UEL using the UEL student number that you have be given prior to attending any lectures.

Once you have gained admission to the Course, you must login to the UEL direct page using your student username which will be your UEL ID number and password and complete the on-line enrolment. ASU – FCIS will assist and ensure that you complete your online enrolment task promptly. UEL Direct is available at <https://www.uel.ac.uk/students>

For general enquiries concerning enrolment, you must contact your local Student Support/Administrative Office for guidance in the first instance and then if you are advised to contact UEL, please send an e-mail to the UEL Academic Partnerships Office at apo@uel.ac.uk.

It is essential that you log in to UEL direct and enrol with UEL using the UEL student number that you have been given prior to attending any lectures.

Once you have gained admission to the course you must login to the UEL direct page using your student username which will be your UEL ID number and password and complete the on-line enrolment. FCIS – CHP will assist and ensure that you complete your online enrolment task promptly. UEL Direct is available at <https://www.uel.ac.uk/students> (click on 'new students')

For general enquiries concerning enrolment, you must contact your local Student Support/Administrative Office for guidance in the first instance and then if you are advised to contact UEL, please send an e-mail to the UEL Academic and Employer Partnerships Office at apo@uel.ac.uk.

EQUALITY AND DIVERSITY

ASU Equality and Diversity Strategy

- ASU commits to ensuring equality and diversity in its campus. Equality is ensured for everyone regardless any grounds of discrimination such as gender, age, colour, disability and religion.
- ASU supports a safe environment for both working and studying. The university environment must be free of bullying, harassment, and any form of discrimination. Any act of the aforementioned will not be tolerated, and any complaints will be taken seriously. Anyone who feels being subjected to these acts is encouraged to raise complaints.
- All academic staff members, students and employees are supposed to treat each other with mutual respect and fairness. Everyone should respect the presence of individual differences, diversity in culture, personal opinions and beliefs.
- Equal opportunities and access to facilities are allowed for all staff and students. Each staff member or student is given full support to develop their skills and talents. Selection for employment, promotion, training, or any other benefits will be based on aptitude and ability.



Link to the UEL Equality and Diversity Strategy: https://www.uel.ac.uk/-/media/main/images/about/temp_governance_prototype/polices-and-regulations/students/equality-and-diversity-policy-090615.ashx?la=en&hash=A1327CCC49248602E7683F626D9606B64550B646

COURSE MANAGEMENT

- Students' support and guidance are provided through a range of resources. A welcome and induction process is starting in their first week, where all students are guided to their Course studies.
 - Special attention is paid to the learning management system that helps students and staff members to intercommunicate effectively in terms of course material, assignment, term-work marks ... etc.
 - The Course's learning management system is setup to have a page for each course studied during the semester. The student can access his courses from the main Course webpage.
 - All electronic services provided to the students require the use of university e-mail, hence, it is created automatically for the student when he is first enrolled to the Course, and he retains this e-mail until he graduates.
 - The Student Information System (SIS) is the place where students can access all their academic records. It can be reached on the main Course webpage, which also provides brief information about the mission and vision of the Course, and the important dates related to student academic activities.
 - Every student is assigned an Academic Advisor who is one of the faculty members and may continue with the student for the whole study duration. The Academic Advisor should follow-up with the student, assist him in selecting courses each semester, and request to place the student under probation for one semester.
 - For each hour (lectures or tutorials) the instructor should have an office hour. It could be twice a week for 1.5 hours each. Office hours will be determined in the first class and will be posted on the Instructor's office door.
 - Students will be given a student handbook at the start of their Course study.
 - Course Committees provide a formal structure for student participation and feedback on their Course of study. Course committees provide a forum in which students can express their views about the management of the Course, and the content, delivery and assessment of modules, in order to identify appropriate actions to be taken.
-

Students Involvement

There are different facilities that ensure students involvement:

a) **Students' Affairs Administration**

The students' affairs administration is chaired by the Vice-Dean for Education and Students' Affairs and is located in the faculty administration building. This administration has representatives at the Courses' administration offices (First Floor

of the Extension Building). The secretariat of each Course (at the Courses secretariat office – First Floor of the Extension Building) also collaborates with the previous representatives in accomplishing the following tasks:

- Archiving of the students' files.
- Issuing the students' identity cards.
- Electronic recording of the students' course registration, add/drop, and withdraw.
- Processing the students' course evaluation at the end of each semester.
- Issuing the students' records at the end of each semester.
- Issuing the students' graduation certificates.
- Processing the students' appeals and requests.

b) Students' Union

The students' union is also under the general supervision of the Vice-Dean for Education and Students' Affairs. As part of the Faculty of Computer and Information Sciences, the Courses' students are members in the union and have similar rights and benefits as the mainstream students, including entering the union's yearly elections.

c) Financial Affairs Administration

The Courses' financial affairs administration, located at faculty administration building, is responsible for issuing the payment orders for the students' tuition fees at the beginning of each semester. The administration is also responsible for collecting the copies of the students' payment receipts, which should be presented by the students after making their payment at the Faculty treasury. Students who fail to present copies of the payment to the Courses' financial administration risk having no payment records at the Courses.

d) Library

The Faculty library provides a service specially designed to fulfil the requirements of all academic Courses. It is open for all Faculty members for reference use and borrowing. The faculty has a central library which serves students and researchers in various fields besides the Digital Library to provide an online service for users. There is (1) central library with (3) sections according to the following:

- The student library contains (1405) books.
- The teaching staff hall contains (3430) books.
- Digital Library Hall: The Digital Library serves to provide an online Service for users. It gives online access to the contents of the library, including books and theses. The digital library website:
http://srv2.eulc.edu.eg/eulc_v5/libraries/start.aspx.

The students' library has multiple copies of textbooks available for short-term borrowing to students. According to the Computer and Information Sciences Faculties libraries development project, annexed to the Ministry of Higher Education, the library is interconnected through the Internet with all the libraries of Computer and Information Sciences faculties nationwide. Library software system has been installed which contains all the modules to provide library services to the Faculty community.

e) **ASU-FCIS Information Systems**

ASU-FCIS has a solid understanding of the importance of information systems in each aspect in the CHP academic environment. Hence, a comprehensive web portal has been created for CHP that has all information and services needed for the students, parents, and staff members. Learning Management System (LMS) is one of the available services at the ASU-FCIS portal for all students mainly to have their course materials posted regularly on it with a dedicated protected access to the courses. More importantly, a comprehensive Student Information System (SIS) is another service that is available on the portal to all parties involved in the system. The student can use SIS to access his academic records, do course registration, request to open courses that are not offered, or even request advising appointment with his academic advisor.

Course Committees provide a formal structure for student participation and feedback on their course of study. Course committees provide a forum in which students can express their views about the management of the course, and the content, delivery and assessment of modules, in order to identify appropriate actions to be taken.



The Committee's terms of reference is provided at:

<https://uelac.sharepoint.com/LearningandTeaching/Pages/students-area.aspx>

ATTENDANCE AND ENGAGEMENT

Teaching Policy

Language: English language should be used for lecturing, discussions, exams, and all verbal and electronic communications. Use of Arabic language is strictly forbidden even in one-to-one conversation between the instructor and the students.

Module Syllabus: Each module syllabus should contain: module objectives, textbook, outline, material, assessments, grading policy and outcome. Outline should contain sections covered every week with reference to chapters/sections in the textbook. The instructor should give the module syllabus to the students in the first class. The syllabus serves as a contract between the instructor and the students.

Textbook: The instructor is free to select/recommend a textbook, but it should be international and available. The textbook information should be provided to the administration office or the unit head before the first class of the module.

Attendance: Attendance is taken in lecture and tutorial classes. It is assigned a percentage based on the grading policy. Students should not be allowed to enter the class after 5 minutes from the scheduled time. No eating, drinking, or mobile use in the class. If the student wants to leave the class for any reason, he will not be allowed to come back to the class. The student's attendance should not be less than 75% during the course. Otherwise, the student should not be allowed to attend the final exam.

Assignments: Assignments are given every week (spelled out in the course syllabus), preferably from the textbook. Instructors are allowed to drop the least assignment from the grade. The assignment is collected at the end of the tutorial period of the next week. Instructors may grade only selected problems from the assignment. The graded assignment should be returned and discussed with the class.

Quizzes: Unannounced quizzes are given in the tutorials to force the students to study and be ready all time. The quiz is given at the end of the session for 15 minutes max. Up to 6 quizzes can be given and the least one can be dropped from the grade. The graded quiz and the model answer should be returned the following tutorial and discussed with the class.

Exams: One midterm exam should be given. Time should be indicated in the module syllabus. The midterm exam should be given during the 7th-8th week. This exam will be held during lectures/tutorials based on course progress. The graded midterm exam and its model answer should be returned and discussed with the class. The instructor can arrange for a bigger or more suitable room for the midterm exam. The final exam should be a comprehensive exam covering all material. Instructors may select to have all exams open-book or closed-book.

KEY DATES

- The UEL Academic calendar is available at <https://www.uel.ac.uk/student-life/key-dates>
- The ASU-FCIS Academic calendar is available at <http://chp-cis.asu.edu/academic-calendar/>

	ACTIVITY	FROM	TO
FALL 2021	Registration	10/10/2021	23/10/2021
	Classes	16/10/2021	6/1/2022
	Add / Drop	24/10/2021	30/10/2021
	Withdraw	31/10/2021	26/11/2021
	Midterm Exams	27/11/2021	2/12/2021
	Practical Exams	1/1/2022	14/1/2022
	Final Exams	15/1/2022	3/2/2022
	Inter-Semesters Recess	5/2/2022	18/2/2022
SPRING 2022	Registration	13/2/2022	19/2/2022
	Classes	19/2/2022	2/6/2022
	Add / Drop	20/2/2022	4/3/2022
	Withdraw	5/3/2022	5/5/2022
	Midterm Exams	7/5/2022	12/5/2022
	Practical Exams	28/5/2022	9/6/2022
	Final Exams	11/6/2022	30/6/2022
	Co-Op (Summer/ Field Training)	2/7/2022	21/7/2022
SUMMER 2022	Registration	2/7/2022	8/7/2022
	Classes	9/7/2022	1/9/2022
	Add / Drop	9/7/2022	14/7/2022
	Withdraw	16/7/2022	4/9/2022
	Practical Exams	20/8/2022	25/8/2022
	Final Exams	27/8/2022	8/9/2022

MODULE SPECIFICATIONS

Module specifications define each module of study on the course. They will include **learning outcomes** and the **aims** for each module. These documents form part of the 'definitive' documentation for the course. It is important to note that reading lists and indicative content are likely to change.

Module Specification

Module Title: Fundamentals of Programming	Module Code: AS4001 Level: 4 Credit: 20 ECTS credit: 10	Module Leader: Dr. Wedad Hussein
Pre-requisite: None	Pre-cursor: None	
Co-requisite: None	Excluded combinations: None	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
<p>This module introduces the main concepts of object-oriented programming (OOP) paradigm. It also familiarizes students with the syntax of an OOP language and improves their programming skills. Also, it provides the students with concepts of the commonly used data structures. Students can employ the OOP concepts and data structures to synthesize an efficient design for simple and medium sized programming problems. It also Improves the teamwork, and self-study skills of students. The module is taught from first principals and assumes no prior knowledge of the subject.</p>		
Main topics of study:		
<ul style="list-style-type: none"> • Introduction to OOP Principles • Class Templates and Functions • Stacks • Queues • Lists • Binary Search Trees • Iterators • Hash Tables • The STL • Graphs and Graph Algorithms • Priority Queues • Exception Handling • Introduction to Basic Algorithm Analysis 		
This module will be able to demonstrate at least one of the following examples/ exposures		
<p><i>Live, applied project</i> <input checked="" type="checkbox"/></p> <p><i>Company/engagement visits</i> <input type="checkbox"/></p> <p><i>Company/industry sector endorsement/badging/sponsorship/award</i> <input type="checkbox"/></p>		

Learning Outcomes for the module

- *Digital Proficiency - Code = (DP)*
- *Industry Connections - Code = (IC)*
- *Emotional Intelligence Development - Code = (EID)*
- *Social Intelligence Development - Code = (SID)*
- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

1. Describe the key object-oriented concepts of encapsulation, abstraction, information hiding, inheritance, and polymorphism.
2. Define linear and non-linear data structures.
3. List data structures with their associated STL containers.

Thinking skills

4. Compare the different implementations (data structures) of the basic abstract data types in terms of storage and processing efficiency. (IC)

Subject-based practical skills

5. Implement classes, class templates, variety of data structures and use the associated STL classes in programs. (COI)
6. Apply exception handling.

Skills for life and work (general skills)

7. Demonstrate the ability to efficiently work in teams and independently. (EID, SID)
8. Evaluate different data structures appropriateness to specific applications. (COI)

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures will be used to introduce the fundamental programming concepts. Continuous practice and assessment during practical sessions will be used to reinforce the understanding of the material. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:

Portfolio

Continuous assessment tasks:
In-class Test 50% (120 minutes)
Assignments 30% (20 hours of student effort)
Practical 20% (40 hours of student effort)

Weighting:

100%

Learning Outcomes demonstrated:

1-8

Reading and resources for the module:

<p>Core Wisnu Anggoro. (2018) <i>C++ Data Structures and Algorithms</i>. Packt Publishing Ltd. Kingsley Sage. (2019) <i>Concise Guide to Object-Oriented Programming</i>. Springer.</p> <p>Recommended Dr. Basant Agarwal and Benjamin Baka. (2018) <i>Hands-On Data Structures and Algorithms</i>. Second Edition. Packt Publishing Ltd.</p>	
<p>Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures</p> <p>Live, applied project: Students would be designing and implementing a basic management system using data structures and object-oriented concepts.</p>	
<p>Indicative learning and teaching time (10 hrs per credit):</p>	<p>Activity</p>
<p>1. Student/tutor interaction: 48 hours 48 hours</p>	<p>Lectures Labs</p>
<p>2. Student learning time: 104 hours</p>	<p>Essential and background reading, private study, group work, assignment planning and preparation and assessment preparation.</p>
<p>Total hours (1 and 2):</p>	<p>200 hours</p>

Module Specification

<p>Module Title: Mathematics for Computer Scientists</p>	<p>Module Code: AS4002 Level: 4 Credit: 20 ECTS credit: 10</p>	<p>Module Leader: Dr. Safaa Amin</p>
<p>Pre-requisite: N/A</p>	<p>Pre-cursor: N/A</p>	
<p>Co-requisite: N/A</p>	<p>Excluded combinations: N/A</p>	<p>Suitable for incoming study abroad? Y</p>
<p>Summary of module for applicants:</p> <p>This module aims at thinking logically and mathematically and acquiring the skill of problem solving. It also introduces the skill of using mathematical induction to prove results about positive integers. By the end of this module, student should be able to understand Integral Calculus, infinite Series, and ordinary differential equations, and their applications.</p>		
<p>Main topics of study:</p> <ul style="list-style-type: none"> • Introduction to Propositional Logic: Propositional Equivalences, Predicate Logic and Quantifiers and rules of Inference and Methods of Proofs. • Number Theory: Divisibility and modular arithmetic and primes and greatest common divisors. • Relations and their properties. • Linear System, Solution of Equations, Inverse Matrix and Cofactor. • Linear Transformations and Diagraphs, Definitions and examples. 		

- Eigen Values and Eigen Vectors and Diagraphs, Diagonalization, Symmetric Matrices, Orthogonality
- First and second order differential equations.
- Solving Systems of linear differential equations.
- Laplace transforms. Special functions.
- Numerical Solutions of Ordinary Differential Equations.

This module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project

Company/engagement visits

Company/industry sector endorsement/badging/sponsorship/award

Learning Outcomes for the module

- *Digital Proficiency - Code = (DP)*
- *Industry Connections - Code = (IC)*
- *Emotional Intelligence Development - Code = (EID)*
- *Social Intelligence Development - Code = (SID)*
- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

1. Explain the basic techniques of linear algebra. (DP)
2. State the different methods and rules of integration including finite and improper integrals. (DP)

Thinking skills

3. Apply the methods of integration, series summations and tests of convergence. (DP)
4. Analyze, compare, and select appropriate techniques to solve ordinary differential equations. (COI)

Subject-based practical skills

5. Use techniques of linear algebra in solving and handling practical problems. (DP, IC)
6. Use techniques of integration, infinite Series, and ordinary differential equations in solving practical problems. (DP, IC)

Skills for life and work (general skills)

7. Work and manage time effectively as a member of a development team. (CC, COI)

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:

Weighting:

Learning Outcomes demonstrated:

Portfolio Continuous assessment tasks: In-class Test 60% (120 minutes) Assignments 40% (60 hours of student effort)	100%	1-7
Reading and resources for the module: Core: Luis Manuel Braga da Costa Campos. (2019) Non-Linear Differential Equations and Dynamical Systems. CRC Press. Robert Adams (2017) Calculus: a complete course. 9 th edition. Pearson. Dennis G. Zill (2019) A First Course in Differential Equations with Modelling Applications. 11 th edition. Cengage Learning Recommended Oscar Levin (2019) <i>Discrete Mathematics: an open introduction</i> . 3 rd Edition.		
Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures Company/engagement visits: Guest talk from industry		
Indicative learning and teaching time (10 hrs per credit):	Activity	
1. Student/tutor interaction: 48 hrs. 48 hrs.	Lectures Tutorials	
2. Student learning time: 104 hours	Essential reading, private study, groupwork, practical work and assessment preparation	
Total hours (1 and 2):	200 hours	

Module Specification

Module Title: Data Statistics and Representation	Module Code: AS4071 Level: 4 Credit: 20 ECTS credit: 10	Module Leader: Dr. Walaa Khaled
Pre-requisite: AS4002	Pre-cursor: AS4002 Mathematics for Computer Scientists	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
<p style="text-align: center;">Summary of module for applicants:</p> <p>This module aims to provide students with the basic concepts of probability and statistics and illustrate the relevance of these concepts to practical problem solving and apply them on real work. It also provides students with theoretical and practical knowledge of the concepts of files structures, the methods for storing and manipulating data within digital files. In order to promote the understanding of the methods of data storage in memory and various secondary storage devices. This module assumes knowledge of basic Mathematics and basic programming knowledge.</p>		

Main topics of study:

- Introduction to Sample space, probability axioms
- Conditional probability, independence and Bayes' theorem
- Random variables; distribution functions, moments and generating function. Some probability distributions
- Joint distribution, the Chebyshev inequality and the law of large numbers
- The central limit theorem and sampling distributions
- File Management, File Processing Operations and File Structure Concepts
- Secondary Storage and Systems Software (Hard Disks, File Systems and Optical and Solid-State Devices)
- Organizing Files for Performance (Data Compression Techniques and Reclaiming Space in Files)
- Internal Sorting, Binary Searching, Key sorting
- Multi-Level Indexing, B-trees, B+ trees, and Hashing

This module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project

Company/engagement visits

Company/industry sector endorsement/badging/sponsorship/award

Learning Outcomes for the module

- *Digital Proficiency - Code = (DP)*
- *Industry Connections - Code = (IC)*
- *Emotional Intelligence Development - Code = (EID)*
- *Social Intelligence Development - Code = (SID)*
- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

1. Explain the benefits, in terms of economy and quality of information, of using statistically designed experiments, and the impact of variation/uncertainty on predictions. (COI)
2. Explain simple probability and statistical methods in modeling and prediction and stating them. (COI)
3. Describe the different file structures, the methods of managing files, data manipulation, and some compression techniques. (COI)

Thinking skills

4. Identify simple probability and statistical methods in modeling and prediction. (COI)
5. Identify different file structures for performance issues, and Compare between different types of storage devices, and different data indexing techniques. (COI)

Subject-based practical skills

<p>6. Use statistical and probability methods in solving real life problems. (IC)</p> <p>7. Use the different techniques for organizing files, data manipulation, and data compression techniques for encoding and decoding. (COI)</p> <p><i>Skills for life and work (general skills)</i></p> <p>8. Demonstrate good time management, team working, presentation, problem solving and academic integrity skills. (SID, PID)</p>		
<p>Teaching/ learning methods/strategies used to enable the achievement of learning outcomes: For on campus students:</p> <p>Lectures will be used for providing students with concepts of probability and statistics, files structures, and data storage methods. Practical sessions will be used to reinforce understanding of the material and provide hands on experience to apply concepts to a real-life situation. Feedback will be provided throughout the module in the form of both formative and summative work.</p>		
<p>Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:</p> <p>Portfolio Continuous assessment tasks: In-class Test 60% (120 minutes) Assignments 40% (60 hours of student effort)</p>	<p>Weighting:</p> <p>100%</p>	<p>Learning Outcomes demonstrated:</p> <p>1-8</p>
<p>Reading and resources for the module: Core McClave, J.T., Sincich, T. and Boudreau, N. (2016) <i>Statistics</i>. Pearson. Folk, M.J., Zoellick, B., and Riccardi, G. (2008) <i>File Structures: An Object-Oriented Approach with C++</i>. 3rd edn. Pearson Education.</p> <p>Recommended Moore, D.S., Notz, W. (2020) <i>Statistics – Concepts & Controversies</i>, 10th edn., W.H. Freeman and Macmillan Learning, New York. Tamassia, R., Goodrich, M.T. and Mount, D.M. (2011) <i>Data Structure and Algorithms in C++</i>. 2nd edn, Wiley.</p>		
<p>Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures</p> <p>Live, applied project: Students are required to design and build a database management system that fulfils specific requirements of a business domain.</p>		
<p>Indicative learning and teaching time (10 hrs per credit):</p>	<p>Activity</p>	
<p>1. Student/tutor interaction:</p> <p>48 hours 48 hours</p>	<p>Lectures Labs</p>	
<p>2. Student learning time:</p>	<p>Essential and background reading, assignment planning and preparation, group work, private study, practical work and assessment preparation.</p>	

102 hours	
Total hours (1 and 2):	200 hours

Module Specification

Module Title: <i>Mental Wealth;</i> Professional Life 1 (Operations Research and Communication Skills)	Module Code: AS4004 Level: 4 Credit: 20 ECTS credit: 10	Module Leader: Dr. Safaa Amin
Pre-requisite: N/A	Pre-cursor: N/A	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
<p>This module aims to introduce students to using variables for formulating complex mathematical models in management science, industrial engineering and transportation science. It teaches them the basic methodology for the solution of linear programs and integer programs. The module also focuses on oral communications including listening, presentation skills, interviewing, meetings, and interpersonal communications. The content includes negotiation, intercultural communication, and the importance of communication in team building.</p>		
Main topics of study:		
<ul style="list-style-type: none"> • Operation Research Model and decision variables • Objective functions, objective criterion and constraints • Mathematical program formulation • Graphical solution of LP Models and Algebraic solution • Simplex with two, three or artificial problem variables • Minimization and Maximization • Sensitivity analysis and Rounding method • Communication skills and strengthening Communication Capability • Building Relationships Based on Trust, Enabling Collaboration • Preparation and Nonverbal Communication Skills • Understanding Behavioral style • Advanced Negotiation and Communication Strategies 		
This module will be able to demonstrate at least one of the following examples/ exposures		
<p>Live, applied project <input type="checkbox"/></p> <p>Company/engagement visits <input checked="" type="checkbox"/></p> <p>Company/industry sector endorsement/badging/sponsorship/award <input type="checkbox"/></p>		
Learning Outcomes for the module		
<ul style="list-style-type: none"> • <i>Digital Proficiency - Code = (DP)</i> • <i>Industry Connections - Code = (IC)</i> • <i>Emotional Intelligence Development - Code = (EID)</i> • <i>Social Intelligence Development - Code = (SID)</i> 		

- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

1. Define the concepts of linear Mathematical programming problems. (COI)
2. Explain the techniques used in operations research to solve real life problem. (COI, IC)
3. Understand the influencing techniques that are most relevant to support negotiation processes. (SID)

Thinking skills

4. Design operation research techniques to solve a particular problem. (COI, IC)
5. Select the negotiation strategy, and relative techniques, are most appropriate in the given situation. (COI, SID, UGB)

Subject-based practical skills

6. Use the linear optimization technique to solve linear programming problem. (COI, PID, DP)

Skills for life and work (general skills)

7. Work in teams to exploit different competences and skills useful to conduct successful negotiation meetings. (CID, SID, EID, CC)

**Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:
For on campus students:**

Lectures are used to explain the main concepts of the module while lab sessions will be used to reinforce the understanding of the material. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:	Weighting:	Learning Outcomes demonstrated:
Portfolio Continuous assessment tasks: In-class Test 50% (120 minutes) Assignments 40% (40 hours of student effort) Practical 10% (20 hours of student effort)	100%	1-7

Reading and resources for the module:

Core

Carter, M., Price, C.C. and Rabadi, G., 2018. *Operations research: a practical introduction*. Crc Press.
 George Baisley, 2016. *Communication Skills: How to Master the Art of Negotiations*. Vol 3.

Recommended Buhnia, A.K., Shaikh, A.A. and Sahoo, L., 2019. <i>Advanced optimization and operations research</i> . Springer.	
Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures Company/engagement visits: Guest talk from industry	
Indicative learning and teaching time (10 hrs per credit):	Activity
1. Student/tutor interaction 48 hours 24 hours	Lectures Labs
2. Student learning time: 128 hours	Essential and background reading, Tutorial preparation, Assignment planning and preparation and assessment preparation.
Total hours (1 and 2):	200 hours

Module Specification

Module Title: Project Management and Economics	Module Code: AS4072 Level: 4 Credit: 20 ECTS credit: 10	Module Leader: Prof. Mostafa Aref
Pre-requisite: N/A	Pre-cursor: N/A	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
This module aims to provide students with the basic study of software project planning, cost estimation, project management tools, factors influencing productivity and the fundamentals of economics. It promotes the understanding of the software process standards, process implementation and the impact of IT projects on the performance of the organizations. It also improves the ability of the students to apply economic concepts to complex business realities as well as support them to forecast in the energy business.		
Main topics of study:		
<ul style="list-style-type: none"> • Introduction to software project planning, and fundamentals of economics • Software Development Life Cycle, and Paradigm • Project and Process Metrics • Project planning, Project scheduling, and Risk management • Project Management Tools, Microsoft Project Management, and Cost Management • Cost - Benefit Analysis • Team Building: A Leadership Strategy • Multiple Goal Decision Analysis 		

- Accounting profits, economic profits and economic decision-making
- Economic Growth and Business Cycle, Microeconomics
- Macroeconomic concepts, and challenges

This module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project

Company/engagement visits

Company/industry sector endorsement/badging/sponsorship/award

Learning Outcomes for the module

- *Digital Proficiency - Code = (DP)*
- *Industry Connections - Code = (IC)*
- *Emotional Intelligence Development - Code = (EID)*
- *Social Intelligence Development - Code = (SID)*
- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

1. Describe software project management, IT related crises, and the main tasks undertaken by project managers. (COI, DP)
2. Describe project goals, constraints, deliverables, and performance criteria. (COI)
3. Explain the concepts of Macroeconomics and its interrelations with Microeconomics. (COI)

Thinking skills

4. Identify project planning, the planning process, the notion of risks and the risk management process. (COI, DP)
5. Identify key macroeconomic indicators, major types of market failure, and the limits of economic analysis. (COI)

Subject-based practical skills

6. Use project management techniques to real-world project, control the design, implementation, closure, and evaluation of IT projects. (IC, DP)
7. Implement the principle of Macroeconomics in explaining the behavior of Macroeconomic variables at national as well as global level. (DP, COI)

Skills for life and work (general skills)

8. Demonstrate good time management, team working, presentation, problem solving and academic integrity skills. (SID, PID)

**Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:
For on campus students:**

Lectures will be used for providing students with concepts of software project planning, project management tools, and fundamentals of economics. Practical sessions will be used to reinforce understanding of the material and provide hands on experience to apply concepts to a real-life situation. Feedback will be provided throughout the module in the form of both formative and summative work.

<p>Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:</p> <p>Portfolio Continuous assessment tasks: In-class Test 50% (120 minutes) Assignments 30% (40 hours of student effort) Practical 20% (20 hours of student effort)</p>	<p>Weighting:</p> <p style="text-align: center;">100%</p>	<p>Learning Outcomes demonstrated:</p> <p style="text-align: center;">1-8</p>
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<p>Reading and resources for the module:</p> <p>Core O'Sullivan, A., Sheffrin, S., and Perez, S., (2019) <i>Survey of Economics: Principles, Applications, and Tools</i>, 8th edn, Boston: Pearson Education.</p> <p>Recommended Krugman, P.R. and Wells, R. (2020) <i>Essentials of Economics</i>, 5th edn, New York: Worth Publishers.</p>

<p>Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures</p> <p>Live, applied project: The module will be assessed on the development of case studies related to business and industry.</p>

Indicative learning and teaching time (10 hrs per credit):	Activity
1. Student/tutor interaction: 48 hours 24 hours	Lectures Labs
2. Student learning time: 128 hours	Essential and background reading, assignment planning and preparation, group work, private study, practical work and assessment preparation.
Total hours (1 and 2):	200 hours

Module Specification

<p>Module Title: Introduction to Digital Multimedia</p>	<p>Module Code: AS4073 Level:4 Credit:20 ECTS credit: 10</p>	<p>Module Leader: Dr. Sherine Rady</p>
<p>Pre-requisite: N/A</p>	<p>Pre-cursor: N/A</p>	
<p>Co-requisite: N/A</p>	<p>Excluded combinations: N/A</p>	<p>Suitable for incoming study abroad? Y</p>
<p>Location of delivery: ASU</p>		

Summary of module for applicants:

This module aims to provide students with the major knowledge and techniques in area of multimedia. It develops the theoretical and methodological skills necessary in all development phases of multimedia systems. It also aims to equip students with writing skills considering the topics technical reports, research techniques and practices of different soft skills required for various job needs.

Main topics of study:

- Introduction to Multimedia
- Basics of various digital data
- Planning and Costing for Multimedia development projects
- Developing Multimedia (design, creativity, content, teamwork, etc.)
- Editing and authoring tools
- Content and talent acquisition
- Concepts of data representation and data compression
- Content Based Media Retrieval
- Multimedia and Human Computer Interfaces
- Skills and techniques required for good technical writing.
- Manuscript preparation ethical issues.
- Professional communication (writing business letters, emails, etc.).
- Fundamentals of presentation.
- Writing in the field of computer science and database management systems.

This module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project

Company/engagement visits

Company/industry sector endorsement/badging/sponsorship/award

Learning Outcomes for the module

- *Digital Proficiency - Code = (DP)*
- *Industry Connections - Code = (IC)*
- *Emotional Intelligence Development - Code = (EID)*
- *Social Intelligence Development - Code = (SID)*
- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

1. Describe different concepts and theories related to multimedia systems. (DP, COI)
2. Explain technical writing properties and ethical issues. (EID)

Thinking skills

3. Identify appropriate methodologies and techniques to solve a given problem according to the limitations, restrictions, and errors for multimedia systems. (IC, COI)

4. Recognize simple models for multimedia information retrieval systems (COI)

Subject-based practical skills

5. Use effective supporting tools to implement and test multimedia systems. (DP)

6. Implement human computer interaction principles in the construction and evaluation of user interfaces for wide ranges of applications for multimedia systems. (IC, COI)

7. Use rules of professional writing ethics to create effective technical correspondences. (EID, PID)

Skills for life and work (general skills)

8. Demonstrate interpersonal skills through working, communicating, and collaborating via verbal and written forms. (SID)

**Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:
For on campus students:**

Lectures will be used for providing students with the major concepts and techniques for Digital Multimedia and report writing. Practical sessions will be used to reinforce understanding of the material and provide hands on experience to demonstrate and apply a concept to real-life situations. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:

Portfolio

Continuous assessment tasks:
In-class Test 50% (120 minutes)
Assignments 40% (40 hours of student effort)
Practical 10% (20 hours of student effort)

Weighting:

100%

Learning Outcomes demonstrated:

1-8

Reading and resources for the module:

Core

Vaughan, T. (2014) *Multimedia: Making it work*. 9th edn. Tata McGraw-Hill Education. New York.

Recommended

Oliu, W.E., Brusaw, C.T. and Alred. G.J. (2020) *Writing That Works: Communicating Effectively on The Job*. 13th edn. Bedford/St Martins, Boston.

Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project: The module will be assessed on the development of applications based on the case studies of live industry projects.

Indicative learning and teaching time (10 hrs per credit):

Activity

1. Student/tutor interaction

48 hours
48 hours

Lectures
Labs

2. Student learning time:	
104 hours	Essential and background reading, Tutorial preparation, Assignment planning and preparation and assessment preparation.
Total hours (1 and 2):	200 hours

Module Specification

Module Title: <i>Mental Wealth;</i> Professional Life 2 (Algorithms and Professional Ethics)	Module Code: AS5007 Level: 5 Credit: 20 ECTS credit: 10	Module Leader: Dr. Yasmine Afify
Pre-requisite: N/A	Pre-cursor: N/A	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
<p>This module intends to provide students with the basic concepts and theories of algorithms, focusing on both the underlying mathematical theory and practical considerations of efficiency. It promotes to learn how to develop efficient algorithms for problems that arise in computing applications. The module also aims to broad the understanding and management of ethical, legal and professional issues related to the discipline of computing and information technology. The module assumes no prior knowledge of the topic.</p>		
Main topics of study:		
<ul style="list-style-type: none"> • Algorithms and performance analysis • Asymptotic performance • Best, worst and average case analysis, growth of functions • Algorithm design and analysis techniques • Sorting Algorithms • Master theorem • Dynamic programming • Greedy algorithms • Graph algorithms • P& NP complete problems • Introduction to ethics and business code of conduct • Ethical decision-making approaches and fighting corruption • Ethics for IT workers • Internet crimes • Privacy and anonymity issues • Developing quality software • Intellectual property rights • Global information networks and related legal aspects 		
This module will be able to demonstrate at least one of the following examples/ exposures		
<p>Live, applied project <input checked="" type="checkbox"/></p> <p>Company/engagement visits <input type="checkbox"/></p>		

Company/industry sector endorsement/badging/sponsorship/award □

Learning Outcomes for the module

- *Digital Proficiency - Code = (DP)*
- *Industry Connections - Code = (IC)*
- *Emotional Intelligence Development - Code = (EID)*
- *Social Intelligence Development - Code = (SID)*
- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

1. Explain the concepts and theories of algorithms and high-level programming languages for algorithms implementation. (DP, COI)
2. Apply strategic planning to solve computational problems. (COI)
3. Identify the basic concepts and principles about professional issues involved in Information technology. (EID, SID)

Thinking skills

4. Analyse the requirements of a computing system to select algorithms, methods and techniques that are appropriate for problems with in commercial and industrial constrains. (DP, IC)
5. Evaluate new ethical problems based on one or more major ethical theories. (SID, CID)

Subject-based practical skills

6. Solve problems using efficient algorithms through computational analysis and complexities. (COI)
7. Apply elements of ethical decision-making approaches on situations at work as an IT professional. (EID, SID, CC)

Skills for life and work (general skills)

8. Demonstrate good time management, team working, presentation, problem solving and academic integrity skills. (SID, EID, PID, UGB)

**Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:
For on campus students:**

Lectures will be used for providing students with the major concepts and techniques for analysis and design of algorithms in addition to the professional ethical and legal issues. Practical sessions will be used to reinforce understanding of the material and provide hands on experience to apply concepts to computational problems. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:	Weighting:	Learning Outcomes demonstrated:
Written Exam (120 minutes)	50%	1-5
Coursework Practical 10% Assignments 40% (30 hours of student effort)	50%	6-8

Reading and resources for the module:

Core

Reynolds, G.W. (2019) *Ethics in Information Technology*, 6th edn. MA cengage. Boston.

Recommended

Stamatellos, G. (2007) *Computer Ethics: A Global Perspective*. Jones and Bartlett.

Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project: Students are requested to develop a project based on design methodologies, programming languages and algorithm.

Indicative learning and teaching time (10 hrs per credit):	Activity
1. Student/tutor interaction 48 hours 24 hours	Lectures Labs
2. Student learning time: 128 hours	Essential and background reading, private study, group work, assignment planning and preparation and assessment preparation.
Total hours (1 and 2):	200 Hours

Module Specification

Module Title: Software Engineering and Database Systems	Module Code: AS5074 Level: 5 Credit: 20 ECTS credit: 10	Module Leader: Prof. Nagwa Badr
Pre-requisite: N/A	Pre-cursor: N/A	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
This module intends to provide students with the main principles and concepts of software engineering and database design. The module develops a broad understanding of the potential, limitations and factors that are required for the successful development and construction of software systems. It also provides students		

with the theoretical knowledge and practical skills that has an impact on the design and implementation of database management software and systems.

Main topics of study:

- Introduction to Software Engineering
- Computer Based Software Engineering
- Software Processes
- Requirements Engineering
- Agile Software Development
- System Modelling
- Software Testing
- Technical Metrics for Software
- Introduction to Databases and Database Users
- Database System Concepts and Architecture
- Data Modelling Using the Entity-Relationship (ER) Model
- Enhanced Entity-Relationship (EER) Model
- Relational Data Model and Relational Database Constraints
- Relational Database Design by ER-and EER-to Relational Mapping
- Functional Dependencies and Normalization for Relational Databases
- Relational Algebra
- Indexing Structures for Files
- Query Processing and Optimization

This module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project

Company/engagement visits

Company/industry sector endorsement/badging/sponsorship/award

Learning Outcomes for the module

- Digital Proficiency - Code = (DP)
- Industry Connections - Code = (IC)
- Emotional Intelligence Development - Code = (EID)
- Social Intelligence Development - Code = (SID)
- Physical Intelligence Development - Code = (PID)
- Cultural Intelligence Development - Code = (CID)
- Community Connections - Code = (CC)
- UEL Give-Back - Code = (UGB)
- Cognitive Intelligence – Code = (COI)

At the end of this module, students will be able to:

Knowledge

- 1- Identify and describe the major structures and principles of software engineering. (DP, COI)
- 2- Identify concepts of relational database, schema, functional dependencies, and normalization and assess the security, legal and ethical issues in database design. (COI)

Thinking skills

- 3- Evaluate available techniques and models for each stage in the software development lifecycle according to the understanding of main requirements and SRS documentation of the system. (COI)
- 4- Analyse various database models and demonstrate the understanding of logical design and structure of a database. (DP, COI)

Subject-based practical skills

- 5- Apply suitable tools and techniques to support development, analysis, modelling and testing stages during the construction of live industry systems. (IC, DP)
- 6- Develop a database solution using industry standard DBMS concepts and languages. (IC, COI, DP)
- 7- Apply database administration tasks. (DP)

Skills for life and work (general skills)

- 8- Demonstrate good time management, team working, presentation, problem solving and academic integrity skills. (SID, PID)

**Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:
For on campus students:**

Lectures will be used for providing students with the major concepts and techniques for software engineering and database management systems. Practical sessions will be used to reinforce understanding of the material and provide hands on experience to demonstrate and apply a concept to real-life situations. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:	Weighting:	Learning Outcomes demonstrated:
Written Exam (120 minutes)	50%	1-4
Coursework Practical 20% Assignments 30% (30 hours of student effort)	50%	5-8

Reading and resources for the module:

Core

Sommerville, I. (2016) *Software Engineering*. 10th edn. Pearson.
Elmasri, R. and Navathe, S.B. (2016) *Fundamentals of Database Systems*. 7th edn. Pearson.

Recommended

Schach, S. (2011) *Object-Oriented and Classical Software Engineering*. 8th edn. McGraw Hill. Wesley.
Date, C.J. (2009). *An Introduction to Database Systems*. 8th edn. Addison-Wesley.

Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project: The module will be assessed on the development of applications based on the case studies of live industry projects. Ex: Flight reservation system.

Indicative learning and teaching time (10 hrs per credit):	Activity
1. Student/tutor interaction 48 hours 48 hours	Lectures Labs
2. Student learning time: 104 hours	Essential and background reading, Tutorial preparation, Assignment planning and preparation and assessment preparation.
Total hours (1 and 2):	200 Hours

Module Specification

Module Title: Computer Networks and Operating Systems	Module Code: AS5006 Level: 5 Credit: 20 ECTS credit: 10	Module Leader: Dr. Tamer Mostafa
Pre-requisite: N/A	Pre-cursor: AS4001 Fundamentals of Programming	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		

Summary of module for applicants:

This module aims to equip the students with knowledge of computer networks' principles, protocols, transmission and routing techniques and design procedures. It also aims to provide a basic understanding of operating systems and their role in the management of computer resources. The module focuses on multiprocessing, multithreading, deadlocks, concurrency, and scheduling techniques. This module assumes comprehensive knowledge of fundamentals of programming.

Main topics of study:

- Introduction to the operating system: structure, functions, and characteristics.
- Process management: process description, process states models and process control.
- Multiprocessing and multithreading.
- Deadlock and concurrency: the use of semaphores to synchronize the process executions, deadlock avoidance, and prevention techniques.
- Memory management.
- Virtual Memory concept and management.
- CPU scheduling techniques.
- Introduction to computer networking.
- Protocol Architecture, TCP/IP and OSI Model.
- Data and Media Transmission Techniques.
- Routing Concepts and Techniques.
- Network operating system (NOS).

This module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project

Company/engagement visits

Company/industry sector endorsement/badging/sponsorship/award

Learning Outcomes for the module

- Digital Proficiency - Code = (DP)
- Industry Connections - Code = (IC)
- Emotional Intelligence Development - Code = (EID)
- Social Intelligence Development - Code = (SID)
- Physical Intelligence Development - Code = (PID)
- Cultural Intelligence Development - Code = (CID)
- Community Connections - Code = (CC)
- UEL Give-Back - Code = (UGB)
- Cognitive Intelligence – Code = (COI)

At the end of this module, students will be able to:

Knowledge

1. Explain the general structure of an operating system and its objectives and functions. (COI)
2. Understand the basic computer networking concepts and differentiate between different switching techniques and discuss protocols and addressing. (IC)

Thinking skills

3. Differentiate between the main techniques and procedures for process management and scheduling appropriately. (DP)
4. Critically analyze the solutions of familiar and unfamiliar problems relevant to operating systems and computer networks. (IC, COI)
5. Evaluate the performance of different network topologies. (DP, SID)
6. Distinguish between transport layer protocols.

Subject-based practical skills

7. Implement the techniques and procedures appropriate to processes management and scheduling in operating systems. (DP)
8. Apply socket programming, subnetting, network requirement planning and IP management. (DP)

Skills for life and work (general skills)

9. Demonstrate good time management, team working, presentation, problem solving and academic integrity skills. (SID, PID)

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lectures will be used to introduce the basic concepts of computer networks and operating systems. Continuous practice and assessment during practical sessions will be used to reinforce the understanding of the material. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:	Weighting:	Learning Outcomes demonstrated:
Written Exam (120 minutes)	50%	1-6
Coursework Practical 20% Assignments 30% (30 hours of student effort)	50%	7-9

Reading and resources for the module:

Core

Silberschatz, A., Galvin, P. B., & Gagne, G. (2018) *Operating system concepts*. 10th edn. John Wiley & Sons, Inc.

Kurose, J., & Ross, K. (2016) *Computer Networking: A Top Down Approach*. 7th edn. Pearson.

Recommended

Tanenbaum, A. S., & Bos, H. (2014) *Modern operating systems*. 4thedn. Pearson.

Stallings, W: (2013) *Data and Computer Communications*. Prentice-Hall.

Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project: Students would be exposed to the design and simulation of a basic operating system and local area network.

Indicative learning and teaching time (10 hrs per credit):	Activity
1. Student/tutor interaction 48 hours 48 hours	Lectures Labs
2. Student learning time: 104 hours	Essential and background reading, Tutorial preparation, Assignment planning and preparation and assessment preparation.
Total hours (1 and 2):	200 hours

Module Specification

Module Title: Artificial Intelligence for Gaming	Module Code: AS5075 Level: 5 Credit: 20 ECTS credit: 10	Module Leader: Dr. Maryam Nabil
Pre-requisite: N/A	Pre-cursor: N/A	

Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
<p>This module introduces students to the specific techniques used to simulate artificial intelligence in computer and video games. It will extend the existing AI knowledge to create games with AI and intelligent implementations. It will also enable graduate to proceed in postgraduate studies in Artificial Intelligence.</p>		
Main topics of study:		
<ul style="list-style-type: none"> • Introduction to Nature of Game AI, Game AI Design and Analytical Geometry • Simple State Machines, Computational Geometry, Kinetic and Dynamic Movement, Analytical Geometry • Steering and combining steering • Interaction with Physics engine, Jumping, Coordinated movement, Motor Control • Path finding methods • Decision Making: Decision trees, State Machines, Fuzzy Logic • Decision Making: Markov Systems, Goal-oriented behavior, Rule-based systems, blackboard architectures • Decision Making, Tactics • Learning, Execution Management 		
This module will be able to demonstrate at least one of the following examples/ exposures		
<p>Live, applied project <input checked="" type="checkbox"/></p> <p>Company/engagement visits <input type="checkbox"/></p> <p>Company/industry sector endorsement/badging/sponsorship/award <input checked="" type="checkbox"/></p>		
Learning Outcomes for the module		
<ul style="list-style-type: none"> • <i>Digital Proficiency - Code = (DP)</i> • <i>Industry Connections - Code = (IC)</i> • <i>Emotional Intelligence Development - Code = (EID)</i> • <i>Social Intelligence Development - Code = (SID)</i> • <i>Physical Intelligence Development - Code = (PID)</i> • <i>Cultural Intelligence Development - Code = (CID)</i> • <i>Community Connections - Code = (CC)</i> • <i>UEL Give-Back - Code = (UGB)</i> • <i>Cognitive Intelligence – Code = (COI)</i> 		
At the end of this module, students will be able to:		
<i>Knowledge</i>		
<ol style="list-style-type: none"> 1. Contrast AI key methods, algorithms and techniques used in gaming and its implementation. (COI) 2. Realize the role of AI in the design of games. (COI) 		
<i>Thinking skills</i>		
<ol style="list-style-type: none"> 3. Analyze artificial intelligence methods appropriate to a game's design, while enjoying achieving the best attractive design. (EID) 		

- Evaluate AI design and implementation techniques for the design of games. (COI, IC)

Subject-based practical skills

- Design and implement path planning while coordinating actions based on probabilistic and possibilistic methods. (COI, DP, IC)
- Design and Implement the programming autonomous movement of avatars. (DP)

Skills for life and work (general skills)

- Develop the analysis and problem-solving skills as well as planning and managing personal time. (PID)
- Demonstrate interpersonal skills through working and collaborating in a team on assigned projects. (SID)

**Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:
For on campus students:**

Lectures will be used to provide students with the AI major concepts and techniques applied for gaming. Practical sessions will be used to reinforce understanding of the material and hands-on practice. Continuous Assignments will be given to insure the understanding of the material. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:	Weighting:	Learning Outcomes demonstrated:
Written Exam (120 minutes)	50%	1-4
Coursework Practical 20% Assignments 30% (30 hours of student effort)	50%	5-8

Reading and resources for the module:

Core

Russell, S. and Norvig, P. (2020). Artificial Intelligence: A Modern Approach. 4th edn. Pearson.

Recommended

Eaton, E., Stone, P., Walsh, T., Wooldridge, M., Dietterich, T., Gini, M., et al (2016). Who speaks for AI? . *AI Matters*, 2(2), 4–14. Available from: doi:10.1145/2847557.2847559

Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project

Company/engagement visits

Company/industry sector endorsement/badging/sponsorship/award

Indicative learning and teaching time (10 hrs per credit):	Activity
1. Student/tutor interaction:	

48 hours 48 hours	Lectures Labs
2. Student learning time: 104 hours	Essential and background reading, Tutorial preparation, Assignment planning and preparation and assessment preparation.
Total hours (1 and 2):	200 hours

Module Specification

Module Title: Computer Graphics and Visualization	Module Code: AS5076 Level: 5 Credit: 20 ECTS credit: 10	Module Leader: Dr. Maryam Nabil
Pre-requisite: N/A	Pre-cursor: N/A	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
<p>This module provides student with the knowledge of computer graphics field and data visualization with a broad exposure to using different visualizations and graphics such as charts, graphs. The student will be able to map the ways to communicate complex data that based on various interactive computer graphics tools and algorithms to solve the visual problems. The student will also learn about best practices for using colours and shapes in graphics, and how to avoid common pitfalls.</p>		
Main topics of study:		
<ul style="list-style-type: none"> • Foundations of computer graphics and data visualization. • Perception: attentive vs. pre-attentive processing, color theory. • Data representation, reconstruction and rendering. • Basic mapping techniques (Scalar techniques and Vector techniques). • Effective Visualization: Colormaps and effective use of tables, graphs, scatterplots. • Graphics Output Primitives and its Attributes. • 2D / 3D Geometric Transformations • Two-Dimensional Viewing and Three-Dimensional Viewing • Three-Dimensional Object Representations • Visible-Surface Detection Methods • Illumination Models and Surface-Rendering Methods • Computer Animation • Volume Visualization and rendering • Applications: scientific, medical, mathematical, flow visualization, spatial analysis. 		
This module will be able to demonstrate at least one of the following examples/ exposures		
<p>Live, applied project <input checked="" type="checkbox"/></p> <p>Company/engagement visits <input type="checkbox"/></p> <p>Company/industry sector endorsement/badging/sponsorship/award <input checked="" type="checkbox"/></p>		

Learning Outcomes for the module

Where a LO meets one of the UEL core competencies, please put a code next to the LO that links to the competence.

- *Digital Proficiency - Code = (DP)*
- *Industry Connections - Code = (IC)*
- *Emotional Intelligence Development - Code = (EID)*
- *Social Intelligence Development - Code = (SID)*
- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

1. Realize the basic graphics modalities and methods for data visualization. (COI)
2. Differentiate between the Scalar data visualization algorithms, Vector data visualization algorithms and Tensor data visualization algorithms, their attributes and transformations applied to them. (COI)

Thinking skills

3. Analyze computing problems for different graphics algorithms and propose solutions to them. (COI)
4. Select and validate graphics models for real-life problems. (SID)
5. Analyze and Report computing problems using different visualization modalities and algorithms. (COI, PID)

Subject-based practical skills

6. Apply object hierarchy in graphics applications. (DP)
7. Apply program functions to implement scalar visualization using color mapping and contouring and prepare interactive visualization applications. (DP)

Skills for life and work (general skills)

8. Demonstrate good time management, team working, presentation, problem solving and academic integrity skills. (SID, PID)

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes: For on campus students:

Lectures will be used to explain the computer graphics fundamental concepts and data visualization techniques. Practical sessions will be used to hands-on practice and applying project, Continuous Assignments will be given to insure the understanding of the material. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:

Weighting:

Learning Outcomes demonstrated:

<p>Written Exam (120 minutes)</p> <p>Coursework Practical 20% Assignments 30% (30 hours of student effort)</p>	<p>50%</p> <p>50%</p>	<p>1-5</p> <p>6-8</p>
<p>Reading and resources for the module:</p> <p>Core Hansen, C.D., Min Chen, M., Johnson, C.R., Kaufman, A. and Hagen, H. (2016) <i>Scientific visualization: uncertainty, multifield, biomedical, and scalable visualization</i>. Springer. London. Bonneau, G.P., Ertl, T. and Gregory M Nielson, G.M. (2011) <i>Scientific visualization: the visual extraction of knowledge from data</i>. Springer. London.</p> <p>Recommended Opila, J.; Opila, G. (May 2018). "Visualization of computable scalar 3D field using cubic interpolation or kernel density estimation function". Angel, E. And Shreiner, D. (2012) <i>Interactive Computer Graphics: A Top-Down Approach Using OpenGL</i>. 6th edn. Pearson.</p>		
<p>Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures</p> <p>Live, applied project</p> <p>The module will be assessed on the development of applications based on the case studies of live industry projects.</p>		
<p>Indicative learning and teaching time (10 hrs per credit):</p>	<p>Activity</p>	
<p>1. Student/tutor interaction:</p> <p>48 hours 48 hours</p>	<p>Lectures Labs</p>	
<p>2. Student learning time:</p> <p>104 hours</p>	<p>Essential and background reading, Tutorial preparation, Assignment planning and preparation and assessment preparation.</p>	
<p>Total hours (1 and 2):</p>	<p>200 hours</p>	

Module Specification

<p>Module Title: Numerical Computing Methods and Computer Security</p>	<p>Module Code: AS5077 Level: 5 Credit: 20 ECTS credit: 10</p>	<p>Module Leader: Dr. Alshymaa Abo Alian</p>
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Pre-requisite: N/A	Pre-cursor: N/A	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
<p>This module aims at introducing the different sources of error, and how this error propagates and how to find acceptable approximate solutions when exact solutions are either impossible or so arduous and time-consuming to be practical. It also introduces the characteristics of computer intrusion, points of security vulnerability and methods of defence, basic encryption, decryption, and crypt analysis. It deals with various topics such as secure encryption systems: hard problems and complexity.</p>		
Main topics of study:		
<ul style="list-style-type: none"> • Introduction to Numerical computing methods. • Sources of errors in computations. • Propagation of error. • Finding roots of nonlinear equations methods. • Interpolation Techniques. • Classical Encryption techniques. • Data Encryption Standard and Fiestel Ciphers. • Data Encryption Standard, Multiple Encryption and Triple DES. • Introduction to Finite Fields. • Introduction to number theory. • Public key cryptography and RSA. • Interpolation Techniques (Newton Lagrange, Piecewise, quadratic, B-cubic, spline). • Elliptic Curve Cryptography and Diffie Hellman Key Exchange. • Hashing and MAC Algorithms. • Digital Signatures and Authentication Protocols. 		
This module will be able to demonstrate at least one of the following examples/ exposures		
<p>Live, applied project <input checked="" type="checkbox"/></p> <p>Company/engagement visits <input type="checkbox"/></p> <p>Company/industry sector endorsement/badging/sponsorship/award <input type="checkbox"/></p>		
Learning Outcomes for the module		
<ul style="list-style-type: none"> • <i>Digital Proficiency - Code = (DP)</i> • <i>Industry Connections - Code = (IC)</i> • <i>Emotional Intelligence Development - Code = (EID)</i> • <i>Social Intelligence Development - Code = (SID)</i> • <i>Physical Intelligence Development - Code = (PID)</i> • <i>Cultural Intelligence Development - Code = (CID)</i> • <i>Community Connections - Code = (CC)</i> • <i>UEL Give-Back - Code = (UGB)</i> • <i>Cognitive Intelligence – Code = (COI)</i> <p>At the end of this module, students will be able to:</p> <p><i>Knowledge</i></p>		

1. Identify the types of errors and contrast between different numerical techniques for finding approximates solutions. (DP, COI)
2. Contrast main security attack types and standard security terminology. (COI)

Thinking skills

3. Analyse the effect of different types of errors. (COI)
4. Evaluate the computer assets and define security requirements. (IC)

Subject-based practical skills

5. Explain data interpolation and data fitting. (DP)
6. Use security techniques to secure files transfer between via networks. (DP, IC)

Skills for life and work (general skills)

7. Evaluate general computer security and numerical computing problems, work effectively as an individual or a member in a team. (COI, SID)

**Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:
For on campus students:**

Lectures offers explanation of the numerical computing methods concepts and computer security techniques. Practical sessions will be used to apply the final project, Continuous Assignments will be given to insure the understanding of the material. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:	Weighting:	Learning Outcomes demonstrated:
Written Exam (120 minutes)	50%	1-4
Coursework Practical 20% Assignments 30% (30 hours of student effort)	50%	5-7

Reading and resources for the module:

Core

Cheney, W. and Kincaid, D. (2012) Numerical Mathematics and Computing, 7th edn. Book/Cole Cengage Learning. Boston-USA.
Salomon, D. (2011), Data Privacy and Security: encryption and information hiding. Springer. London.

Recommended

Bauer, F.L. (2011) *Decrypted Secrets: Methods and Maxims of Cryptology*, 4th ed. Springer. London.

Live, applied project:

Students would be designing a project implementing different studied techniques and simulating different scenarios.

Indicative learning and teaching time	Activity
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(10 hrs per credit):	
1. Student/tutor interaction: 48 hours 48 hours	Lectures Labs
2. Student learning time: 104 hours	Essential and background reading, Tutorial preparation, Assignment planning and preparation and assessment preparation.
Total hours (1 and 2):	200 hours

Module Specification

Module Title: Virtual Reality and Real Time Systems	Module Code: AS6078 Level: 6 Credit: 20 ECTS credit: 10	Module Leader: Dr. Dina Khattab
Pre-requisite: N/A	Pre-cursor: N/A	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
<p>This module fosters the students knowledge about modern virtual reality systems and draw on the latest advances in optical fabrication, embedded computing, motion tracking, and real-time rendering to build a head-mounted display, students will learn to use an inertial measurement unit (IMU) to track the orientation of the headset then will apply real-time computer graphics to correct lens distortions and relevant topics in computer graphics, signal processing, and human perception.</p>		
Main topics of study:		
<ul style="list-style-type: none"> • Historical and modern overviews and perspectives on virtual reality. • Fundamentals of sensation, perception, and perceptual training. • 3D Modeling. • Motion Capture • Stereoscopic perception and rendering • Head mounted display optics and electronics • Inertial measurement units: gyros, accelerators, magnetometers • Sensor fusion: complementary filter, Kalman filter • Human perception: visual, audio, vestibular and tactile • Multimodal virtual reality • Human-centered simulation: human perception and psychophysics and basic control • Human-centered simulation: stability analysis of VR systems • Human factors in the design of VR displays 		
This module will be able to demonstrate at least one of the following examples/ exposures		
Live, applied project <input checked="" type="checkbox"/>		
Company/engagement visits <input checked="" type="checkbox"/>		
Company/industry sector endorsement/badging/sponsorship/award <input type="checkbox"/>		
Learning Outcomes for the module		
<ul style="list-style-type: none"> • <i>Digital Proficiency - Code = (DP)</i> 		

- *Industry Connections - Code = (IC)*
- *Emotional Intelligence Development - Code = (EID)*
- *Social Intelligence Development - Code = (SID)*
- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

1. Identify the important characteristics of different virtual reality techniques. (DP)
2. Select advanced computer graphics and computer vision to design real-time virtual reality systems. (COI)

Thinking skills

3. Critique the problems of creating a multimodal virtual environment and assess the relevance and adequacy of information, set goals toward solving them and formulate the necessary systems requirements. (SID)
4. Analyse and compare between the appropriate design among the proposed design for virtual environment and their expected results.

Subject-based practical skills

5. Implement the principles of effective information management, organization and presentation to information retrieval of various kinds, including text, images, sound and video.
6. Select, develop and document software, using appropriate tools, through the acquired comprehensive computing knowledge and skills to solve practical problem. (CID)

Skills for life and work (general skills)

7. Reflect ability in time management, organization skills, communication skills, report writing skills and presentation skills for a variety of audiences. (SID)

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

For on campus students:

Lectures will be used to introduce the basics of virtual reality and real time systems. Labs will help students acquire hands-on skills to create a multimodal virtual environment. Continuous Assignments will be given to insure the understanding of the material. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:

Written Exam
(120 minutes)

Weighting:

50%

Learning Outcomes demonstrated:

1-4

Coursework Practical 20% Assignments 30% (30 hours of student effort)	50%	5-7
Reading and resources for the module:		
Core Parisi. T. (2016) <i>Learning Virtual Reality: Developing Immersive Experiences and Applications for Desktop, Web, and Mobile</i> . 1 st edn. O'Reilley Media.		
Recommended Mihelj, M., Novak, D. and Beguš, S. (2014). <i>Virtual Reality Technology and Applications</i> . Springer.		
Live, applied project: Students would design and implement image and video processing projects related to real life problems		
Company/engagement visits: Guest talk from industry		
Indicative learning and teaching time (10 hrs per credit):	Activity	
1. Student/tutor interaction: 48 hours 48 hours	Lectures Labs	
2. Student learning time: 104 hours	Essential and background reading, Tutorial preparation, Assignment planning and preparation and assessment preparation.	
Total hours (1 and 2):	200 hours	

Module Specification

Module Title: Digital Signal and Speech Processing	Module Code: AS6079 Level: 6 Credit: 20 ECTS credit: 10	Module Leader: Dr. Manal Tantawy
Pre-requisite: N/A	Pre-cursor: N/A	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
This module provides the fundamentals of Digital Signal Processing and Speech Processing from the ground up. Starting from the basic definition of a discrete-time signal, it also teaches the students how to analyse different signals in both time and frequency domains. Hence, they learn fundamental transformation techniques such as Discrete Fourier Transform, Discrete Cosine Transform, Z- Transform and Wavelet Transform. Moreover, basic signal processing operations like convolution and correlation and apply this knowledge to speech processing applications.		

Main topics of study:

- Introduction to Signals, Systems, Digital Signal Processing and Speech processing.
- Classification of Signals and The Concept of Frequency in Continuous -Time and Discrete-Time Signals.
- Analog- to-Digital and Digital-to-Analog Conversion.
- Discrete Signals, Discrete Systems, Block Diagram Representation of Discrete-Time Systems and Classification of Discrete Systems.
- Analyzing Linear Time Invariant (LTI) Systems, Convolution and Correlation.
- Fourier Transform, Discrete Fourier Transform (DFT), DFT inverse, Properties of DFT, Complexity of DFT and Discrete Cosine Transform (DCT) ,Fast Fourier Transform (FFT) and FFT inverse.
- Z- Transform & Characteristics of common filters (Low pass, high pass, band pass, band reject).
- Speech analysis and parameter extraction.
- Speech signal synthesis.
- Speech coding.
- Speech enhancement.

This module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project

Company/engagement visits

Company/industry sector endorsement/badging/sponsorship/award

Learning Outcomes for the module

- *Digital Proficiency - Code = (DP)*
- *Industry Connections - Code = (IC)*
- *Emotional Intelligence Development - Code = (EID)*
- *Social Intelligence Development - Code = (SID)*
- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

1. Contrast analog and digital signals and explain digital to analog conversions which are essential in any digital system. Inclusively these concepts include the sampling theorem and quantization. (DP, COI)
2. Appraise the basic operations of convolution and correlation and different transformations and their applications to speech processing. (COI)

Thinking skills

3. Analyze signals in both time and frequency domains and evaluate the necessary transformations between both domains. (DP, COI)
4. Appraise speech coding and speech enhancement. (CID)

Subject-based practical skills

5. Select the discrete- time convolution and correlation of two signals and use filter-design tools.
6. Implement the Discrete Fourier Transform (DFT) and Fast Fourier Transform (FFT) of discrete signal and support FIR and IIR filters in speech processing application.

Skills for life and work (general skills)

7. Reflect on how to brainstorm in discussions to propose a problem solution and work in groups whether as a leader or as a member. (SID)

**Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:
For on campus students:**

Lectures will be used for providing students with different digital signal processing concepts and techniques and the applications of signal processing in speech processing. Practical sessions will be used to reinforce understanding of the material and provide hands on experience to demonstrate how to build signal and speech processing applications. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:	Weighting:	Learning Outcomes demonstrated:
Written Exam (120 minutes)	50%	1-4
Coursework Practical 20% Assignments 30% (30 hours of student effort)	50%	5-7

Reading and resources for the module:

Core

Tempelaars, S. (2016) *Signal Processing, Speech and Music*. Routledge. London.
Quatieri, T.F. (2006), *Discrete-time speech signal processing: principles and practice*, Pearson.

Recommended

Mitra, S. K. (2010). *Digital Signal Processing: A Computer-Based Approach*, McGraw-Hill.
Dey, N. (2019). *Intelligent Speech Signal Processing*, Academic Press, London.

Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project

Students would design and implement signal and speech processing projects related to real life problems.

Indicative learning and teaching time (10 hrs per credit):	Activity
1. Student/tutor interaction: 48 hrs 48 hrs	Lectures Practical Classes.
2. Student learning time:	

104 hours	Essential and background reading, private study, practical work and assessment preparation.
Total hours (1 and 2):	200 hours

Module Specification

Module Title: Fundamentals of Digital Image and Video Processing	Module Code: AS6080 Level: 6 Credit: 20 ECTS credit: 10	Module Leader: Dr. Maryam Nabil
Pre-requisite: N/A	Pre-cursor: N/A	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
<p>This module Introduces the basic concepts and methodologies for Digital Image Processing (DIP) and teach practical skills and analytic background for building digital image and video processing applications. Students gain experience in applying image and video processing algorithms to real problems and develop a conceptual/technical foundation that can be used as the basis for further study and research in the field.</p>		
Main topics of study:		
<ul style="list-style-type: none"> • Introduction to Digital Image and Video Processing • Fundamentals of image and video acquisition • Image Enhancement in the spatial domain. • Image Enhancement in the frequency domain. • Image Restoration • Image Morphology • Image Segmentation • Image Representation • Image Description • Image and Video compression. • Scene and Video Analysis and Understanding 		
This module will be able to demonstrate at least one of the following examples/ exposures		
<p>Live, applied project <input checked="" type="checkbox"/></p> <p>Company/engagement visits <input checked="" type="checkbox"/></p> <p>Company/industry sector endorsement/badging/sponsorship/award <input type="checkbox"/></p>		
Learning Outcomes for the module		
<ul style="list-style-type: none"> • <i>Digital Proficiency - Code = (DP)</i> • <i>Industry Connections - Code = (IC)</i> • <i>Emotional Intelligence Development - Code = (EID)</i> • <i>Social Intelligence Development - Code = (SID)</i> • <i>Physical Intelligence Development - Code = (PID)</i> • <i>Cultural Intelligence Development - Code = (CID)</i> • <i>Community Connections - Code = (CC)</i> • <i>UEL Give-Back - Code = (UGB)</i> • <i>Cognitive Intelligence – Code = (COI)</i> 		

At the end of this module, students will be able to:

Knowledge

1. Select the basic definitions and aspects of digital image processing concepts, primary steps, and advanced and define the needed concepts from related sciences. (DP, COI)
2. Judge sources and methods of acquiring digital images and videos and appraise the foundations of digital image and video analysis. (IC, COI)

Thinking skills

3. Evaluate and classify appropriate transformations and approaches for image enhancement, restoration, and segmentation. (COI)
4. Critique digital image and video acquisition methods, the resulting image types, and their intended usage. (COI)

Subject-based practical skills

5. Select efficient algorithms/solutions for different image processing and video analysis problems. (COI)
6. Use theoretical concepts and implement practical techniques from related fields (mathematics, statistics, and signal processing) to produce the required solution. (DP)

Skills for life and work (general skills)

7. Reflect on demonstrating interpersonal skills through working and collaborating in a team on assigned projects. (SID)

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

For on campus students:

Lectures will be used to provide students with the image processing major concepts and video techniques. Practical sessions will be used to reinforce understanding of the material and hands-on practice, Continuous Assignments will be given to insure the understanding of the material. Feedback will be provided throughout the module in the form of both formative and summative work.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:	Weighting:	Learning Outcomes demonstrated:
Written Exam (120 minutes)	50%	1-4
Coursework Practical 20% Assignments 30% (30 hours of student effort)	50%	5-7

Reading and resources for the module:

Core

Gonzalez, R. and Woods, R. (2018) *Digital Image Processing*, 4th edn. Pearson. New York.

Sonka, M., Halvac, V. and Boyle, R. (2015) *Image Processing, Analysis and Machine Vision*, 4th edn. CT: Cengage Learning. Stanford.

Recommended

Gonzalez, R., Woods, R. and Eddens, S., (2020) *Digital Image Processing Using MATLAB*, 3rd edn. Gatesmark. Knoxville.

Umbaugh, S., (2011) *Digital Image Processing and Analysis: Human and Computer Vision Application with CVIP tools*, 2nd ed. CRC Press.

Live, applied project:

Students would design and implement image and video processing projects related to real life problems

Company/engagement visits:

Guest talk from industry

Indicative learning and teaching time (10 hrs per credit):	Activity
1. Student/tutor interaction: 48 hrs 48 hrs	Lectures Practical Classes
2. Student learning time: 104 hours	Essential and background reading, private study, practical work and assessment preparation.
Total hours (1 and 2):	200 hours

Module Specification

Module Title: Mobile Embedded Systems	Module Code: AS6081 Level: 6 Credit: 20 ECTS credit: 10	Module Leader: Dr. Heba Khaled
Pre-requisite: N/A	Pre-cursor: N/A	
Co-requisite: N/A	Excluded combinations: N/A	Suitable for incoming study abroad? Y
Location of delivery: ASU		
Summary of module for applicants:		
<p>This module intends to provide students with the main principles and concepts of Mobile computing and Embedded systems. The module allows to build systems and support mechanisms for mobile computing systems. It also aims to provide students with the basic knowledge of the structure and principles of operation of embedded systems, peripheral devices and microcontrollers.</p>		
Main topics of study:		
<ul style="list-style-type: none"> • Introduction to mobile computing applications • Mobile Data Management 		

- Mobility Location Management
- Mobile development frameworks and tools
- Cellular systems
- Wireless networks
- Microcontroller's architecture
- I/O Port Programming
- Microcontroller Programming and languages
- Timer Programming on 8051
- Counter Programming on 8051
- Serial Communication on 8051
- Interrupts Programming on 8051
- LCD and Sensors Interfacing
- Stepper Motor and Keyboard Interfacing
- Interfacing with external memory

This module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project ☒

Company/engagement visits ☐

Company/industry sector endorsement/badging/sponsorship/award ☐

Learning Outcomes for the module

- *Digital Proficiency - Code = (DP)*
- *Industry Connections - Code = (IC)*
- *Emotional Intelligence Development - Code = (EID)*
- *Social Intelligence Development - Code = (SID)*
- *Physical Intelligence Development - Code = (PID)*
- *Cultural Intelligence Development - Code = (CID)*
- *Community Connections - Code = (CC)*
- *UEL Give-Back - Code = (UGB)*
- *Cognitive Intelligence – Code = (COI)*

At the end of this module, students will be able to:

Knowledge

- 1- Explain the principles and techniques of mobile computing applications development. (DP)
- 2- Recognize the major principles and operations of embedded systems and recognize the differences between main architectural families of microcontrollers. (DP)

Thinking skills

- 3- Select the appropriate methodologies and techniques for the functionalities of mobile computing systems to solve mobile applications problems considering limitations and constrains. (COI, IC)
- 4- Evaluate alternative mobile frameworks and contrast different programming platforms. (COI)
- 5- Justify the purpose and principles of operation of the hardware and software components of embedded systems. (COI)

Subject-based practical skills

<p>6- Select and use software/hardware tools to develop, test and debug mobile enterprise-level mobile solutions and applications. (IC, DP)</p> <p>7- Select and apply the appropriate acquired knowledge of the embedded systems and the different architectures of microcontroller to solve practical problems and develop software programs for microcontrollers systems. (DP, COI)</p> <p><i>Skills for life and work (general skills)</i></p> <p>8- Reflect the ability to design systems to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety. (IC)</p> <p>9- Work in a team effectively and consider efficient time management. (SID, PID)</p>		
<p>Teaching/ learning methods/strategies used to enable the achievement of learning outcomes: For on campus students:</p> <p>Lectures will be used for providing students with the major concepts and principles for mobile applications and embedded systems. Practical sessions will be used to reinforce understanding of the material and provide hands on experience to demonstrate and apply a concept to a real-life situation. Feedback will be provided throughout the module in the form of both formative and summative work.</p>		
<p>Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:</p> <p>Written Exam (120 minutes)</p> <p>Coursework Practical 20% Assignments 30% (30 hours of student effort)</p>	<p>Weighting:</p> <p>50%</p> <p>50%</p>	<p>Learning Outcomes demonstrated:</p> <p>1-5, 7</p> <p>6,8,9</p>
<p>Reading and resources for the module:</p> <p>Core Kamal, R. (2019) <i>Mobile Computing</i>. 3rd edn. Oxford University Press. Wolf, M. (2017) <i>Computers as Components: Principles of Embedded Computing System Design</i>. 4th edn. MA Elsevier/Morgan Kaufmann.</p> <p>Recommended El Emary, I.M.M. (2016) <i>Wireless sensor networks</i>. CRC Press. Schiller, J.H. (2011) <i>Mobile Communications</i>. 2nd edn. Addison-Wesley, London. Sloss, A.N., Rayfield, J., Symes, D. and Wright, C. (2009) <i>ARM systems developers guide: designing and optimizing System Software</i>. Kaufmann/Elsevier. Amsterdam.</p>		
<p>Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures</p> <p>Live, applied project: The module will be assessed on the development of mobile embedded systems. Ex: Vehicle Tracking by GPS – GSM system and</p>		
<p>Indicative learning and teaching time (10 hrs per credit):</p> <p>1. Student/tutor interaction</p>	<p>Activity</p>	

48 hours 48 hours	Lectures Labs
2. Student learning time: 104 hours	Essential and background reading, Tutorial preparation, Assignment planning and preparation and assessment preparation.
Total hours (1 and 2):	200 Hours

Module Specification

Module Title: <i>Mental Wealth; Professional Life 3</i> (Project)	Module Code: AS6020 Level: 6 Credit: 40 ECTS credit: 20	Module Leader: Dr. Walaa khaled
Pre-requisite: Completing 90 credits in level 5	Pre-cursor: None	
Co-requisite: None	Excluded Combination: None	Suitable for incoming study abroad? Yes
Locations of delivery: ASU		
Summary of module for applicants:		
This module aims to enable students to undertake a sizeable piece of academic work in an area of their own or recommended interest to enrich technical skills acquired in their course of study. The project requires appropriate research, analysis, design, implementation, quality assurance, evaluation and project management.		
Main Topics of Study:		
<ul style="list-style-type: none"> • Research methods • Identification of a suitable project topic • Project analysis • Project design • Project implementation • Project validation and verification • Project documentation and proper referencing 		
This module will be able to demonstrate at least one of the following examples/ exposures		
Live, applied project <input checked="" type="checkbox"/>		
Company/engagement visits <input checked="" type="checkbox"/>		
Company/industry sector endorsement/badging/sponsorship/award <input type="checkbox"/>		
Learning Outcomes for the Module		
<ul style="list-style-type: none"> • <i>Digital Proficiency - Code = (DP)</i> • <i>Industry Connections - Code = (IC)</i> • <i>Emotional Intelligence Development - Code = (EID)</i> • <i>Social Intelligence Development - Code = (SID)</i> • <i>Physical Intelligence Development - Code = (PID)</i> • <i>Cultural Intelligence Development - Code = (CID)</i> 		

- *Community Connections* - Code = (CC)
- *UEL Give-Back* - Code = (UGB)
- *Cognitive Intelligence* – Code = (COI)

At the end of this module, students will be able to:

Knowledge

1. Investigate the problem domain and its current state of the art (COI, IC)
2. Construct the problem statement and motivation and define the objectives of the project (COI)

Thinking skills

3. Analyse and evaluate the features and limitation of existing work (IC, COI)
4. Make decisions regarding the project management (SID, CID)

Subject-based practical skills

5. Use the tools needed for the project analysis and design (DP)
6. Select and use appropriate tools to implement and test computer systems and software (DP)

Skills for life and work (general skills)

7. Include current research and academic publications in literature review (EID, CC)
8. Communicate arguments and results via several presentations (PID, SID, UGB)
9. Reflect on and evaluate own strengths, limitations and performance (EID)

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes:

Lecture will be used to provide an overview of the project selection criteria, its requirements, milestones and an introduction to research methods, literature surveys and reference management systems. In addition, every team will be allocated a supervisor at an early stage within the module. The supervisor will support the team for the duration of the project through discussions. Feedback, in the form of formative assessment, will be provided by supervisor on a regular basis. Moreover, team is requested to make several presentations in a scheduled seminar throughout the year to evaluate their progress. Feedback, in the form of summative assessment, will be provided by judges for each seminar.

Assessment methods which enable students to demonstrate the learning outcomes for the module:	Weighting:	Learning Outcomes Demonstrated
Portfolio Including 8000-word project report plus 20 minutes presentation (75%) intermediate deliverables (25%)	100%	1-9

Reading and resources for the module:

Core

Latte, Björn, Henning, Sören and Wojcieszak, Maik (2019) *Clean Code: On the Use of Practices and Tools to Produce Maintainable Code for Long-Living*. In 6th Collaborative Workshop on Evolution and Maintenance of Long-Living Systems, 18.02.2019, Stuttgart.
 Bob Hughes (2019) *Project Management for IT-Related Projects* (BCS)
 Pears, R. and Shields, G (2013) *Cite Them Right*. Newcastle: Pear Tree Press.
 Documentation template to be provided by the supervisor.

Recommended

R. Majumdar, R. Jain, S. Barthwal and C. Choudhary (2017) *Source code management using version control system*. 6th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions) (ICRITO), pp. 278-281, doi: 10.1109/ICRITO.2017.8342438.

Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project: Scheduled presentations are held to evaluate the necessary project deliverables.

Company/engagement visits: Some projects are mentored by industry partners.

Indicative Teaching and Learning Time (10 hrs per credit):	Activity
1.Student/Tutor interaction, some of which may be online: 100 hours	Lecture/ Supervision/ Seminars
2.Student Learning Time: 300 hours	Background reading, software/hardware tools and packages learning, seminar preparation, group work, project planning, implementation, testing and documentation.
Total hours (1 and 2):	400 hours

AWARD CERTIFICATES

- Issuing transcripts of results to students, and award certificates to successful students on Coursers.
- The student who achieves an accumulative GPA of 3.6 or higher after any semester and did not fail any course throughout his course of study is included in the Dean's List.
- Students who manage to fulfil all graduation requirements are awarded a dual B.Sc. degree from ASU–FCIS in Software Engineering and UEL in Software Engineering.



Link to the University's **academic regulations**:

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations>



Details of Local Teaching and Learning Approaches

- The Course is a credit system leading to the Bachelor of Science Degree (Honours) after completing 360 credits. Student evaluation is based not only on final exam, but also on midterm exams, quizzes, assignments, course projects, presentations, essays, in/out of class participation and many other innovative activities.
- Course instructors in the Course are carefully selected from the distinct full-time world-class faculty members of the Faculty of Computer and Information Sciences at Ain Shams University.
- With most of the modules being delivered over the whole year there is excellent scope for formative assessment to stretch and extend. Thus, a key feature is the emphasis on formative feedback and guidance to enable students to develop full understanding of the topics of study, prior to assessment taking place. Feedback will be available within 15 days from the assessment date. Feedbacks are announced via different means (LMS, emails, student boards, etc.).
- Assessment for these Courses takes the form of examinations, course works, presentations and time constrained assessments.
- Each module syllabus should contain: course objectives, textbook, outline, material, assessments, grading policy and outcome. Outline should contain sections covered every week with reference to chapters/sections in the textbook. The instructor should give the module syllabus to the students in the first class. The syllabus serves as a contract between the instructor and the students.

Details of Assessment Arrangements

a) Passing Modules

The student must achieve a minimum of 40% in a module in order to pass a module.

b) Incomplete Modules

If a student does not pass the module, another set of assessments (resits) are conducted after the semester's final exams (during the resit period). The marks of the resit are capped at 40% unless extenuation is granted

c) Modules opportunities

A module resit is considered a second opportunity. If a student fails at the second opportunity, they will be given a maximum of two further opportunities (opportunity three and opportunity four).

The third opportunity requires full attendance of the module in the next academic year. The fourth opportunity will be a further resit. In each case the final mark is capped at 40% unless extenuation is granted

d) Repeating a year

If a student fails to achieve 60 credits within an academic year they may, at the discretion of the Exam Board, be asked to leave the course. The student will only be allowed to repeat an academic year twice at most during their studies (with mark uncapped).

Degree Classification

Where a student is eligible for an Honours degree by passing a valid combination of modules to comprise an award and has gained a minimum of 240 UEL credits at level 5 or level 6 on the current enrolment for the Course, including a minimum of 120 UEL credits at level 6, the award classification is determined by calculating:

The arithmetic mean of the best 100 credits at level 6	x	0.8	+	The arithmetic mean of the next best 80 credits at levels 5 and/or 6	x	0.2
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and applying the mark obtained as a percentage, with all decimal points rounded up to the nearest whole number, to the following classification

70% - 100%	First Class Honours
60% - 69%	Second Class Honours, First Division
50% - 59%	Second Class Honours, Second Division
40% - 49%	Third Class Honours
0% - 39%	Not passed

For full details of the University degree classification refer to <http://www.uel.ac.uk/wwwmedia/internal/qa/committees/documents/Academic-Framework---Assessment-Regulations---with-changes-approved-for-Transition-Group.doc>

Grades of the Digital Multimedia Course modules

The points of each credit hour are computed as follows:

University of Ain Shams			University of East London
Percentage of Total Mark at ASU	Grade	Points for GPA	Percentage Equivalent at UEL
97% and Higher	A+	4.0	95% and Higher
93% to less than 97%	A	4.0	82% to less than 95%
89% to less than 93%	A-	3.7	70% to less than 82%
84% to less than 89%	B+	3.3	66% to less than 70%
80% to less than 84%	B	3.0	63% to less than 66%
76% to less than 80%	B-	2.7	60% to less than 63%
73% to less than 76%	C+	2.3	56% to less than 60%
70% to less than 73%	C	2.0	53% to less than 56%
67% to less than 70%	C-	1.7	50% to less than 53%
64% to less than 67%	D+	1.3	45% to less than 50%
60% to less than 64%	D	1.0	40% to less than 45%
Less than 60%	F	0	Less than 40%

References to Student Policies

ASU-FCIS student policy available at:

<http://chp-cis.asu.edu.eg/index.php/important-by-law-regulations/>

UEL available at:

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies>

Also detailed in Appendix B which provides full information on referencing and the avoidance of plagiarism.

The electronic version of “Cite Them Right: *the essential referencing guide*” 9th edition, can be accessed whilst on or off campus, via UEL Direct. The book can only be read online and no part of it can be printed nor downloaded.

Assessment and Feedback Policy available at:

<https://ums.asu.edu.eg/App?redirectUrl=https%3A%2F%2Fums.asu.edu.eg%2F#Login>

Assessment and feedback are fundamental parts of your learning experience. The UEL Assessment and Feedback Policy seeks to:

- actively promote student success and academic achievement;
- provide clear, accurate, accessible information and guidelines to all staff and students on assessment and feedback;
- maximise the potential for consistency and fairness in assessment;
- locate assessment and feedback as an integral part of learning and teaching processes.

Every component of assessment that contributes to an award, at all levels, is subject to internal and External Examiner moderation. This ensures the maintenance of standards both internally and in comparison, with similar Courses delivered at other higher education institutions. The UEL Assessment and Feedback Policy outlines the process for the various stages of the marking process and is available at <https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Assessment-and-Feedback-Policy>

The UEL Skills Curriculum has been designed to ensure that you are taught, have the opportunity to practice, and are assessed in three skillsets: Learning Skills, Professional Skills and Research Skills. These Skills are developed within your Course of study. Further information is available at: <https://www.uel.ac.uk/discover/governance/policies-regulations-corporate-documents/student-policies/skills-curriculum>

The UEL Skills Portal has been designed to act as a single gateway to a whole range of skills support that will help you progress through your studies. From tips on academic writing, using IT, to guidance on time management and exam revision - all of the resources in the UEL Skills Portal have been designed to support your learning and achievement, refer to <https://uelac.sharepoint.com/LibraryandLearningServices/Pages/Skillzone.aspx>

As a student, you will be taught how to write correctly referenced essays using UEL's standard Harvard referencing system from Cite Them Right. Cite them Right is the standard Harvard referencing style at UEL for all Schools apart from the School of Psychology which uses the APA system. This book will teach you all you need to know about Harvard referencing, plagiarism and collusion. The electronic version of "Cite Them Right: *the essential referencing guide*" 9th edition, can be accessed whilst on or off campus, via UEL Direct. The book can only be read online and no part of it can be printed nor downloaded.

Further information is available at the weblinks below

Harvard referencing

<https://uelac.sharepoint.com/LibraryandLearningServices/Pages/Harvard-Referencing-.aspx>

Academic Integrity

<https://uelac.sharepoint.com/LibraryandLearningServices/Pages/Academic-integrity.aspx>

Assessment Criteria

A student's performance will be marked and graded according to pre-specified and clear assessment criteria. These will normally be presented in one document combining marking and grading criteria. Further details can be found in section 2.3 of the Assessment and Feedback Policy and can be found at: www.uel.ac.uk/ga/policies/assessmentpolicy/

As your degree progresses, you will be assessed in a number of different ways. In addition to examinations, you will have a range of coursework assessments such as reports or presentations, for which you will be given clear guidance by the module leader including how you will be assessed for that piece of work.

The section below gives you a general guideline of what we are looking for at different levels of the Course.

Level 4

- You can present factual information.
- With some help, you can analyse and evaluate the information presented and draw some conclusions.
- You can follow guidelines in creating solutions to straightforward problems.

Work of a better standard usually reflects an approach where,

- You have required little guidance in producing your work.
- You have shown initiative where appropriate.
- You meet your obligations to others.
- You have fully appreciated the complexity of a task and managed your time and resources accordingly.
- Your work is presented with care and forethought.

Level 5

- Your work displays a detailed knowledge of the topic. You are aware of other contexts that can be applied to this knowledge.
- With some guidance, you can analyse data and situations in a range of different contexts.
- You can take information gathered or the ideas of others and re-format it to your own purpose.
- You can select appropriate evaluation techniques. You can use these to evaluate your own findings.

Work of a better standard usually reflects an approach where

- You have required minimal assistance if any assistance.
- You have been particularly creative in devising and implementing your chosen solution.
- You have identified the key elements of problems and chosen the appropriate strategies to resolve them.
- You have communicated your work in a clear and concise manner.

Level 6

- Your work displays a comprehensive and detailed knowledge of the topic with areas of specialisation showing depth of understanding.
- You are aware of current developments.
- Without guidance, you can analyse data and situations in a range of different contexts.
- You can develop creative and innovative solutions with little guidance.
- You can review evidence critically and use your findings to support conclusions and recommendations.

Work of a better standard usually reflects an approach where

- You have not required any assistance.
- You have proved you can manage your own learning and make full use of a wide range of resources.
- You have been confident in your ability to solve problems.
- You have communicated your work in a thoroughly professional and coherent manner.



Link to the Student Handbook page on Assessment and Feedback:

<https://uelac.sharepoint.com/sites/studenthandbooks/SitePages/Assessment-and-Feedback.aspx>

Link to Student Policies: <https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies>



REFERENCING

As a student you will be taught how to write correctly referenced essays. UEL's standard **Harvard referencing** system is from *Cite Them Right*. Cite them Right is the standard Harvard referencing style at UEL for all Schools, however professional body requirements will take precedence for instance the School of Psychology which uses the APA system.



Link to the Student Handbook page on *Cite Them Right*:

<https://uelac.sharepoint.com/sites/studenthandbooks/SitePages/Cite-Them-Right.aspx>



ACADEMIC MISCONDUCT & PLAGIARISM

For the purposes of University regulations, **academic misconduct** is defined as any type of **cheating** in an assessment for the purposes of achieving personal gain. Please follow the link below to learn more.

Academic Misconduct

For the purposes of university's regulations, academic misconduct is defined as any type of cheating in an assessment for the purposes of achieving personal gain. Examples of such misconduct are given below: the list is **not** exhaustive and the use of any form of unfair or dishonest practice in assessment can be considered potential misconduct.

Coursework Submitted for Assessment

For coursework submissions, academic misconduct means:

- (a) The presentation of another person's work as one's own with or without obtaining permission to use it.
- (b) The inclusion within one's own work of material (written, visual or oral), originally produced by another person, without suitable acknowledgment.
- (c) The submission, as if it were one's own work, of anything which has been offered to you for your use, but which is actually not your own work.
- (d) The inclusion within one's work of concepts paraphrased from elsewhere without citing your source.
- (e) The inclusion in submitted work of sections of text, whether from electronic or hard copy sources, without appropriate acknowledgement of the source.
- (f) The submission of work that the student, as the author, has previously submitted, without suitable acknowledgement of the source of their previous work; this should not normally be more than a short quotation as the same work cannot be submitted for different assignments.
- (g) Including or quoting the work of other students in one's work, with the exception of published work, or outputs held in the library as a learning resource, which should be cited and acknowledged appropriately.
- (h) Being party to any arrangement whereby the work of one candidate is represented as that of another.
- (i) The submission, as your own work, of any work that has been purchased, or otherwise obtained from others, whether this is from other students, online services, "cheat sites", or other agents or sources that sell or provide assignments.
- (j) Practices such as 'cutting and pasting' segments of text into your work, without citing the source of each.
- (k) For work not intended to be submitted as a collaborative assignment: producing work with one or more other students, using study practices that mean the submitted work is nearly identical, overall or in part, to that of other students.
- (l) Offering an inducement to staff and/or other persons connected with assessment.

Examinations

For examinations, academic misconduct means:

- (a) Importation into an examination room of materials or devices other than those which are specifically permitted under the regulations applying to the examination in question.

- (b) Reference to such materials (whether written or electronically recorded) during the period of the examination, whether or not such reference is made within the examination room.
- (c) Refusing, when asked, to surrender any materials requested by an invigilator.
- (d) The application of an electronic device, unless this has been expressly permitted for that examination.
- (e) Copying the work of another candidate.
- (f) Disruptive behaviour during examination or assessment.
- (g) Obtaining or seeking to obtain access to unseen examination questions prior to the examination.
- (h) Failure to observe the instructions of a person invigilating an examination or seeking to intimidate such a person.
- (i) Offering an inducement to invigilators and/or staff and/or other persons connected with assessment.

Where academic misconduct is suspected, the matter will be dealt with under the *Procedure to be followed in the event of a suspected case of academic misconduct, Part 8, paragraph 4* of the Manual of General Regulations (available for view at <https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations>).

If it is determined that academic misconduct has taken place, a range of penalties may be prescribed which includes expulsion from the Course.

PLAGIARISM - A GUIDANCE NOTE FOR STUDENTS

1. Definition of Plagiarism

Our University defines plagiarism and other academic misconduct in Part 8 of the UEL Manual of General Regulations (to which all students are referred upon joining UEL), which is reprinted in "The Essential Guide to the University of East London". In this document, the following example of an assessment offence is given:

The submission of material (written, visual or oral), originally produced by another person or persons or oneself, without due acknowledgement*, so that the work could be assumed to be the student's own. For the purposes of these Regulations, this includes incorporation of significant extracts or elements taken from the work of (an)other(s) or oneself, without acknowledgement or reference*, and the submission of work produced in collaboration for an assignment based on the assessment of individual work. (Such misconduct is typically described as plagiarism and collusion.)

The following note is attached:

*(Note: To avoid potential misunderstanding, any phrase that is not the student's own or is submitted by the student for a different assessment should normally be in quotation marks or highlighted in some other way. It should also be noted that the incorporation of *significant* elements of (an) other(s) work or of one's own work submitted for a different assessment, even with acknowledgement or reference, is unacceptable academic practice and will normally result in failure of that item or stage of assessment.)

2. **Plagiarism in Greater Detail**

Work that students submit for assessment will inevitably build upon ideas that they have read about or have learnt about in lectures. That is perfectly acceptable, provided that sources are appropriately acknowledged. It should be noted, however, that the wholesale reproduction of the ideas and words of others, however well referenced, is likely to lead to failure at assessment (see section 6 below)

The submission of work that borrows ideas, words, diagrams, or anything else from another source (or sources), without appropriate acknowledgement, constitutes plagiarism. Plagiarism is not limited to unattributed cutting-and-pasting; it includes the reproduction, without acknowledgement, of someone else's work, taken from a published (or unpublished) article, a book, a website, a friend's (or anybody else's) assignment, or any other source.

When an assignment or report uses information from other sources, the student must carefully acknowledge exactly what, where and how s/he has used them. If someone else's words are used, they must be within quotation marks and a reference must follow the quotation.

Where a concept or argument in another source is paraphrased (rather than directly quoted), quotations marks should not be used, but it will still be necessary to acknowledge the source. Remember, however, that the making of simple changes to the wording of a source, while retaining the broad structure, organisation, content and/or phraseology of the source, is unacceptable academic practice and will probably be regarded as plagiarism. (For helpful tips on how to avoid plagiarism, see "The Study Skills Handbook" by Dr Stella Cottrell, pages 122-125.)

3. **Collusion**

Collusion is the term used to describe any form of joint effort intended to deceive an assessor as to who was actually responsible for producing the material submitted for assessment. Clearly, students are encouraged to discuss assignments with their peers, but each student must always ensure that, where an individual assignment is specified, the report/essay submitted is entirely the student's own. Students should, therefore, never lend work (in hard or electronic copy) to friends. If that work is subsequently plagiarised by a "friend", an act of friendship might lead to a charge of collusion.

4. **When to Reference**

Our regulations do not distinguish between deliberate and accidental plagiarism, but you will not be accused of plagiarism, provided that you properly reference everything in your work that was said, written, drawn, or otherwise created by somebody else.

You need to provide a reference:

- when you are using or referring to somebody else's words or ideas from an article, book, newspaper, TV Course, film, web page, letter or any other medium;
- when you use information gained from an exchange of correspondence or emails with another person or through an interview or in conversation;
- when you copy the exact words or a unique phrase from somewhere;
- when you reprint any diagrams, illustrations, or photographs.

You do not need to reference:

- when you are writing of your own experience, your own observations, your own thoughts or insights or offering your own conclusions on a subject;
- when you are using what is judged to be common knowledge (common sense observations, shared information within your subject area, generally accepted facts etc.) As a test of this, material is probably common knowledge if
 - you find the same information undocumented in other sources;
 - it is information you expect your readers to be familiar with;
 - the information could be easily found in general reference sources.

5. **How to Reference**

Our University has agreed on a single version of the Harvard referencing system (the School of Psychology uses the American Psychological Association (APA) referencing style) and this (along with APA) can be found in *Cite Them Right*:

Pears, R. and Shields, G (2013) *Cite Them Right*. Newcastle: Pear Tree Press
Cite Them Right is available online and hard copies can be found in our libraries and bookshops.

6. **Plagiarism, or Unacceptable Academic Practice?**

If work that you submit for assessment includes substantial and significant elements of other sources and all of those sources are appropriately acknowledged, you will not have plagiarised, but you will be culpable of unacceptable academic practice, because there will be too little of your “own voice” to allow your knowledge to be assessed. Work that you submit for assessment must:

- use your own words;
- provide a critical commentary on existing literature;
- aim for novelty and originality;
- demonstrate your understanding of the subject area by paraphrasing.

Work that does not meet those criteria will fail.



Link to the Student Handbook page on Academic Misconduct and Plagiarism:
<https://uelac.sharepoint.com/sites/studenthandbooks/SitePages/Academic-Misconduct-and-Plagiarism-Home.aspx>



The University adheres to its responsibility to support and promote the highest standards of **rigour and integrity** and embed a culture of honesty, transparency and care and respect for all participants and subjects of research. The University is committed to ensuring that research is conducted with integrity and good research practices are upheld. Please follow the link below to learn more.



Link to the Student Handbook page on Research for On Campus programmes:
<https://uelac.sharepoint.com/sites/studenthandbooks/SitePages/Research.aspx>

Link to the Research Integrity and Ethics Document page:
<https://uelac.sharepoint.com/ResearchInnovationandEnterprise/Pages/research-integrity-and-ethics-documents.aspx>



Placements and volunteering provide opportunities for students to gain work experience, develop work-related skills, learn about professional sectors and how studies can be directly applied in the work environment. Some courses include placements as part of the formal course of study, and for others placements are a mandatory professional requirement.



Local Arrangements for Academic and Pastoral Care for Students

- Course teams must ensure that Academic Advisors have the knowledge and skills to carry out the role. The role includes helping students to understand:
 - i. The academic and related skills required for successful study.
 - ii. The need for self-direction and responsibility for own learning.
 - iii. Their learning needs beyond their current courses and immediate assessments.
 - iv. An opportunity to identify areas of weakness.
 - v. Where to find information, help and support.
 - vi. Clarification of aims and choices for progression, employment and further study [internship opportunities].
- Academic Advising in ASU-FCIS:
 - i. Must exist for every year.
 - ii. Must form part of the student induction process especially for General Level Year Students.
 - iii. Must be used as a mechanism, to identify “students at risk”.
 - iv. Must happen at critical moments in each semester. [week 1 & 8]
- Course teams must carefully manage the Academic Advising system so that students understand its role and know how to access it.
- Academic Advising needs to be carefully managed with its importance being emphasised:
 - i. During the induction period for each Level of the Course.
 - ii. In student handbook.
 - iii. By Academic Advisor.
 - iv. By Course Instructors-via class announcements.
 - v. Via email and SIS.
- Unit Heads agree on procedures and systems to manage Academic Advising. These will include:
 - i. Allocation of Academic Advisors for all Levels.
 - ii. Ensuring students are informed.
 - iii. Delivery of Academic Advising.
 - iv. Identification of students at risk.

Local Personal Tutor Support

- Course teams must meet the minimum requirements for delivery of Academic Advising.
 - Meet in weeks 1 and 8 each semester.
 - Identify issues and agree on strategies.
 - Keep a record of meetings [SIS+ student copy].
 - Feedback on issues and actions taken as appropriate.
 - Advertise office hours when 1:1 appointments can be made according to Advisor and student Schedule.

- Advisor need to be clear about the focus of the meeting:
 - i. Check that student has settled into the Course.
 - ii. Identify any concerns the student may have.
 - iii. Review student's progress [preferably quantitative].
 - iv. Review and offer advice on student's performance in assessments/exams.
 - iv. Address concerns about performance or attendance.
 - v. Review progression or career plans [internship].

- Meeting -encouraging change
 - i. Encouraging change -telling or helping?
 - ii. Giving constructive feedback
 - iii. Discussing options
 - iv. Agreeing on actions –SMART targets
 - v. Producing a realistic plan of action
 - vi. Getting commitment
 - vii. What's going well?
 - viii. What could go better?

- Follow-up from meetings –ensuring action
 - i. What actions are required by the student or by the Academic Advisor?
 - ii. Does this involve liaison with:
 - Course Instructors?
 - Unit Heads?
 - Vice Director?

Local Careers Advice

- Course teams must ensure that staff acting as Academic Advisors are aware of relevant learner support services.

- Academic Advising is only a part of Learner Support:
 - i. Employability Skills (through events)
 - ii. Student Activities
 - iii. The Library
 - iv. Disability issues
 - v. The Student Union

Employability and Career Development Centre (ECDC) is a Centre constructed through the collaboration between Ain Shams University and the American University, it has a permanent headquarter in Ain Shams University. It provides special training programs for students in order to develop their capabilities in the professional and employment fields. The centre aims to guide the trainee to his excellence and weaknesses points, and how to raise points of excellence and overcome weaknesses.

Local Arrangements for Supporting Students with Disabilities/Dyslexia

Faculty of Computer and Information Sciences provides support and equal opportunity for learning to its diverse community especially to those with disability. The faculty aimed that they experience the same level of equality and meet the same level of academic potential. The objectives are:

- i. Ensure the accessibility to all faculty facilities.
- ii. Ensure that admission requirements do not hinder anyone from enrolment by unnecessary barriers.
- iii. Encourage people with disability to courses admission by providing any possible support.
- iv. Determine the needs of the disable and support staff to deal with their needs.

The student should fill in the form describing his/her conditions to request for disability services. According to each case, the faculty can provide:

- i. Quiet areas for exams equipped with the required physical changes.
- ii. Providing staff members assisting for writing in exams.
- iii. Extra exam time.
- iv. Extended deadline for the assignments and attendance.
- v. Providing special seating place in class.
- vi. Providing large print hand-outs and verbal description for visual aids.



a) Local library and IT resources

ASU-FCIS has a central library which serves students and researchers in various fields besides the Digital Library to provide an online service for users. There is (1) central library with (3) sections according to the following:

- The student library contains (1405) books.
- The teaching staff hall contains (3430) books.
- Digital Library Hall: The Digital Library serves to provide an online Service for users. It gives online access to the contents of the library, including books and theses. The digital library website:
http://srv2.eulc.edu.eg/eulc_v5/libraries/start.aspx.

Other learning resources are the Egyptian Bank of Knowledge (EBK) through the website: <http://www.ekb.eg/> “Egyptian Knowledge Bank”, is one of the largest national projects that is concerned with education in Egypt. It aims to provide huge and diversified sources for knowledge and culture for free. It comes after contracting with several international publishing houses to publish their contents in all scientific and cultural disciplines, to have the system for the new Egyptian Cultural Revolution completed. Generally, 25 global publishing house and specialised companies were contracted to provide their contents & technologies.

E-Mail Services involved a developed Cooperation of the University with Microsoft Corporation to Serve Undergraduate and Postgraduate Students offering new features for the official e-mail users.

b) Other Local Resources Relevant to Support the Course

The faculty offers students Training Support through the faculty’s **iHub Unit**, which aims to be a centre for innovation in technology and entrepreneurship, as to form a link between academic study and labour market. It provides technical and professional development to the students by offering training Courses to serve students and graduates at the same time. These training Courses aim to develop the creative sense of the trainees in order to integrate them into creative and innovative works that would serve the Information Technology field and the community. It emphasizes on the overlap between the different disciplines in various fields and at various levels.

FCIS Graduates unit revives the post-graduation engagement. It focuses on the rehabilitation of the graduates to the work environment to meet the needs of national and international software houses and IT companies. The unit aims to reach out for

the graduates, make use of their expertise in the job market and get to know the required services that can be offered by the faculty to them.

Employability and Career Development Centre (ECDC) is a Centre constructed through the collaboration between Ain Shams University and the American University, it has a permanent headquarter in Ain Shams University. It provides special training Courses for students in order to develop their capabilities in the professional and employment fields. The centre aims to guide the trainee to his excellence and weaknesses points, and how to raise points of excellence and overcome weaknesses.

In general students have access to over 280 modern computers. Faculty members and employees have access to over 100 additional computers.

The databases and information systems of faculty staff members, their assistants, students, graduate students, expatriates, administrators and libraries have been developed and updated. The databases are continuously updated.

The Faculty of Computer and Information Sciences has a website through the main website of Ain Shams University. The website is: <https://cis.asu.edu.eg/>. The website provides various services for students and faculty members by presenting the internal regulations of the bachelor's degree courses as well as post-graduate education. The site is being developed and data recorded within it are consistently updated. The contents of the various educational materials are displayed. The course schedules and exam results are announced at the end of the semester. The site is available in Arabic and English so that the user can choose the appropriate language. This site is regularly updated by site administrators and college administration. E-mail access is also available to the faculty members and the assistant staff and the students on the website of the College.

In order to update the educational services to the international standards, an online portal was developed in order to open the access to students and staff members to perform efficiently online. Students can view their courses, submit coursework and view their grades. Staff members can upload their lectures, view the online submissions and grade online. An information technology unit was set up for the electronic portal of the college to be the main focus of interaction between students and faculty.



You are enrolled on a course of study leading to the award of a degree of the University of East London (UEL). As such, you are regarded as a student at the University of East London as well as FCIS-CHP and both institutions work together to ensure the quality and standards of the course on which you are registered.

The final responsibility for all quality assurance, validation and standards' matters rests with UEL.



Link to the Student Handbook page on *Quality and Standards*:
<https://uelac.sharepoint.com/sites/studenthandbooks/SitePages/Quality-and-Standards.aspx>



Extenuating Circumstances are circumstances which:

-
- impair your examination performance or prevent you from attending examinations or other types of assessment, or
 - prevent you from submitting coursework or other assessed work by the scheduled deadline date, or within 24 hours of the deadline date
-

The University of East London has agreed, through Academic Board, procedures governing extenuation for students concerning the assessment process.

This course will be subject to equivalent procedures, with the process being administered by, and the panel being held within, FACULTY OF COMPUTER & INFORMATION SCIENCES - AIN SHAMS UNIVERSITY (FCIS- ASU).

General Information about extenuation can be found at <https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Extenuation-Procedures>

The University of East London has agreed, through Academic Board, procedures governing extenuation for students concerning the assessment process.

Digital Multimedia Course will be subject to equivalent procedures, with the process being administered by, and the panel being held within Ain Shams University – Faculty of Computer and Information Sciences.

If granted by the panel, **Extenuation can**

- (i) Allow students to hand in coursework up to 7 days late.

or

- (ii) Allow students to proceed to their next attempt uncapped.

Extenuation doesn't

- (i) Give students more attempts to pass a module
(ii) Reschedule exams
(iii) Uncap a capped module
(iv) Give students a higher mark.
(v) Allow students to hand in work over 7 days late

The basic principle is that extenuation should put you in the same position that you would have been in had you not missed the exam or handed in the assessment late – it does not confer any advantages.

UEL decided that its procedures would be

- Evidentially based
- Handled centrally by a panel of senior staff (not devolved to various parts of the organisation)
- Retain student anonymity where possible

The extenuation procedures are intended to be used rarely by students not as a matter of course.

The procedures govern circumstances which

- Impair the performance of a student in assessment or reassessment
- Prevent a student from attending for assessment or reassessment
- Prevent a student from submitting assessed or reassessed work by the scheduled date

Such circumstances would normally be

- Unforeseeable - in that the student could have no prior knowledge of the event concerned
- Unpreventable - in that the student could do nothing reasonably in their power to prevent such an event
- Expected to have a serious impact

Examples of circumstances which would normally be regarded as serious are:

- *A serious personal illness* (which is not a permanent medical condition – this is governed by disability procedures)
- *The death of a close relative immediately prior to the date of assessment*

Examples of circumstances which would *not* normally be regarded as extenuating circumstances are:

- Failure of computer equipment / USB stick
- Transport problems, traffic jams, train delays
- Misreading the exam timetables / assessment dates
- Minor illnesses

The judgement as to whether extenuation is granted is made by a panel of senior persons in the organisation who make this judgement on the basis of the evidence the student provides (not on their knowledge of the student) – where possible the identity of the student is not made available to the panel. The judgement is made on the basis that the circumstances could reasonably be thought to be the sort of circumstances which would impair the performance of the student etc. The actual performance of the student is not considered and is not available to the panel.

It is the responsibility of the student to notify the panel, with independent evidential documentary support, of their claim for extenuation.

More information and student guidance notes can be found at:

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Extenuation-Procedures>



Link to the Student Handbook page on **Extenuation**:

<https://uelac.sharepoint.com/sites/studenthandbooks/SitePages/Extenuation.aspx>



Academic Appeals

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Student-Appeals>

Academic Integrity

<https://uelac.sharepoint.com/LibraryandLearningServices/Pages/Academic-integrity.aspx>

Academic Tutoring

<https://www.uel.ac.uk/centre-for-student-success/academic-tutoring>

Accreditation of Experiential Learning

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations>

Assessment and Feedback Policy

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies> (click on other policies)

Centre for Student Success

<https://www.uel.ac.uk/centre-for-student-success>

Complaints procedure

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Student-Complaint-Procedure>

Counselling

<http://chp-cis.asu.edu.eg/index.php/c-administration/>

Disability support

<http://chp-cis.asu.edu.eg/index.php/c-administration/>

Engagement & Attendance Policy

<http://chp-cis.asu.edu.eg/index.php/important-bylaw-regulations/>

Equality and Diversity Strategy

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies> (click on other policies)

Extenuation Procedures

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Extenuation-Procedures>

IT Support

<https://ums.asu.edu.eg>

Library Archives and Learning Services

http://srv2.eulc.edu.eg/eulc_v5/libraries/start.aspx

Manual of General Regulations

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations>

Mentoring

<https://www.uel.ac.uk/centre-for-student-success/mentoring>

Referencing guidelines

<https://uelac.sharepoint.com/LibraryandLearningServices/Pages/Harvard-Referencing-.aspx>

Student Protection Plan

https://www.uel.ac.uk/-/media/main/files/uel_student_protection_plan_202021.ashx

Suitability Procedure (Manual of General Regulations – Part 13 – Suitability Procedure)

<https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Manual-of-General-Regulations>

APPENDIX A: ACADEMIC APPEALS

Students who wish to appeal against a decision of an Assessment/Progression Board may appeal in accordance with the procedure for Appeals against Assessment Board decisions (Manual of General Regulations: Part 7 Appeals Against Assessment Board Decisions).

Disagreement with the academic judgement of a Board of Examiners' decision cannot -in itself- constitute a reason to Appeal. Academic judgement is a judgement that is made about a matter where only the opinion of an academic expert will suffice. For example, a judgement about assessment or degree classification or a judgement about a decision where a student is required to repeat or take further assessment will usually be academic judgement, and a student cannot appeal simply because they believe they ought to have received a higher grade or mark. For further information on the scope of this procedure, please refer to Part 7 of the Manual of General Regulations.

Further information about the UEL appeals process, including copies of the formal Notification of Appeal Form, is available to view at <https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies/Student-Appeals>

To help you decide whether your query would be an Appeal or Complaint, please refer to <https://www.uel.ac.uk/Discover/Governance/Policies-Regulations-Corporate-documents/Student-Policies>

If you would like to lodge a formal appeal or have any queries, please email the Institutional Compliance Office at appeals@uel.ac.uk

APPENDIX B: COMPLAINTS

If you feel that you have not received the standard of service which it would be reasonable to expect, you may be entitled to lodge a complaint. Complaints should be used for serious matters, and not for minor things such as occasional lapses of good manners or disputes of a private nature between staff and students

Separate procedures exist for the following, which therefore cannot form the substance of a complaint:

- appeals against the decisions of Assessment Boards (**Manual of General Regulations : Part 7 Appeals Against Assessment Board Decisions**);
- appeals against annual monitoring reviews, transfer of research degree registration or oral examination decision for postgraduate research students (**Manual of General Regulations: Part 9 Research Degrees**);
- appeals against the decisions of the Extenuation Panel (**Manual of General Regulations: Part 6 Extenuating Circumstances**);
- complaints against the Students' Union (see the **Complaints Procedure** in the **Students' Union constitution**);
- appeals against decisions taken under disciplinary proceedings (**Manual of General Regulations: Part 12**);
- complaints about businesses operating on University premises, but not owned by our university (contact the Deputy Vice-Chancellor and Chief Operating Officer);
- complaints about the behaviour of other students (see **Part 12 of the Manual of General Regulations this Manual**);
- appeals against the decisions of Academic Misconduct Panels (see **Part 8 of the Manual of General Regulations**)
- appeals against the decisions of Attendance Appeal Panels (see the **University's Attendance Policy**).

Students wishing to submit a complaint must, in the first instance, follow the complaints policy of which aligns to the Office of the Independent Adjudicator's good practice framework (<https://www.oiahe.org.uk/media/96361/oia-good-practice-framework.pdf>). The FACULTY OF COMPUTER & INFORMATION SCIENCES - AIN SHAMS UNIVERSITY (FCIS- ASU) complaints policy is available at:

<https://elearning.cis.asu.edu.eg/undergraduate/>

FACULTY OF COMPUTER & INFORMATION SCIENCES - AIN SHAMS UNIVERSITY (FCIS- ASU) will administer all stages of its complaints policy and, upon exhaustion of this policy, will issue a formal letter to the complainant notifying them that its complaints policy has been exhausted. If the complainant is still not satisfied with the outcome, they will be entitled to request that the University of East London undertake a review of their complaint.

The University of East London will conduct a review of the complaint in accordance with Stage 3 of its own Complaints Procedure. The University of East London Complaints Procedure is available at: <https://www.uel.ac.uk/discover/governance/policies-regulations-corporate-documents/student-policies/manual-of-general-regulations>

The University of East London will administer the Stage 3 review in accordance with its Complaints Procedure and, upon completion of the review, will issue a Completion of Procedures Letter. If the complainant is still not satisfied with the outcome they will be entitled to make a complaint to the Office of the Independent Adjudicator.

Complainants are strongly advised to make every reasonable effort to resolve their complaint informally through meeting with the member of FACULTY OF COMPUTER & INFORMATION SCIENCES - AIN SHAMS UNIVERSITY (FCIS- ASU) staff most directly concerned with the matter, such as the Course or Module Leader, before submitting a formal complaint.

Complaints must normally be lodged within the set time limits outlined in the relevant complaints policy. This ensures that the people involved still remember the case, and the facts can be established.

If you would like to request that the University of East London undertake a review, following the exhaustion of the FACULTY OF COMPUTER & INFORMATION SCIENCES - AIN SHAMS UNIVERSITY (FCIS- ASU) complaints policy, please email the Complaints and Appeals Office at complaints@uel.ac.uk

APPENDIX C: ASSESSMENT MAPPING TABLES

Bachelor of Digital Multimedia (Hons) (Ain Shams University)							BSc Digital Multimedia (Dual Award)						
Code	Module Name	Credit hour	C/W	C/W Weightage	Exam	Exam Weightage	Module Code	Module Name	Credit Weighting	C/W	C/W Weightage	Exam	Exam Weightage
DMM467	Object Oriented Programming	3	Practical	20%	Final	50%	AS4001	Fundamentals of Programming	20	In-class Test (120 minutes)	50%		
			In-class Test	15%						Assignments (20 hours of student effort)	30%		
			Assignments	15%						Practical (40 hours of student effort)	20%		
CSC250	Data Structures & Analysis	3	Practical	20%	Final	50%	AS4002	Mathematics for Computer Scientists	20	In-class Test (120 minutes)	60%		
			In-class Test	15%						Assignments (60 hours of student effort)	40%		
			Assignments	15%									
BSC221	Discrete Mathematics	4	In-class Test	15%	Final	60%	AS4072	Project Management and Economics	20	In-class Test (120 minutes)	50%		
BSC225	Differential Equations	4	Assignments	25%						Assignments (40 hours of student effort)	40%		
HUM117	Fundamentals of Economics	2	In-class Test	15%	Final	60%	AS4071	Data Statistics and Representation	20	In-class Test (120 minutes)	60%		
			Assignments	25%									
			CSC453	Software Projects Management						3	Practical		
In-class Test	15%												
Assignments	15%												
CSC 271	File Organization	3	In-class Test	15%	Final	60%	AS4071	Data Statistics and Representation	20				
BSC223	Probability and	4	Assignments	25%						In-class Test (120 minutes)	60%		
			In-class Test	15%	Final	60%	AS4071	Data Statistics and Representation	20				
			Assignments	25%									

	Statistics		Assignments	25%					Assignments (60 hours of student effort)					
SCC330	Operation of Research	3	Practical	20%	Final	50%			In-class Test (120 minutes)	50%				
			In-class Test	15%						Assignments (40 hours of student effort)	40%			
			Assignments	15%						Practical (20 hours of student effort)	10%			
HUM114	Communication and Negotiation Skills	2	In-class Test	15%	Final	60%								
			Assignments	25%										
DMM442	Multimedia	3	Practical	20%	Final	50%			In-class Test (120 minutes)	50%				
			In-class Test	15%						Assignments (40 hours of student effort)	40%			
			Assignments	15%						Practical (20 hours of student effort)	10%			
HUM210	Report Writing	2	In-class Test	15%	Final	60%								
			Assignments	25%										
HUM119	Computer Ethics	2	In-class Test	15%	Final	60%			Practical (10 hours of student effort)	10%	Exam 120 minutes	50%		
			Assignments	25%						Assignments (20 hours of student effort)			40%	
CSC 340	Analysis and Design of Algorithms	3	Practical	20%	Final	50%								
			In-class Test	15%										
			Assignments	15%										
INF380	Software Engineering	3	Practical	20%	Final	50%			Practical (10 hours of student effort)	20%	Exam 120 minutes	50%		
			In-class Test	15%										
			Assignments	15%										

INF211	Database Management	3	Practical	20%	Final	50%					Assignments (20 hours of student effort)	30%		
			In-class Test	15%							Exam 120 minutes	50%		
			Assignments	15%										
CSC343	Artificial Intelligence	3	Practical	20%	Final	50%	AS5075	Artificial Intelligence for Gaming	20	Practical (10 hours of student effort)	20%	Exam 120 minutes	50%	
			In-class Test	15%										
			Assignments	15%										
DMM436	Game Programming	3	Practical	20%	Final	50%					Assignments (20 hours of student effort)	30%		
			In-class Test	15%										
			Assignments	15%										
CSY465	Data Communications and Computer Networks	3	Practical	20%	Final	50%	AS5006	Computer Networks and Operating Systems	20	Practical (10 hours of student effort)	20%	Exam 120 minutes	50%	
			In-class Test	15%										
			Assignments	15%										
CSC352	Operating Systems	3	Practical	20%	Final	50%					Assignments (20 hours of student effort)	30%		
			In-class Test	15%										
			Assignments	15%										
CSC342	Computer Graphics	3	Practical	20%	Final	50%	AS5076	Computer Graphics and Visualization	20	Practical (10 hours of student effort)	20%	Exam 120 minutes	50%	
			In-class Test	15%										
			Assignments	15%										
DMM473	Data Visualization	3	Practical	20%	Final	50%					Assignments (20 hours of student effort)	30%		
			In-class Test	15%										
			Assignments	15%										
SCC 330	Numerical Computing Methods	3	Practical	20%	Final	50%	AS5077	Numerical Computing Methods and Computer Security	20	Practical (10 hours of student effort)	20%	Exam 120 minutes	50%	
			In-class Test	15%										
			Assignments	15%										
DMM426	Computer and Information Security	3	Practical	20%	Final	50%					Assignments (20 hours of student effort)	30%		
			In-class Test	15%										

			Assignments	15%									
DMM443	Virtual Reality	3	Practical	20%	Final	50%	AS6078	Virtual Reality and Real Time Systems	20	Practical (10 hours of student effort)	20%	Exam 120 minutes	50%
			In-class Test	15%									
			Assignments	15%									
DMM419	Real Time Systems	3	Practical	20%									
			In-class Test	15%									
			Assignments	15%									
DMM331	Digital Signal Processing	3	Practical	20%	Final	50%	AS6079	Digital Signal and Speech Processing	20	Practical (10 hours of student effort)	20%	Exam 120 minutes	50%
			In-class Test	15%									
			Assignments	15%									
DMM433	Speech Processing	3	Practical	20%									
			In-class Test	15%									
			Assignments	15%									
DMM432	Image Processing	3	Practical	20%	Final	50%	AS6080	Fundamentals of Digital Image and Video Processing	20	Practical (10 hours of student effort)	20%	Exam 120 minutes	50%
			In-class Test	15%									
			Assignments	15%									
DMM429	Video and Audio Technology	3	Practical	20%									
			In-class Test	15%									
			Assignments	15%									
DMM461	Mobile Applications	3	Practical	20%	Final	50%	AS6081	Mobile Embedded Systems	20	Practical (10 hours of student effort)	20%	Exam 120 minutes	50%
			In-class Test	15%									
			Assignments	15%									
CSC 420	Embedded Systems	3	Practical	20%									
			In-class Test	15%									
			Assignments	15%									

AIT400	Project	6	8000-word project report plus 20 minutes presentation	75%			AS6020	Mental Wealth: Professional Life 3 (Project)	40	8000-word project report plus 20 minutes presentation	75%		
			Intermediate deliverables	25%						1000 words Intermediate deliverables	25%		
TRNxxx	2 Summer Trainings	4	20 minutes presentation	25%									
			Intermediate deliverables	75%									

An example for the assessment mapping between ASU and UEL is given for the Module “Computer Networks and Operating Systems”. At the Egyptian Bylaw, the two-courses components are the practical, In-class test, Assignment and Final exam with their weights. The table shows an example for marks by a student for every component as both out of 100 and as assessment weightage on the ASU mark range. The marks by assessment weightage for the different categories can be assembled for the two ASU courses providing the student total marks out of 200 marks (155 for the example shown).

The assessment weightage of ASU is next mapped to the assessment weightage of UEL since two ASU courses form a single UEL module. The table also shows the components’ mapping visualized by color. The student marks on the UEL mark range can be then calculated forming a student total mark out of 100 (77.5 for the example shown).

Since the ASU and UEL uses different grading and Pass/Fail systems as highlighted by the table on page 89, the mark that the student obtained (77.5) is scaled on the UEL range to obtain the percentage equivalent according to the UEL Bylaw (61.13).

Description	ASU-FCIS								UEL		
	CSY 465 Data Communications and Computer Networks				CSC 352 Operating Systems				AS5006 Computer Networks and Operating Systems		
	Practical	In-Class Test	Assignment	Final Exam	Practical	In-Class Test	Assignment	Final Exam	Practical	Assignment	Final Exam
Assessment weightage	20%	15%	15%	50%	20%	15%	15%	50%	20%	30%	50%
For example											
Marks by component (Full marks of 100) on ASU mark range	67	56	80	84	64	60	86	89			
Marks by Assessment weightage	13.4	8.4	12	42	12.8	9	12.9	44.5			
ASU-FCIS Assessment weightage category	ASU-FCIS total weightage	Marks by Assessment weightage category							UEL Assessment weightage category	UEL total weightage	Marks by Assessment weightage category
Practical	40%	26.2							Practical	20%	13.1
In-Class Test	30%	17.4							Assignment	30%	21.15
Assignment	30%	24.9							Final Exam	50%	43.25
Final Exam	100%	86.5								100%	77.5
	200%	155							% Equivalent at UEL = 61.13		

APPENDIX D: HEALTH AND SAFETY

- One of the principle roles of Ain Shams University administration is controlling dangers and risks. The University is aware that failures in health and safety administration can possibly prompt loss of life, injury, and damage to the University properties.
- According to the University, a fundamental standard of the Health and Safety policy is that it is in the hands of the individuals who cause the dangers and risks to manage and control them.
- The University appoints persons “capable to advice” to help with identifying, recognizing, and controlling health and security dangers and risks. They may work in any sector of the University.
- Each College of the University holds a responsibility regarding the management and use of its own health and security policies and strategies. Despite that, the University and Colleges are still obliged to coordinate on the mutual matters of health and security which affect the more extensive University community.
- Heads of the different Departments must set out their own organizational courses of action for the safety measures. In addition, they abide by the general University Health and Safety Policies and are responsible for their implementation and management in their own departments and domains of responsibility.
- Each Head of Department might set up a Departmental Safety Policy, which works hand in hand with this University Health and Safety Policy to satisfy the prerequisite Health and Safety at Work measures.
- Each Head of Department must guarantee that everybody who might be influenced by the activities of the Department, knows about the health and security policies and arrangements, and has sufficient knowledge, information, time, preparation and supervision authority to allow for the identification, recognition and control of the dangers and risks to health and security.
- The supervisor of any departmental activity (field trip, practical work, office work or teaching activities) must have a comprehensive understanding of the related dangers and risks and conduct the risk assessment suitable for the circumstances of the activity. This is to fulfil the requirements of the Health and Safety at Work Regulations and different measures which state that no work might be attempted unless reasonable and adequate risk assessment has been done to define a safe and secure system of work.
- All University staff members are expected to be fully aware of both the University and Department policies and know that they hold the responsibility of this aspect for all those under their supervision or management. This implies ensuring and promoting good working practices and environment. It also includes ensuring that practical and office work is done in safe spaces, equipment being maintained and checked in safe procedures, that the policies and strategies are being implemented and disseminated and that immediate reporting of any accidents or dangers takes place in order to take the necessary measures.

- The health and safety policy is also abiding to any private body or entity working inside the University premises. They must coordinate with the University on all matters related to health and safety management.

APPENDIX E: COURSE COMMITTEE (COLLABORATIVE)

Terms of Reference

To be responsible for assuring and enhancing the quality of the student experience at Course level by:

- Providing a forum in which students can express their views about the management of the Course, and the content, delivery and assessment of modules, or equivalent, in order to identify appropriate actions to be taken in response to the issues raised and to ensure that the implementation of these actions is tracked.
- Providing formal yearly student feedback on the Course as input into the preparation of the Course REP.
- Reviewing Course questionnaire results and making recommendations and changes arising from these.
- Receiving, considering, and approving the Course REP and identifying responsibilities for action to be taken before it is considered by School Learning and Teaching Quality Committee.
- Reviewing progress on REP action plans at each meeting.
- Reviewing the relevant documentation and other evidence prepared for Academic and collaborative Institutional Review and other external review processes.
- Reviewing proposals for modification of the Course structure (validated Courses only) and noting implementation arrangements for modifications.
- Advising the Course Leader on mechanisms by which University policy statements, which have an impact on Course design and delivery, are implemented.

MEMBERSHIP

Course Leader (Chair)

Administrator/Servicing Officer (ex-officio)

Course staff making a significant teaching contribution to the Course

Learning Support Services representative

Technician representative (for laboratory-based Courses)

Dean of School/department or equivalent (ex officio)

UEL Dean of School/Associate Dean of School, or equivalent (ex officio)

UEL link person (ex officio)

Two student representatives for each level and at least one part-time student (where appropriate)

The meeting will be held once per semester/term and will be quorate if 40% of the members are present.

