COURSE SPECIFICATION

Course Aim and Title	BSc (Hons) Digital Multimedia
Intermediate Awards Available	BSc, DipHE, CertHE, University Certificate
Teaching Institution(s)	Ain Shams University, Cairo, Egypt
Alternative Teaching Institutions (for local arrangements see final section of this specification)	N/A
UEL Academic School	Architecture, Computing and Engineering
UCAS Code	N/A
Professional Body Accreditation	N/A
Relevant QAA Benchmark Statements	Computing
Additional Versions of this Course	N/A
Date Specification Last Updated	July 2020

Course Aims and Learning Outcomes

This Course is designed to:

- Prepare developers and software engineers specialised in digital multimedia technology with awareness of key ethical issues affecting multimedia systems and their responsibilities as multimedia professionals.
- Produce qualified and well-educated graduates who are knowledgeable in computer systems, hardware and software, and who are able to put their theoretical knowledge into practice by producing large-scale multimedia systems and applications.
- Expose students to the various components of multimedia systems, and the appropriate tools and techniques to analyse, design, and construct multimedia information systems, such that they are capable to apply multimedia solutions to functional, inter-organizational, operational, managerial, and executive problems and opportunities.

What you will learn:

Knowledge

- Understand the current and underlying technologies that support computer processing and inter-computer communication.
- Show mastery of multimedia knowledge and skills and of the professional standards necessary to begin practice.
- Recognize the principles and techniques of a number of application areas informed by the research directions of multimedia.
- Show a critical understanding of the principles of artificial intelligence, virtual reality, image processing, computer vision and game programming.
- Understand fundamentals of video processing, audio processing, graphics, animation, interactive multimedia, databases, and network.
- Demonstrate basic knowledge and understanding of a core of analysis, algebra, applied mathematics, statistics, electronics, physics, and formal languages.
- Understand high-level programming languages.
- Know the tools, practices and methodologies used in the specification, design, implementation and critical evaluation of multimedia systems.
- Recognize the legal, ethical, and social responsibility of computer scientists.

Thinking skills

- Compare between different multimedia methods and techniques.
- Apply classifications of (data, results, methods, techniques. etc.).
- Analyse attributes, components, relationships, patterns, main ideas, and errors.
- Assess and evaluate the performance of multimedia systems.
- Identify criteria to measure and interpret the appropriateness of a computer system for its current deployment and future evolution.
- Identify the relevance of the professional, legal, moral and ethical issues relevant to the computing industry.
- Analyse problems from written descriptions and derive requirements specifications from an understanding of problems (analysis, synthesis).
- Select appropriate solutions for problems in software design and development.
- Analyse risks and economical aspects in the management of multimedia projects.
- Evaluate research papers to realize the research problems and practices behind computing and multimedia and model problems mathematically.

Subject-Based Practical skills

- Develop a range of fundamental research skills, through the use of online resources, technical repositories and library-based material.
- Use appropriate programming languages, tools, design methodologies, and database systems.
- Use appropriate programming languages for game programming.

- Apply the principles of effective Image processing, computer graphics, speech recognition and video technology.
- Deploy the equipment and tools used for the construction, maintenance and documentation of computer applications.
- Assess the implications, risks or safety aspects involved in the operation of computing equipment within a specific context.
- Apply quantitative analysis techniques appropriately and effectively.
- Use mathematics for solving problems and modelling solution.

Skills for life and work (general skills)

- Collaborate effectively within multidisciplinary team.
- Work in stressful environment and within constraints.
- Prepare technical reports to a professional standard.
- Lead and motivate individuals.
- Work both individually and as part of a team to develop and deliver quality software artefacts.
- 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 an appreciation of the need to continue professional development in recognition of the requirement for lifelong learning.
- Demonstrate critical thinking.
- Show analytical thinking and the ability to solve problems.

Learning and Teaching

Knowledge is developed through

- Guided reading
- Attending lectures / guest presentations
- Knowledge-based activities with feedback
- Online discussions and activities
- Preparation for examinations and timed controlled assignments

Thinking skills are developed through

- Reflective activities with feedback
- Tutorial activities and discussions
- Online discussions and activities
- Preparation of coursework assignments

Practical skills are developed through

- IT activities with feedback
- Research skills-based activities with feedback
- Seminar preparation and presentations

- Applying technical regulations to given scenarios
- Application to real life and simulated case studies

Skills for life and work (general skills) are developed through

- The demands of the study medium
- Planning activities with feedback
- Project and teamwork
- Using specialist ICT and software

Assessment

The assessment methods to achieve the different learning outcomes are as follows:

Knowledge is assessed by

- Project work
- Coursework
- Reports
- Examinations
- Individual oral presentations

Thinking skills are assessed by

- Project work
- Coursework
- Time-controlled assessments
- Individual oral presentations

Practical skills are assessed by

- Project work
- Practical reports
- Portfolio completion
- Timed controlled assessments

Skills for life and work (general skills) are assessed by

- Project work
- Group work
- Coursework

Students with disabilities and/or particular learning needs should discuss assessments with the course leader to ensure they are able to fully engage with all assessment within the course.

Work or Study Placements

We encourage full time students to seek work experience during their academic course, especially during the summer vacations period.

Course Structure

The Course follows the British system: One academic year covers 120 credits.

All Courses are credit-rated to help you to understand the amount and level of study that is needed.

One credit is equal to 10 hours of directed study time (this includes everything you do e.g. lecture, seminar and private study).
Credits are assigned to one of 5 levels:

3 Equivalent in standard to GCE 'A' level and is intended to prepare students for year one of an undergraduate degree Course.
4 Equivalent in standard to the first year of a full-time undergraduate degree Course.
5 Equivalent in standard to the second year of a full-time undergraduate degree Course.
6 Equivalent in standard to the third year of a full-time undergraduate degree Course.
7 Equivalent in standard to a Masters degree.

Course are made up of modules that are each credit weighted.

The module structure of this course:

Level	Module Code	Module Title	Credit Weighting	Core/Option	Available by Distance Learning? Y/N
4	AS4001	Fundamentals of Programming	20	Core	N
4	AS4002	Mathematics for Computer Scientists	20	Core	N

4	AS4071	Data Statistics and Representation	20	Core	N
4	AS4004	Mental Wealth: Professional Life 1 (Operations Research and Communication Skills)	20	Core	N
4	AS4072	Project Management and Economics	20	Core	N
4	AS4073	Introduction to Digital Multimedia	20	Core	N
5	AS5007	Mental Wealth: Professional Life 2 (Algorithms and Professional Ethics)	20	Core	N
5	AS5074	Software Engineering and Database Systems	20	Core	N
5	AS5006	Computer Networks and Operating Systems	20	Core	N
5	AS5075	Artificial Intelligence for Gaming	20	Core	N
5	AS5076	Computer Graphics and Visualization	20	Core	N
5	AS5077	Numerical Computing Methods and Computer Security	20	Core	N
6	AS6078	Virtual Reality and Real Time Systems	20	Core	N
6	AS6079	Digital Signal and Speech Processing	20	Core	N
6	AS6080	Fundamentals of Digital Image and Video Processing	20	Core	N
6	AS6081	Mobile Embedded Systems	20	Core	N

6	AS6020	Mental Wealth: Professional Life 3 (Project)	40	Core	N

Please note: Optional modules might not run every year, the course team will decide on an annual basis which options will be running, based on student demand and academic factors, in order to create the best learning experience.

Additional detail about the course module structure:

A core module for a course is a module which a student must have passed (i.e. been awarded credit) in order to achieve the relevant named award. An optional module for a course is a module selected from a range of modules available on the course.

The overall credit-rating of this course is 360 credits. If for some reason you are unable to achieve this credit you may be entitled to an intermediate award, the level of the award will depend on the amount of credit you have accumulated.

Course Specific Regulations

NA

Typical Duration

This is a full-time study course. The minimum allowed study duration is 3 Years / 6 terms.

Further Information

More information about this Course is available from:

- The ASU web site (http://cis.asu.edu.eg/)
- The course handbook
- Module study guides
- For further information, contact CHP-CIS via email: CHP@cis.asu.edu.eg

All faculty of Computer and Information Sciences, Ain Shams University courses are subject to thorough course approval procedures before we allow them to commence. We also constantly monitor, review and enhance our courses by listening to student and employer views and the views of external examiners and advisors.

Additional Costs:

Tuition Fees

- Tuition fees, set per 120 credits, are specified yearly by the university administration based on the recommendation of the course administration council and the approval of the council of the faculty of Computer and Information Sciences.
- The student will sign a pledge to abide by the educational service charges proposed by the faculty, and approved by the university, with the commitment of timely payment of fees from admission until graduation.
- The tuition fees are paid every year (the first semester of each year) based on 120 credits registered by the student,
- The educational service fees for the summer semester are determined separately.

Alternative Locations of Delivery

NA