



MSA University

Faculty of Computer Science

Programme Specifications

Handbook

2015-2016

Introduction to the Faculty of Computer Science at MSA	3
Dean’s Welcome	4
I- Programme Specification for Computer Science Pathway (CSP)	6
Four-Year Plan for Computer Science Programme	12
II- Programme Specification for Internet Computing Pathway (ICP)	14
Four-Year Plan for Internet Computing Programme	20
III- Programme Specification for Software Engineering Pathway (SEP)	22
Four-Year Plan for Software Engineering Programme	28
Faculty of Computer Science electives	30
Map for all compulsory and elective modules for Computer Science Programme	22
Rules and Regulations	25
Assessment and Progression	26
General Policies	29
Feedback from students	35
Misconduct Procedures	36
Exam Conduct regulations	38
Student Support & Career Opportunities and Placement.....	41

Introduction to October University for Modern Science and Arts

MSA has been established under Republican Decree No. 244 since 1996 to introduce state-of-the-art technologies and concepts in all disciplines. MSA is proud that its programmes were fully accredited by the Egyptian Supreme Council for Higher Education, before the graduation of its first class in Spring 2000.

MSA is an English Language instruction medium university. The current academic work of the University is divided into nine faculties, namely: Faculty of Management, Faculty of Engineering, Faculty of Computer Science, Faculty of Mass Communication, Faculty of Languages, Faculty of Bio Technology, Faculty of Dentistry, Faculty of Pharmacy, and Faculty of Arts and Design.

In the Faculty of Computer Science, we are keen to provide our students with all the up-to-date education and tools needed to cope with the Information and Communication Technology Era. That is why we are dedicated in the pursuit of excellence in curricula, facilities, staff and students. It is the main reason why our modern and progressive policy has been internationally acknowledged by universities in the UK and USA where we have several co-operation agreements with prominent universities. CS programmes are designed and implemented according to the most up-to-date international standards. All module outlines highlight the role of new and emerging technologies in meeting challenges posed by the Information and Communication Technology Era.

MSA aims to provide its students with an exceptional learning experience that will enable them to compete in the global highly competitive job market.

Introduction to the Faculty of Computer Science at MSA

It is expected that the wide spread of computers in Egypt would call for a new generation of computer specialists and professionals of outstanding level that can meet challenges of the 21st Century.

The main objective of Faculty of Computer Science at MSA is to provide distinguished programmes in computer science, internet computing and software engineering that satisfies the needs of the local market. Moreover, adopting international standards is a must in the ever-changing field of computers. A graduate needs to be in continuous contact with the international market and its fluctuations to promote his professional career by producing world-class software.

CS programme combines a strong theoretical background with hands-on practice. It provides the students with lifelong learning capabilities, the necessary skills to promote their intellectual growth and optimal benefit from academic modules. These skills include outstanding computer skills, team work, project management, project presentation techniques, and language proficiency, research skills through the Internet as well as data gathering and analysis. Students are trained to adequately use these skills in handling and solving problems.

The Faculty of Computer Science offers the degree of Bachelor of Science in Computer Science in the following three pathways (majors):

- BSc Honours Computer Science (Computer Science – CSP)
- BSc Honours Computer Science (Internet Computing - ICP)
- BSc Honours Computer Science (Software Engineering - SEP)

The degree is awarded upon successful completion of an approved programme comprising a minimum of 140 credit hours normally completed in four academic years (eight semesters). The following table shows a breakdown of the credit hours among subjects and modules:

Subject	Number Of Modules	Credit Hours
English Language	3	9
Mathematics	4	12
Physics	1	3
Humanities And Social Sciences	3	9
Computer Science, Internet Computing & Software Engineering	35	107
Total	46	140

Dean's Welcome

The Faculty of Computer Science seeks to prepare students for careers as computer specialists of the highest international standards, to enter careers in computer or software design, and for advanced study in computer science.

The Faculty of Computer Science has accredited undergraduate degree in computer science, including three pathways; computer science, internet computing and software engineering disciplines. The degree was evaluated and accredited by the Egyptian Supreme Council of Higher Education in 1998. Furthermore, Computer Science students can successfully join other universities in Europe and North America, to complete their undergraduate and postgraduate studies.

Our programme is designed to provide students with a combination of fundamental knowledge and lifelong learning skills that prepare graduates for a successful career in the computer science, software engineering and internet computing fields. At the same time, our curriculum provides students with the necessary practical skills to enable them to be productive from their first day on the job.

Graduates of the Faculty of Computer Science at MSA are specialized in several areas within the computing professions. Their expertise and skills are due to unlimited facilities, an up to date curriculum and a group of prominent faculty members.

Being in touch with international sites, through the Internet and computer usage, is an integrated part of the Computer Science programme. In addition, students receive extra attention as they are divided into small groups. Long contact hours and close supervision give students the chance to make the most of their faculty experience. Students are thus, provided with capabilities that prepare them for practical fields in computer science at an international professional level. The Faculty maintains close relationships with computer companies, which provide support to our programme. We aim to be a centre of excellence in computer science for our students, faculty, and local industry.

Graduates of the Faculty of Computer Science have found satisfying careers in leading computer companies and top governmental organizations. We welcome all students interested in an excellent education in Computer Science, of the highest international standards in a unique pleasant educational environment. We are dedicated in providing a high quality education for all our students.

The sections that follow provide information for the whole of our subject area and your specific programme of study.

Programme Specification

- I- Computer Science Pathway (CSP)**
- II- Internet Computing Pathway (ICP)**
- III- Software Engineering Pathway (SEP)**

I- Programme Specification for Computer Science Pathway (CSP)

1. Programme major title	Computer Science (CSP)
2. Awarding institution	October University for Modern Sciences and Arts
3. Teaching institution	October University for Modern Sciences and Arts
4. Programme accredited by	Egyptian Supreme Council of Universities
5. Final qualification	BSc Honours
6. Academic year	2015/2016
7. Language of study	English
8. Mode of study	Full Time

9. Criteria for admission to the programme

- The entry requirements are determined annually by The Supreme Council of Private Universities.

10. Aims of the Computer Science Pathway

- Provide state-of-the-art high quality education relevant to the local and international markets.
- Offer a unique undergraduate programme with several advanced specializations, complementing programmes of the national universities.
- Develop the knowledge, intellectual and practical skills necessary to equip students for a career in computing in industry, government or graduate study and research as:
 - Developers; designing and implementing software.
 - Enabler of technology; devising new ways to use computers.
 - Researchers; developing effective ways to solve computing problems.
 - IT Managers; planning and managing organizational technology infrastructure.
- Train students for lifelong learning to be able to follow the continuous progress in the computing field independently.
- Provide a versatile route through the computing field to allow students to acquire particular expertise in a wider range of computing subjects.
- The Computer Science pathway further distinguishes its graduate with

specialized knowledge and experience in development techniques for visual computing and intelligent systems.

11. Computer Science Pathway outcomes

A. Knowledge and understanding

On completion of this Pathway the successful student will have knowledge and understanding of:

1. The underlying theory, such as logic and mathematics, relevant to the field of computing and computer science.
2. The principles and technologies of software design and implementation using latest development environment in a way that demonstrates comprehension of the trade-offs involved in design choices.
3. The fundamental concepts, principles and theories of computer systems hardware, and communications.
4. The essential facts, concepts, principles, and theories relating to computer science and software applications.
5. The detailed theory, practices, and tools for specification, design, implementation, and maintenance as well as the evaluation of computer-based systems.
6. The social, professional, legal and ethical as well as cultural issues involved in the use of computer technology.
7. Advanced principles, and theories of emerging high demand fields such as visual computing, Intelligent systems, Games, and M/C Learning.

Teaching/learning methods

Students gain knowledge and understanding through:

Traditional lecture delivery, seminars, tutorials, laboratory work and both individual and team projects in module levels 100, 200, 300 and 400.

Acquisition of 1 is through a combination of lectures, seminars, and tutorials in levels 100, 200. Several higher-level modules also include the necessary underlying theory required for their subjects.

Acquisition of 2 - 4 is through a combination of lectures, tutorials, lab work and both individual and team projects in levels 100, 200, 300 and 400.

Acquisition of 5 - 7 is through a combination of lectures, seminars, tutorials and both individual and team work in levels 300 and 400.

Acquisition of 5 & 7 is further enhanced during the execution of the graduation project.

Acquisition of 7 is through a combination of lectures, seminars, tutorials, independent reading and case studies in levels 300.

Assessment Method

Students' knowledge and understanding is assessed as follows:

Assessment of 1 – 7 is through a

B. Cognitive (thinking) skills

On completion of this Pathway the successful student will be able to:

1. Specify, design, and implement computer-based systems.
2. Identify and recognize the requirements and constraints imposed by computer hardware and networking on the development of software systems.
3. Apply the principles and theories acquired to select and implement creative solutions (algorithms) for a computing problem.
4. Analyse the requirements of a wide range of computer-based systems and examine the design alternatives based on the constraints imposed by society, organisations, and technology.
5. Model information systems data and processes using up-to-date tools.
6. Take a rich, holistic approach (including technical and human factors) in solving problems, system design, and the application of professional judgement to balance risks, resources, reliability, and ethical / legal consequences.
7. Design and implement computer graphics programmes, games, client-server systems and concurrent systems.

combination of unseen written examinations, individual / group coursework, module-projects, final year graduation project, and practical computer exercises in levels 100 through 400.

Assessment of 4 and 5 is also assessed through the evaluation of the student ability to express concepts and ideas in open discussion seminars and module-projects, in levels 300 and 400.

Teaching/learning methods

Students learn cognitive skills through

Acquisition of 1 - 7 is progressively achieved through a combination of lectures, seminars, tutorials, practical laboratories and both individual and team projects throughout the span of the programme.

Design skills in 1 and 3 - 7 are further developed through module projects and graduation projects.

Programming and system building skills in 1 - 3 are further developed through Laboratory work, module projects and graduation projects.

Assessment Method

Students' cognitive skills are assessed by:

Analytical and problem solving skills in 1 to 7 are assessed through a combination of unseen written examination, class exam and homework assignments.

Practical, design and implementation skills in 1 and 3 - 7 are assessed through laboratory work, individual and group coursework, module-projects and final year graduation project in levels 200, 300 and 400.

C. Practical skills

On completion of the Pathway the successful student will be able to:

1. Build and test quality code; develop computer programmes and software artifacts from given specifications using industry standard programming languages.
2. Operate and manage computing infrastructure including equipment and software systems effectively.
3. Identify any risks including any safety or security aspects that may be involved in the operation of computing equipment within a given context.
4. Prepare system documentation such as requirement specifications, design and test documents, user, operation and administration manuals.
5. Apply the principles of human-computer interaction to the evaluation and construction of a wide range of materials including user interfaces, web pages, multimedia systems and mobile systems.
6. Demonstrate understanding of opportunities for software reuse through publicly available software (such as APIs or open source materials) and engage effectively in open-source projects.

D. Graduate Skills

On completion of this Pathway the successful student will be able to:

Teaching/learning methods

Students learn practical skills through

Acquisition of 1 and 2 is through a practical and hands-on work in laboratories and projects in levels 100 through 400.

Acquisition of 3 - 5 is through a combination of lab work, seminars, individual and group module-projects, and graduation project, in levels 300 through 400.

Acquisition of 6 is through a combination of lectures, seminars, laboratories, individual and group mini-projects and graduation project, in levels 300 and 400.

Assessment Method

Students' practical skills are assessed by:

Assessment of 1 to 6 is mainly through laboratory, module-projects and graduation project, individual and group coursework in levels 100 through 400.

Partial assessment of 3, 5, and 6 is also through essay and problem solving assignments, class exams, unseen written examination and assessed individual and group seminar in levels 300 and 400.

Teaching/learning methods

Students acquire graduate skills through:

Acquisition of 2, 7, is through a combination

1. Communicate effectively (in writing, verbally and through graphical notations).
2. Evaluate problems and situation and express judgement in logical and quantitative form, using appropriate scientific and mathematical tools (including algebra, logic, geometry, statistical analysis).
3. Work effectively both individually and as a member of a team.
4. Learn independently in a variety of situations with a spirit of critical enquiry, effectively managing resources, and time including for the purpose of continuing professional development.
5. Retrieve information from a variety of sources such as libraries, printed or electronic index and abstracts, books and journals, newsletters, catalogues, user manuals. Use electronic sources such as CD-ROM's and the Internet. Be able to cite and reference information sources appropriately for different audiences.
6. Demonstrate a broad range of information and communications technology skills.
7. Choose and formulate suitable strategies to accomplish well-defined goals.
8. Apply the learning and research methods learned in many fields in computer science and other disciplines.

of lectures, seminars and individual work in levels 100 through 400.

Acquisition of 1, 3 and 6 is taught formally in first level introductory module then is stressed in all work done for seminars, module-projects and graduation project in levels 100 through 400.

Acquisition of 4, 5 and 8 is through a combination of seminars, practical laboratories, module-projects and graduation project in levels 100 through 400.

Assessment method

Students' graduate skills are assessed by:

Assessment of 2, 7 and 8 is through a combination of unseen written examinations, individual/group coursework, and final year graduation project and presentations mini-projects in levels 100 through 400.

The use of communication technologies in 1, 6 is first assessed through essay and problem solving questions in unseen written examinations, individual/group coursework in level 100, then is assessed in coursework, mini-projects and graduation project throughout the programme.

Assessment of 3, 4, 5, and 8 is through implementation of individual/group coursework, module-projects and graduation project, in levels 100 through 400.

12. Computer Science Programme structure (levels, modules, credits and progression requirements)

12. 1 Overall structure of the programme

- The programme is a four years full-time programme.
- The programme is arranged normally in 8 x 14 week semesters (2 semesters per year).
- The degree is awarded upon successful completion of minimum 140 credit hours. The differences in the Computer Science pathway are in 7 advanced modules (21 credits), in addition to the Graduation Project modules (7 credits), in the final year. A student choosing this CSP pathway has to choose a project subject in the CSP pathway. 3 modules out of the 35 Computing modules are faculty electives, in addition to 2 other modules as CS electives. 2 out of the 3 Humanities and Social Sciences modules are also elective modules.

Four-Year Plan for Computer Science Programme GENERAL

First Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
MTH100	Calculus	3	None	3		1.5	4.5
ENG101x	English for Academic Purposes	3	None	3		1.5	4.5
CS100x	Introduction to Information Technology	3	None	3	1.5		4.5
CS101x	Fundamentals of Computing I	3	None	3	1.5		4.5
H/S Elective I	Humanities and Social Sciences	3	None	3		1.5	4.5
MTH103	Discrete Mathematics	3	None	3		1.5	4.5
		18		18	3	6	27
Second Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS102x	Fundamentals of Computing II	3	CS101x	3	1.5		4.5
ENG102x	English for Study Skills	3	ENG101x	3		1.5	4.5
MTH106	Linear Algebra	3	MTH100	3		1.5	4.5
PHY103x	Fundamentals of Electronics	3	None	3	1.5		4.5
H/S Elective II	Humanities and Social Sciences	3	ENG101x	3		1.5	4.5
		15		15	3	4.5	22.5
Third Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
ENG201x	English for Research Purposes	3	ENG102x	3		1.5	4.5
MTH204	Probability and Statistics	3	MTH100	3		1.5	4.5
CS213	Algorithms and Data Structures	3	CS102x	3	1.5		4.5
CS205	Principles of Information Systems	3	CS100x	3	1.5		4.5
CS203	Computer Organization	3	CS102x	3	1.5		4.5
CS283	Web Programming	3	CS102x	3	1.5		4.5
		18		18	6	3	27
Fourth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS217	Professional Computing Ethics	3	CS102x	3		1.5	4.5
CS232	Multimedia Programming	3	CS213	3	1.5		4.5
CS215	Fundamentals of Database Systems	3	CS205	3	1.5		4.5
CS216	Computer Networks	3	CS100x	3	1.5		4.5
CS214	Systems Analysis and Design	3	CS205	3	1.5		4.5
MGT200	Introductory Management	3	ENG101x	3		1.5	4.5
		18		18	6	3	27

Computer Science Pathway

Fifth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS351	Operating Systems Concepts	3	CS213	3		1.5	4.5
CS334	Programming Concepts and Compiler Design	3	CS213	3		1.5	4.5
CS314	Object-Oriented Software Engineering	3	CS214	3	1.5		4.5
CS313	Data Storage and Retrieval	3	CS215	3	1.5		4.5
CS316	Artificial Intelligence	3	CS102	3		1.5	4.5
FAC I	Faculty Elective I	3		3		1.5	4.5
		18		18	3	6	27
Sixth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS326	Mobile Computing	3	CS216	3	1.5		4.5
CS381	Computer Graphics	3	CS232	3	1.5		4.5
CS352	Advanced Operating Systems	3	CS351	3		1.5	4.5
CS364	Cloud Computing	3	CS351	3	1.5		4.5
CS Elect I	Selected Topics in Computer Science I	3		3		1.5	4.5
FAC II	Faculty Elective II	3		3	1.5		4.5
		18		18	6	3	27
Seventh Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS403	Advanced Algorithms	3	CS213	3	1.5		4.5
CS486	Image Processing	3	MTH106	3	1.5		4.5
CS427	Advanced Graphics and Visualisation	3	CS381	3	1.5		4.5
CS Elect II	Selected Topics in Computer Science II	3		3	1.5		4.5
FAC III	Faculty Elective III	3		3	1.5		4.5
CS405x	Graduation Project I	3	Senior Standing		2	1	3
		18		15	9.5	1	25.5
Eighth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS301	Industrial Training	1	CS102		3		3
CS411	Theory of Computing	3	CS334	3	1.5		4.5
CS475	Data Mining	3	MTH204	3	1.5		4.5
CS401	Computer Security	3	CS351	3	1.5		4.5
CS484	Human Computer Interaction	3	CS314	3	1.5		4.5
CS406	Graduation Project II	4	CS405x		5	1	6
		17		12	14	1	27

II- Programme Specification for Internet Computing Pathway (ICP)

1. Programme title	Internet Computing
2. Awarding institution	October University for Modern Sciences and Arts
3. Teaching institution	October University for Modern Sciences and Arts
4. Programme accredited by	Egyptian Supreme Council of Universities
5. Final qualification	BSc Honours
6. Academic year	2015/2016
7. Language of study	English
8. Mode of study	Full Time

9. Criteria for admission to the programme

- The entry requirements are determined annually by The Supreme Council of Private Universities.

10. Aims of the Internet Computing Pathway

- Provide state-of-the-art high quality education relevant to the local and international markets.
- Offer a unique undergraduate programme with several advanced specializations, complementing programmes of the national universities.
- Develop the knowledge, intellectual and practical skills necessary to equip students for a career in computing in industry, government or graduate study and research as:
Developers; designing and implementing web software.
Enabler of technology; devising new ways to use computers.
Researchers; developing effective ways to solve Internet computing problems.
IT Managers; planning and managing organizational technology infrastructure.
- Train students for lifelong learning to be able to follow the continuous progress in the Computing and web fields independently.
- Provide a versatile route through the computing field to allow students to acquire particular expertise in a wider range of computing subjects.
- The Internet Computing pathway further distinguishes its graduate with thorough knowledge and experience in the emerging fields of net-centric computing.

11. Internet Computing Pathway outcomes

A. Knowledge and understanding

On completion of this programme the successful student will have knowledge and understanding of:

1. The underlying theory, such as logic and mathematics, relevant to the field of computing and computer science.
2. The principles and technologies of software design and implementation using latest development environment in a way that demonstrates comprehension of the trade-offs involved in design choices.
3. The fundamental concepts, principles and theories of computer systems hardware, and communications.
4. The essential facts, concepts, principles, and theories relating to computer science and software applications.
5. The detailed theory, practices, and tools for specification, design, implementation, and maintenance as well as the evaluation of computer-based systems.
6. The social, professional, legal and ethical as well as cultural issues involved in the use of computer technology.
7. The concepts, principles, and theories to engineer advanced Web applications such as: n-tier applications, semantic web

Teaching/learning methods

Students gain knowledge and understanding through:

Traditional lecture delivery, seminars, tutorials, laboratory work and both individual and team projects in module levels 100, 200, 300 and 400.

Acquisition of 1 is through a combination of lectures, seminars, and tutorials in levels 100, 200. Several higher-level modules also include the necessary underlying theory required for their subjects.

Acquisition of 2 - 4 is through a combination of lectures, tutorials, lab work and both individual and team projects in levels 100, 200, 300 and 400.

Acquisition of 5 - 7 is through a combination of lectures, seminars, tutorials and both individual and team work in levels 300 and 400.

Acquisition of 5, 7 & 8 is further enhanced during the execution of the graduation project.

Acquisition of 7 & 8 is through a combination of lectures, seminars, tutorials, independent reading and case studies in levels 300.

Assessment Method

Students' knowledge and understanding is assessed as follows:

Assessment of 1 – 8 is through a combination of unseen written

applications and service-oriented applications.

examinations, individual / group coursework, module-projects, final year graduation project, and practical computer exercises in levels 100 through 400.

Assessment of 4 and 5 is also assessed through the evaluation of the student ability to express concepts and ideas in open discussion seminars and module-projects, in levels 300 and 400.

B. Cognitive (thinking) skills

On completion of this programme the successful student will be able to:

1. Specify, design, and implement computer-based systems.
2. Identify and recognize the requirements and constraints imposed by computer hardware and networking on the development of software systems.
3. Apply the principles and theories acquired to select and implement creative solutions (algorithms) for a computing problem.
4. Analyse the requirements of a wide range of computer-based systems and examine the design alternatives based on the constraints imposed by society, organisations, and technology.
5. Model information systems data and processes using up-to-date tools.
6. Take a rich, holistic approach (including technical and human factors) in solving problems, system design, and the application of professional judgement to balance risks, resources, reliability, and ethical / legal consequences.
7. Design and implement advanced web applications and service oriented applications systems.

Teaching/learning methods

Students learn cognitive skills through

Acquisition of 1 - 7 is progressively achieved through a combination of lectures, seminars, tutorials, practical laboratories and both individual and team projects throughout the span of the programme.

Design skills in 1 and 3 - 7 are further developed through module projects and graduation projects.

Programming and system building skills in 1 - 3 are further developed through Laboratory work, module projects and graduation projects.

Assessment Method

Students' cognitive skills are assessed by:

Analytical and problem solving skills in 1 to 7 are assessed through a combination of unseen written examination, class exam and homework assignments.

Practical, design and implementation skills in 1 and 3 - 7 are assessed through laboratory work, individual and group coursework, module-projects and final year graduation project in levels 200, 300 and 400.

C. Practical skills

On completion of the programme the successful student will be able to:

1. Build and test quality code; develop computer programmes and software artifacts from given specifications using industry standard programming languages.
2. Operate and manage computing infrastructure including equipment and software systems effectively.
3. Identify any risks including any safety or security aspects that may be involved in the operation of computing equipment within a given context.
4. Prepare system documentation such as requirement specifications, design and test documents, user, operation and administration manuals.
5. Apply the principles of human-computer interaction to the evaluation and construction of a wide range of materials including user interfaces, web pages, multimedia systems and mobile systems.
6. Demonstrate understanding of opportunities for software reuse through publicly available software (such as APIs or open source materials) and engage effectively in open-source projects. Deploy and manage enterprise and distributed internet systems.

D. Graduate Skills

On completion of this programme the successful student will be able to:

1. Communicate effectively (in writing, verbally and through graphical notations).

Teaching/learning methods

Students learn practical skills through

Acquisition of 1 and 2 is through a practical and hands-on work in laboratories and projects in levels 100 through 400.

Acquisition of 3 - 5 is through a combination of lab work, seminars, individual and group module-projects, and graduation project, in levels 300 through 400.

Acquisition of 6 is through a combination of lectures, seminars, laboratories, individual and group mini-projects and graduation project, in levels 300 and 400.

Assessment Method

Students' practical skills are assessed by:

Assessment of 1 to 6 is mainly through laboratory, module-projects and graduation project, individual and group coursework in levels 100 through 400.

Partial assessment of 3, 5, and 6 is also through essay and problem solving assignments, class exams, unseen written examination and assessed individual and group seminar in levels 300 and 400.

Teaching/learning methods

Students acquire graduate skills through:

Acquisition of 2, 7, is through a combination of lectures, seminars and individual work in levels 100 through 400.

2. Evaluate problems and situation and express judgement in logical and quantitative form, using appropriate scientific and mathematical tools (including algebra, logic, geometry, statistical analysis).
3. Work effectively both individually and as a member of a team.
4. Learn independently in a variety of situations with a spirit of critical enquiry, effectively managing resources, and time including for the purpose of continuing professional development.
5. Retrieve information from a variety of sources such as libraries, printed or electronic index and abstracts, books and journals, newsletters, catalogues, user manuals. Use electronic sources such as CD-ROM's and the Internet. Be able to cite and reference information sources appropriately for different audiences.
6. Demonstrate a broad range of information and communications technology skills.
7. Choose and formulate suitable strategies to accomplish well-defined goals.
8. Apply the learning and research methods learned in many fields in computer science and other disciplines.

Acquisition of 1, 3 and 6 is taught formally in first level introductory module then is stressed in all work done for seminars, module-projects and graduation project in levels 100 through 400.

Acquisition of 4, 5 and 8 is through a combination of seminars, practical laboratories, module-projects and graduation project in levels 100 through 400.

Assessment method

Students' graduate skills are assessed by:

Assessment of 2, 7 and 8 is through a combination of unseen written examinations, individual/group coursework, and final year graduation project and presentations mini-projects in levels 100 through 400.

The use of communication technologies in 1, 6 is first assessed through essay and problem solving questions in unseen written examinations, individual/group coursework in level 100, then is assessed in coursework, mini-projects and graduation project throughout the programme.

Assessment of 3, 4, 5 & 8 is through implementation of individual/group course work, module-projects and graduation project, in levels 100 through 400.

12. Internet Computing Programme structure (levels, modules, credits and progression requirements)

12. 1 Overall structure of the programme

- The programme is a four years full-time programme.
- The programme is arranged normally in 8 x 14 week semesters (2 semesters per year).
- The degree is awarded upon successful completion of minimum 140 credit hours. The differences in the Internet Computing pathway are in 7 advanced modules (21 credits), in addition to the Graduation Project modules (7 credits), in the final year. A student choosing a ICP pathway has to choose a project subject in the same pathway. 3 modules out of the 35 Computing modules are faculty electives, in addition to 2 other modules as CS electives. 2 out of the 3 Humanities and Social Sciences modules are also elective modules.

Four-Year Plan for Internet Computing Programme GENERAL

First Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
MTH100	Calculus	3	None	3		1.5	4.5
ENG101x	English for Academic Purposes	3	None	3		1.5	4.5
CS100x	Introduction to Information Technology	3	None	3	1.5		4.5
CS101x	Fundamentals of Computing I	3	None	3	1.5		4.5
H/S Elective I	Humanities and Social Sciences	3	None	3		1.5	4.5
MTH103	Discrete Mathematics	3	None	3		1.5	4.5
		18		18	3	6	27
Second Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS102x	Fundamentals of Computing II	3	CS101x	3	1.5		4.5
ENG102x	English for Study Skills	3	ENG101x	3		1.5	4.5
MTH106	Linear Algebra	3	MTH100	3		1.5	4.5
PHY103x	Fundamentals of Electronics	3	None	3	1.5		4.5
H/S Elective II	Humanities and Social Sciences	3	ENG101x	3		1.5	4.5
		15		15	3	4.5	22.5
Third Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
ENG201x	English for Research Purposes	3	ENG102x	3		1.5	4.5
MTH204	Probability and Statistics	3	MTH100	3		1.5	4.5
CS213	Algorithms and Data Structures	3	CS102x	3	1.5		4.5
CS205	Principles of Information Systems	3	CS100x	3	1.5		4.5
CS203	Computer Organization	3	CS102x	3	1.5		4.5
CS283	Web Programming	3	CS102x	3	1.5		4.5
		18		18	6	3	27
Fourth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS217	Professional Computing Ethics	3	CS102x	3		1.5	4.5
CS232	Multimedia Programming	3	CS213	3	1.5		4.5
CS215	Fundamentals of Database Systems	3	CS205	3	1.5		4.5
CS216	Computer Networks	3	CS100x	3	1.5		4.5
CS214	Systems Analysis and Design	3	CS205	3	1.5		4.5
MGT200	Introductory Management	3	ENG101x	3		1.5	4.5
		18		18	6	3	27

Internet Computing Pathway

Fifth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS351	Operating Systems Concepts	3	CS213	3		1.5	4.5
CS334	Programming Concepts and Compiler Design	3	CS213	3		1.5	4.5
CS314	Object-Oriented Software Engineering	3	CS214	3	1.5		4.5
CS313	Data Storage and Retrieval	3	CS215	3	1.5		4.5
CS316	Artificial Intelligence	3	CS102	3		1.5	4.5
FAC I	Faculty Elective I	3		3		1.5	4.5
		18		18	3	6	27
Sixth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS382	Web Content Management System	3	CS215	3	1.5		4.5
CS385	Web Engineering	3	CS334	3	1.5		4.5
CS384	Advanced Web Programming	3	CS283	3	1.5		4.5
CS364	Cloud Computing	3	CS351	3	1.5		4.5
CS Elect I	Selected Topics in Computer Science I	3		3		1.5	4.5
FAC II	Faculty Elective II	3		3	1.5		4.5
		18		18	7.5	1.5	27
Seventh Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS425	Service-Oriented Computing	3	CS384	3	1.5		4.5
CS476	Web Database Application	3	CS385	3	1.5		4.5
CS465	Software Project Management	3	CS314	3	1.5		4.5
CS Elect II	Selected Topics in Computer Science II	3		3	1.5		4.5
FAC III	Faculty Elective III	3		3	1.5		4.5
CS405x	Graduation Project I	3	Senior Standing		2	1	3
		18		15	9.5	1	25.5
Eighth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS301	Industrial Training	1	CS102		3		3
CS489	Semantic Web Programming	3	CS385	3	1.5		4.5
CS475	Data Mining	3	MTH204	3	1.5		4.5
CS401	Computer Security	3	CS351	3	1.5		4.5
CS484	Human Computer Interaction	3	CS314	3	1.5		4.5
CS406	Graduation Project II	4	CS405x		5	1	6
		17		12	14	1	27

III- Programme Specification for Software Engineering Pathway (SEP)

1. Programme title	Software Engineering
2. Awarding institution	October University for Modern Sciences and Arts
3. Teaching institution	October University for Modern Sciences and Arts
4. Programme accredited by	Egyptian Supreme Council of Universities
5. Final qualification	BSc Honours
6. Academic year	2015/2016
7. Language of study	English
8. Mode of study	Full Time

9. Criteria for admission to the programme

- The entry requirements are determined annually by The Supreme Council of Private Universities.

10. Aims of the Software Engineering Pathway

- Provide state-of-the-art high quality education relevant to the local and international markets.
- Offer a unique undergraduate programme with several advanced specializations, complementing programmes of the national universities.
- Develop the knowledge, intellectual and practical skills necessary to equip students for a career in computing in industry, government or graduate study and research as:
Developers; designing and implementing, and engineering software systems.
Enabler of technology; devising new ways to use computers.
Researchers; developing effective ways to solve computing and software problems.
IT Managers; planning and managing organizational technology infrastructure.
- Train students for lifelong learning to be able to follow independently the continuous progress in the computing and software engineering fields.
- Provide a versatile route through the computing field to allow students to acquire particular expertise in a wider range of computing subjects.
- The Software Engineering pathway further distinguishes its graduate with thorough knowledge and experiences in the processes and methodologies for producing quality software products.

11. Software Engineering Pathway outcomes

A. Knowledge and understanding

On completion of this programme the successful student will have knowledge and understanding of:

1. The underlying theory, such as logic and mathematics, relevant to the field of computing and computer science.
2. The principles and technologies of software design and implementation using latest development environment in a way that demonstrates comprehension of the trade-offs involved in design choices.
3. The fundamental concepts, principles and theories of computer systems hardware, and communications.
4. The essential facts, concepts, principles, and theories relating to computer science and software applications.
5. The detailed theory, practices, and tools for specification, design, implementation, and maintenance as well as the evaluation of computer-based systems.
6. The social, professional, legal and ethical as well as cultural issues involved in the use of computer technology.
7. The detailed theory, practices, and tools for software project management including quality and risk management, change management and people management. The principles and practices of building advanced

Teaching/learning methods

Students gain knowledge and understanding through:

Traditional lecture delivery, seminars, tutorials, laboratory work and both individual and team projects in module levels 100, 200, 300 and 400.

Acquisition of 1 is through a combination of lectures, seminars, and tutorials in levels 100, 200. Several higher-level modules also include the necessary underlying theory required for their subjects.

Acquisition of 2 - 4 is through a combination of lectures, tutorials, lab work and both individual and team projects in levels 100, 200, 300 and 400.

Acquisition of 5 - 7 is through a combination of lectures, seminars, tutorials and both individual and team work in levels 300 and 400.

Acquisition of 5, 7 is further enhanced during the execution of the graduation project.

Acquisition of 7 is through a combination of lectures, seminars, tutorials, independent reading and case studies in levels 300.

Assessment Method

Students' knowledge and understanding is assessed as follows:

Assessment of 1 – 7 is through a combination of unseen written examinations, individual / group

application systems.

B. Cognitive (thinking) skills

On completion of this programme the successful student will be able to:

1. Specify, design, and implement computer-based systems.
2. Identify and recognize the requirements and constraints imposed by computer hardware and networking on the development of software systems.
3. Apply the principles and theories acquired to select and implement creative solutions (algorithms) for a computing problem.
4. Analyse the requirements of a wide range of computer-based systems and examine the design alternatives based on the constraints imposed by society, organisations, and technology.
5. Model information systems data and processes using up-to-date tools.
6. Take a rich, holistic approach (including technical and human factors) in solving problems, system design, and the application of professional judgement to balance risks, resources, reliability, and ethical / legal consequences.
7. Design and implement advanced database applications, component-based systems, and client-server

coursework, module-projects, final year graduation project, and practical computer exercises in levels 100 through 400.

Assessment of 4 and 5 is also assessed through the evaluation of the student ability to express concepts and ideas in open discussion seminars and module-projects, in levels 300 and 400.

Teaching/learning methods

Students learn cognitive skills through

Acquisition of 1 - 7 is progressively achieved through a combination of lectures, seminars, tutorials, practical laboratories and both individual and team projects throughout the span of the programme.

Design skills in 1 and 3 - 7 are further developed through module projects and graduation projects.

Programming and system building skills in 1 - 3 are further developed through Laboratory work, module projects and graduation projects.

Assessment Method

Students' cognitive skills are assessed by:

Analytical and problem solving skills in 1 to 7 are assessed through a combination of unseen written examination, class exam and homework assignments.

Practical, design and implementation skills in 1 and 3 - 7 are assessed through laboratory work, individual and group coursework, module-projects and final year graduation project in levels 200, 300 and 400.

systems. Apply advanced software project management techniques to quality, risk and people management.

C. Practical skills

On completion of the programme the successful student will be able to:

1. Build and test quality code; develop computer programmes and software artifacts from given specifications using industry standard programming languages.
2. Operate and manage computing infrastructure including equipment and software systems effectively.
3. Identify any risks including any safety or security aspects that may be involved in the operation of computing equipment within a given context.
4. Prepare system documentation such as requirement specifications, design and test documents, user, operation and administration manuals.
5. Apply the principles of human-computer interaction to the evaluation and construction of a wide range of materials including user interfaces, web pages, multimedia systems and mobile systems.
6. Demonstrate understanding of opportunities for software reuse through publicly available software (such as APIs or open source materials) and engage effectively in open-source projects. Effectively manage large software projects.

Teaching/learning methods

Students learn practical skills through

Acquisition of 1 and 2 is through a practical and hands-on work in laboratories and projects in levels 100 through 400.

Acquisition of 3 - 5 is through a combination of lab work, seminars, individual and group module-projects, and graduation project, in levels 300 through 400.

Acquisition of 6 is through a combination of lectures, seminars, laboratories, individual and group mini-projects and graduation project, in levels 300 and 400.

Assessment Method

Students' practical skills are assessed by:

Assessment of 1 to 6 is mainly through laboratory, module-projects and graduation project, individual and group coursework in levels 100 through 400.

Partial assessment of 3, 5, and 6 is also through essay and problem solving assignments, class exams, unseen written examination and assessed individual and group seminar in levels 300 and 400.

D. Graduate Skills

On completion of this programme the successful student will be able to:

1. Communicate effectively (in writing, verbally and through graphical notations).
2. Evaluate problems and situation and express judgement in logical and quantitative form, using appropriate scientific and mathematical tools (including algebra, logic, geometry, statistical analysis).
3. Work effectively both individually and as a member of a team.
4. Learn independently in a variety of situations with a spirit of critical enquiry, effectively managing resources, and time including for the purpose of continuing professional development.
5. Retrieve information from a variety of sources such as libraries, printed or electronic index and abstracts, books and journals, newsletters, catalogues, user manuals. Use electronic sources such as CD-ROM's and the Internet. Be able to cite and reference information sources appropriately for different audiences.
6. Demonstrate a broad range of information and communications technology skills.
7. Choose and formulate suitable strategies to accomplish well-defined goals.
8. Apply the learning and research methods learned in many fields in computer science and other disciplines.

Teaching/learning methods

Students acquire graduate skills through:

Acquisition of 2, 7, is through a combination of lectures, seminars and individual work in levels 100 through 400.

Acquisition of 1, 3 and 6 is taught formally in first level introductory module then is stressed in all work done for seminars, module-projects and graduation project in levels 100 through 400.

Acquisition of 4, 5 and 8 is through a combination of seminars, practical laboratories, module-projects and graduation project in levels 100 through 400.

Assessment method

Students' graduate skills are assessed by:

Assessment of 2, 7 and 8 is through a combination of unseen written examinations, individual/group coursework, and final year graduation project and presentations mini-projects in levels 100 through 400.

The use of communication technologies in 1, 6 is first assessed through essay and problem solving questions in unseen written examinations, individual/group coursework in level 100, then is assessed in coursework, mini-projects and graduation project throughout the programme.

Assessment of 3, 4, 5, and 8 is through implementation of individual/group course work, module-projects and graduation project, in levels 100 through 400.

12. Software Engineering Programme structure (levels, modules, credits and progression requirements)

12. 1 Overall structure of the programme

- The programme is a four years full-time programme.
- The programme is arranged normally in 8 x 14 week semesters (2 semesters per year).
- The degree is awarded upon successful completion of minimum 140 credit hours. The differences Software Engineering pathway are in 7 advanced modules (21 credits), in addition to the Graduation Project modules (7 credits), in the final year. A student choosing a SEP has to choose a project subject in the same pathway. 3 modules out of the 35 Computing modules are faculty electives, in addition to 2 other modules as CS electives. 2 out of the 3 Humanities and Social Sciences modules are also elective modules.

Four-Year Plan for Software Engineering Programme GENERAL

First Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
MTH100	Calculus	3	None	3		1.5	4.5
ENG101x	English for Academic Purposes	3	None	3		1.5	4.5
CS100x	Introduction to Information Technology	3	None	3	1.5		4.5
CS101x	Fundamentals of Computing I	3	None	3	1.5		4.5
H/S Elective I	Humanities and Social Sciences	3	None	3		1.5	4.5
MTH103	Discrete Mathematics	3	None	3		1.5	4.5
		18		18	3	6	27
Second Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS102x	Fundamentals of Computing II	3	CS101x	3	1.5		4.5
ENG102x	English for Study Skills	3	ENG101x	3		1.5	4.5
MTH106	Linear Algebra	3	MTH100	3		1.5	4.5
PHY103x	Fundamentals of Electronics	3	None	3	1.5		4.5
H/S Elective II	Humanities and Social Sciences	3	ENG101x	3		1.5	4.5
		15		15	3	4.5	22.5
Third Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
ENG201x	English for Research Purposes	3	ENG102x	3		1.5	4.5
MTH204	Probability and Statistics	3	MTH100	3		1.5	4.5
CS213	Algorithms and Data Structures	3	CS102x	3	1.5		4.5
CS205	Principles of Information Systems	3	CS100x	3	1.5		4.5
CS203	Computer Organization	3	CS102x	3	1.5		4.5
CS283	Web Programming	3	CS102x	3	1.5		4.5
		18		18	6	3	27
Fourth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS217	Professional Computing Ethics	3	CS102x	3		1.5	4.5
CS232	Multimedia Programming	3	CS213	3	1.5		4.5
CS215	Fundamentals of Database Systems	3	CS205	3	1.5		4.5
CS216	Computer Networks	3	CS100x	3	1.5		4.5
CS214	Systems Analysis and Design	3	CS205	3	1.5		4.5
MGT200	Introductory Management	3	ENG101x	3		1.5	4.5
		18		18	6	3	27

Software Engineering Pathway

Fifth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS351	Operating Systems Concepts	3	CS213	3		1.5	4.5
CS334	Programming Concepts and Compiler Design	3	CS213	3		1.5	4.5
CS314	Object-Oriented Software Engineering	3	CS214	3	1.5		4.5
CS313	Data Storage and Retrieval	3	CS215	3	1.5		4.5
CS316	Artificial Intelligence	3	CS102	3		1.5	4.5
FAC I	Faculty Elective I	3		3		1.5	4.5
		18		18	3	6	27
Sixth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS347	Software Requirements and Specifications	3	CS214	3	1.5		4.5
CS344	Component-Based Computing	3	CS314	3	1.5		4.5
CS384	Advanced Web Programming	3	CS283	3	1.5		4.5
CS364	Cloud Computing	3	CS351	3	1.5		4.5
CS Elect I	Selected Topics in Computer Science I	3		3		1.5	4.5
FAC II	Faculty Elective II	3		3	1.5		4.5
		18		18	7.5	1.5	27
Seventh Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS425	Service-Oriented Computing	3	CS384	3	1.5		4.5
CS442	Software Construction Quality	3	CS347	3	1.5		4.5
CS465	Software Project Management	3	CS314	3	1.5		4.5
CS Elect II	Selected Topics in Computer Science II	3		3	1.5		4.5
FAC III	Faculty Elective III	3		3	1.5		4.5
CS405x	Graduation Project I	3	Senior Standing		2	1	3
		18		15	9.5	1	25.5
Eighth Semester		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS301	Industrial Training	1	CS102		3		3
CS458	Software Implementation	3	CS314	3	1.5		4.5
CS475	Data Mining	3	MTH204	3	1.5		4.5
CS401	Computer Security	3	CS351	3	1.5		4.5
CS484	Human Computer Interaction	3	CS314	3	1.5		4.5
CS406	Graduation Project II	4	CS405x		5	1	6
		17		12	14	1	27

Faculty of Computer Science electives

Overall Elective Modules

CS Elective Modules in Computer Science		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS472	Advanced Database Systems	3	CS215	3	1.5		4.5
CS488	Robotic Interfacing	3	CS203	3	1.5		4.5
CS384	Advanced Web Programming	3	CS283	3	1.5		4.5
CS423	Parallel and distributed Systems	3	CS352	3	1.5		4.5
CS393	Operations Research	3	MTH106	3	1.5		4.5
CS485	Pattern Recognition	3	CS361	3	1.5		4.5
CS353	Systems Programming	3	CS102	3	1.5		4.5
CS391	Modelling and Simulation	3	MTH204	3	1.5		4.5

Faculty Electives: 3 out of one topics list

Faculty Electives (List 1)		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS372	Information Integration and Data Warehousing	3	CS215	3	1.5		4.5
CS373	Geographical Information Systems	3	CS215	3	1.5		4.5
CS466	Decision Support and Intelligent Systems	3	CS372	3	1.5		4.5
CS455	Big Data and Analytics	3	CS215	3	1.5		4.5
CS490	New Topic in Data Engineering	3	CS314	3	1.5		4.5
Faculty Electives (List 2)		C. H.	Pre-requisites	Weekly Contact Hours			
				Lecture	Lab	Tutorial	Total
CS361	Signal Processing	3	MTH103	3	1.5		4.5
CS362	Knowledge Representation & Reasoning	3	CS316	3	1.5		4.5
CS477	Machine Learning	3	CS361	3	1.5		4.5
CS 444	Embedded Systems	3	CS102	3	1.5		4.5
CS491	New Topic in Computer Science	3	CS351	3	1.5		4.5

Map for all compulsory and elective modules for Computer Science Programme

The following matrix maps the Computer Science programme learning outcomes with the module learning outcomes for the three Computer Science pathways. This is also specified in the module description for each module.

Level	Module	Code	Knowledge and Understanding							Cognitive Skills							Practical Skills						Graduate Skills							
			A 1	A 2	A 3	A 4	A 5	A 6	A 7	B 1	B 2	B 3	B 4	B 5	B 6	B 7	C 1	C 2	C 3	C 4	C 5	C 6	D 1	D 2	D 3	D 4	D 5	D 6	D 7	D 8
1	Introduction to Information Technology	CS100x	√	√	√	√		√				√	√	√				√	√	√				√	√	√	√		√	
	Fundamentals of Computing I	CS101x		√	√							√	√	√		√	√	√	√	√		√	√						√	
	Fundamentals of Computing II	CS102x									√	√	√		√	√	√	√	√	√		√		√	√	√		√	√	
2	Computer Organization	CS203	√	√	√	√	√				√							√								√		√		
	Principal of Information Systems	CS205		√		√	√				√		√	√	√			√		√			√	√		√		√		
	Algorithms and Data Structures	CS213				√	√				√	√			√	√	√	√	√	√		√		√	√	√		√		
	Systems Analysis and Design	CS214			√	√	√		√		√	√	√			√	√	√	√	√			√					√		
	Fundamentals of Database Systems	CS215	√		√	√			√	√	√	√	√	√	√	√			√	√	√	√	√	√		√	√	√		
	Computer Networks	CS216			√	√	√		√		√		√	√	√			√	√	√		√				√	√	√		
	Professional Computing Ethics	CS217	√	√		√		√					√			√			√	√			√	√				√		
	Multimedia Programming	CS232				√	√			√			√		√	√	√	√			√		√		√		√	√		
3	Web Programming I	CS283							√		√			√	√	√	√	√			√	√	√	√	√	√	√	√		
	Industrial Training	CS301	√	√		√		√		√		√		√	√	√	√	√	√			√		√	√	√	√	√		
	Data Storage and Retrieval	CS313	√	√		√	√					√		√	√			√		√		√		√	√		√	√		
	Object-Oriented Software Engineering	CS314	√	√	√	√					√	√	√			√	√			√	√		√			√		√		
	Artificial intelligence	CS316	√	√		√			√		√	√	√				√							√	√			√		
	Mobile Computing	CS326	√	√	√	√						√	√		√	√	√		√			√		√		√	√			
	Programming Concepts and Compiler Design	CS334	√		√	√	√		√		√	√	√			√		√	√			√		√			√			
	Component Based Computing	CS344	√	√			√	√	√			√	√	√		√	√	√		√	√						√	√		
	Software Requirements and Specifications	CS347	√	√			√		√			√	√	√			√	√	√	√		√		√			√	√		
	Operating Systems Concepts	CS351		√	√		√			√		√	√					√	√	√	√	√			√		√	√		
	Advanced Operating Systems	CS352		√	√		√			√	√		√			√		√	√	√	√	√			√		√	√		
	Systems Programming (Elective)	CS353		√	√				√			√				√	√	√			√				√	√				
	Signal Processing (Fac. Elective)	CS361		√		√					√			√	√			√	√	√	√	√			√		√	√		
	Knowledge Representation & Reasoning (Fac. Elective)	CS362	√	√	√				√			√	√			√		√				√	√		√			√		
	Cloud Computing	CS364	√	√	√		√	√	√			√	√	√	√		√	√	√		√	√	√	√	√	√	√			
Information Integration and DW (Fac. Elective)	CS372		√	√	√	√	√	√	√			√	√	√	√		√		√	√	√	√	√	√	√	√	√			
Geographical Information Systems (Fac. Elective)	CS373	√	√			√		√			√			√	√	√	√	√	√	√	√	√	√	√	√	√	√			
Computer Graphics	CS381	√	√	√				√	√	√			√	√	√	√	√	√	√	√	√	√	√	√	√	√	√			
Web content Management	CS382	√	√	√		√				√	√		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√			
Advanced Web Programming	CS384	√	√		√					√	√		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√			

Faculty of Computer Science

Rules and Regulations

Rules and Regulations

MSA University complies with the Rules and Regulations of the Ministry of Higher Education in Egypt as per decree 49 for the year 1972, as well as the Rules and Regulations of the Private Universities in Egypt as per decree 101 for the year 1992. All following modifications that have been added from then to date are compiled within.

MSA Academic Calendar

MSA Academic Calendar is issued two months prior to the academic year to ensure that all MSA Staff and students are aware of the University important dates and events. The Calendar is announced on the MSA Website and available as a hardcopy in MSA Admission Office and Faculties' Student Affairs Office.

Admission

MSA University accepts students who have passed Thanaweya Amma Examinations or any other equivalent High School Examination (IGCSE, GCSE, American Diploma, German Certificates, IB, or other Arab Certificates). The Supreme Council of Egyptian Universities specifies the subjects required for admission, the minimum percentage for admission and the maximum number of newcomers accepted in each faculty, which varies from one year to the other. These conditions are declared to all applicants during the summer, prior to their admission to the University.

Faculties' Requirements

Holders of Thanaweya Amma and Arab certificates are required to present the original High School certificate along with the Original Birth Certificate. In addition to these certificates, holders of foreign certificates are required to present a proof of 12 years of education.

Egyptian and Arab Thanawya:

The student must obtain his certificate from the Scientific Math Section.

Other than Egyptian and Arab Thanawya:

- *IGCSE, Canadian Diploma and American Diploma Students:* a minimum of eight O'level and 1 advanced subject are required to qualify for admission; five of them must be English, Physics, Chemistry, Mathematics and Advanced Mathematics.
- *International Baccalaureate Certificate:* a total of six subjects + Extended Essay & Theory of Knowledge are required for admittance. Three of them must be English, Higher Physics and Higher Mathematics.
- *Bacc. Francais, German Certificates:* a total of seven subjects are required for admittance; four of them must be English, Mathematics on any level, Chemistry and Physics.

Admission Procedures

1. Students are admitted based on the ranking of their overall percentages and the capacity of each program.
2. Each applicant submits his/her application along with all original and authenticated documents and personal recent photos. Male students should submit required military documents.

3. The applicants' personal and academic data is entered into the University's system.
4. The percentage is automatically calculated for applicants according to their grades and according to the requirements of each different certificate.
5. For non-Governmental Certificates (other than Egyptian & Arab Thanawya):
 - a. Each student must provide documentation that gives proof that they have spent at least 12 successive years in education
 - b. At least eight subjects are required for admission. Passing grades are determined by the Supreme Council of the Egyptian Universities.
6. Each new applicant is required to undergo the English Language Admission Test (ELAT). The grade of the ELAT or TOEFL (if available) is considered in the assessment of the applicant's language proficiency. According to the exam result the student is placed in either Intensive English courses that range from the elementary to the upper intermediate (ENG80 & ENG 90), or Upper intermediate/Advanced English 101.
7. Internal transfer is permitted as long as the student meets all the faculty requirements, as decided by the Supreme Council of the Egyptian Universities for each year.
8. External & Internal transfer students must meet the Ministry's requirement (Official transcript and official course contents). The Faculty Dean/program leader interviews transferred students; and reviews their transcripts before admitting them into the faculty and notifies the student with the possible equivalent transferable modules. The final transferable courses will be confirmed by the Supreme Council of Private Egyptian Universities. The student starts a fresh GPA in MSA.
9. Selected applicants will be required to pay full fees and present all the original authenticated documents within a specified time interval. By the end of the admission period, a comprehensive report of all applicants' is prepared.
10. The new students are given an orientation session in which they are introduced to the general rules and regulations of the University, the main premises as the library, the food court, sports courts, roman theatre, Sports Center and other. The Head of Board of Trustees and MSA president welcome the attendees and the of Director of Quality Assurance presents an overview about the University.
11. Students then head to their faculty where they are introduced to the Dean, who also welcomes the students to their faculty and presents an overview about the different majors of study.

Assessment and Progression

MSA Grading Scheme is as follows:

Letter Grade	Percentage	GPA	UK Classes
A	≥90	4	1 ST Class
A-	≥ 85 &&<90	3.67	
B+	≥ 80 &&<85	3.33	Upper Second (2:1)

B	$\geq 75 \ \&\& < 80$	3	
B-	$\geq 70 \ \&\& < 75$	2.67	Lower Second (2:2)
C+	$\geq 65 \ \&\& < 70$	2.33	
C	$\geq 60 \ \&\& < 65$	2	3rd Class
C-	$\geq 56 \ \&\& < 60$	1.67	Fail
D+	$\geq 53 \ \&\& < 56$	1.33	Fail
D	$\geq 50 \ \&\& < 53$	1	Fail
F	< 50	0	Fail

The 100% mark for each module is normally divided as follows (unless specified otherwise):

40% coursework

60% unseen exams

The Calendar of Assessment

There are five main periods of assessment during the academic year:

- At the middle of the Fall Semester.
- At the end of the Fall Semester.
- At the middle of the Spring Semester.
- At the end of the Spring Semester.
- At the end of the Summer Semester.

The period of final assessment includes a deadline for submitting all work to be assessed as well as concluding all the examinations. At the end of each period of assessment, the University Assessment Board meets to confirm the results of all modules and award qualifications after being reviewed, scrutinized and ratified at the Faculty Assessment Boards.

Academic Load

The academic load is the number of registered credits per student each semester.

Grade Point

The corresponding Grade Point (GP) for each letter grade is shown in the above table.

Grade Point Average

Credits acquired by the student are based on the credits of the passed modules from the academic load registered. Repeated modules will be counted once toward the calculation of accumulated credit hours. The highest achieved GP will be used for calculating the cumulative GPA.

The cumulative GPA calculation starts from the first semester for each student and is updated each semester till his/her graduation.

The semester GPA of the student is the weighted average of the grade points acquired in the modules passed in that specific semester. It is calculated as follows:

Semester GPA =

$$\frac{\text{Sum of the product of the number of credit hours of each Module in the current semester load X the corresponding GP}}{\text{(Semester Total Credits in the current semester load)}^*}$$

$$= \frac{\sum (\text{Number of credit hours of each module in the current semester load X Corresponding G}}{\text{(Semester Total Credits in the current semester load)}^*}$$

The number of credits used to calculate the Cumulative GPA is the number of credits registered by the student up to this date.

Cumulative GPA =

$$\frac{\text{Sum of the product of the number of credit hours of each Module registered up to this date X the corresponding GP}}{\text{Total Credits registered up to this date}}$$

$$= \frac{\sum (\text{Number of credit hours of each Module registered up to this date X corresponding GP}}{\text{Total Credits registered up to this date}}$$

***Excluding pass-fail Modules credit and transferred Modules from Universities other than MSA. Grades that are not included in the grade point average are as follows: (P) Pass, (I) Incomplete, (W) Withdrawal.**

BSc Degree:

National Grading Classes	UoG/MDX/UoB Classes	MSA CGPA	Letter Grade Equivalence
Excellent includes	1 st Class Honour	≥ 3.67 & ≤ 4	A & A-
Very Good includes	Upper Second (2:1) Honour	≥ 3.0 & < 3.67	B & B+
Good includes	Lower Second (2:2) Honour	≥ 2.33 & < 3.0	B- & C+
Satisfactory includes	3 rd Class Honour	≥ 2.0 & < 2.33	C

MSA CGPA is calculated as per the student's entire profile.

General Policies

Payment of Fees Policy

Students should refer to MSA Academic Calendar for the dates of payment for each semester.

Advising and Registration Policy

The Advising and Registration Period for each semester is announced on MSA Academic Calendar almost two months prior to the academic year. Students must adhere to this period as delaying registration after the commencement of the semester will affect their academic progression and will also be counted as absence.

During the Registration Period students are offered academic advice via their academic advisors. They are also provided with a detailed schedule prior to the start of each academic semester. If necessary, students can obtain a replacement copy from the Faculty Student Affairs Department.

Students are eligible to register the full load of the semester as long as he/she is not under probation. Students must refer to their faculties as for the respective permitted load.

After completing the Advising and Registration process successfully, students receive their book store receipt from their respective faculties and are advised to visit MSA Book Store to receive their books.

Students are allowed to register for a maximum of seven credit hours during the Summer Semester. However, if this is the student's last semester, he/she is exceptionally allowed to register for nine credit hours.

Online Registration Procedures

To successfully register online, the student is requested to adhere to the following steps:

1. Login to *msa.edu.eg*.
2. Click on "**Student Login**"
3. Click on "**Register now**"
4. Enter your MSA user name and password. (In case you encounter any problem, contact MSA server team, ext: 2131/2132)
5. Now you are introduced to "**Student Registration link**", where you select your modules through a Drag and Drop process.
6. After completing your schedule click "**End Registration**".
7. At this point, kindly check with your faculty regarding the logistics of approving your schedule. There are two scenarios:
 - a. either your schedule will appear in your academic advisors account for approval /modification, consequently, you will receive an email notification of his feedback
 - b. or you must visit your faculty to approve/modify your schedule.
This step is crucial, or else you will not be considered registered.
8. Upon approval of your schedule, you can receive your book receipt from your faculty.

9. Students are not allowed to register for Architectural Design courses or Graduation courses except in the regular semesters exclusively i.e Fall and Spring semesters.

Add and Drop of Modules Policy

Students should refer to MSA Academic Calendar for the dates of Add and Drop of modules (courses) for each semester.

Internal Transfer Policy

Students should refer to MSA Academic Calendar for the dates of Internal Transfer of major/faculty for each semester.

Progression of Students

Progression is determined by the number of credit hours completed by students as determined by each faculty.

Text Books Policy

The bookstore is responsible for distributing textbooks to students at the commencement of each semester. The bookstore is connected to the University database to ensure the proper dissemination of textbooks among students.

Computer Science students can receive their books from room **(B146)**.

Attendance Policy

The contact between the staff and student is the most effective means of learning. Class discussions and comments enhance the students' understanding of the module content providing a new dimension to the learning experience. For these reasons, students are required to satisfy certain attendance requirements. Students who fail to attend 75% of all lectures and tutorials/Labs for a given module are deprived from the final exam and automatically fail the Module. This includes absences for medical reasons and emergencies.

Students are required to check with the respective teaching assistants/Student Affairs department as to the number of absents reached in each module.

Late Arrival Policy

Late arrivals disrupt the class and interrupt other student's concentration. Students are only allowed into the class during the first five minutes. Otherwise, they miss the class and are recorded as absent.

During the midterm exam (1.5hrs) and the final examination (3 hrs) students are allowed to arrive up to the first 15 minutes of the exam.

Late Submission Policy

Students are notified of the deadline for work submission for all pieces of their work at the start of the semester. Failure to meet the deadline results in the deduction of 10% of their mark for each working day.

Probation Policy

Probation students are students who fail to achieve CGPA 2.0 (equivalent to C i.e

$\geq 60\%$). Every student has to check his/her CGPA every semester to revise his/her status. Students are informed during their first levels on probation that they should exert utmost effort on raising their CGPA to at least 2.0 ($\geq 60\%$) to avoid being dismissed from the University and to be able to graduate.

Probation students are advised to improve their academic standards since students who remain on probation will be dismissed from the university. The number of semesters are determined by the Supreme Council of Egyptian Universities.

In case of being on probation for:

- a) Four consecutive semesters, the student will be dismissed from the faculty and will not be allowed to reregister in the same faculty again.
- b) A total of eight inconsecutive semesters, the student will be dismissed from the faculty and will not be allowed to reregister in the same faculty again.

Spring and Summer semesters are counted as one semester. The student is allowed to change major only once.

Students CGPA must be minimum 2.0 in order to graduate.

Failing a Module

Students must meet the deadline for submission of all coursework in accordance with the requirements of the university and module staff.

A student is deemed to have failed in the following cases:

- Students who fail to attend 75% of all lectures, labs and tutorials (F1).
- Students who fail to attend the final exam (F2).
- Students who fail to achieve 25% of the marks in the final exam (F3).

Exemption of Midterm Exam Policy

Students who were not able to attend the midterm exam would be allowed to complete the module but will lose the midterm exam grade; unless the respective Dean and University President consider the extenuating circumstances and approve the case, consequently the final exam will be marked out of the total marks allocated for both midterm and final exam. The student is requested to fill out the "*Exemption of Midterm Exam Form*".

Students should take into account, that although, the University grants the Exemption of Midterm exam after scrutinizing the students extenuating circumstances, this involves a possibility of affecting their academic progression.

Incomplete Policy

If a student fails to attend the final exam due to any emergency or extenuating circumstances, and the Dean & University President approve the nonattendance, then an incomplete grade will be agreed upon. The Mid-term grade as well as course work grades are transferred to students who are given an (I) grade. The student is requested to fill out an "*Incomplete form*". Subsequently, the student will be allowed to sit for the final exam of this module at the next opportunity where the incomplete module will be registered as a regular module thus calculated as part of the student's academic load and will appear on his/her registration form.

Students should take into account, that although, the University grants the Incomplete option after scrutinizing the students extenuating circumstances, this involves a possibility of affecting their academic progression.

Withdrawal Policy

1. **Module Withdrawal:** Students who apply to withdraw from a module due to being unable to progress or extenuating circumstances must submit a completed module withdrawal form to the Dean then for final approval by the President. Their results appear as W instead of F. Students should take into account that, although the University permits the withdrawal after scrutinizing students extenuating circumstances, this involves a possibility of affecting and delaying their academic progression.
2. **Semester Withdrawal:** Students who apply for a whole semester withdrawal due to extenuating circumstances must submit supporting documents to the Dean for consent then for final approval by the President. Their results appear as W instead of F. Students should take into account that, although the University permits the withdrawal after scrutinizing students extenuating circumstances, this involves a possibility of affecting and delaying their academic progression.
3. **Withdrawal from the University:** The student initially applies to withdraw at the University Admission Office who raises the request to the respective Dean/program leader.. Serious cases are discussed at the University Board. Withdrawing students may request their transcripts and original documents.

Repeat Policy

Students may not repeat any course they have passed unless they are under probation. Students who fail to maintain a minimum CGPA of 2.0 will be put under probation and will be allowed to repeat Modules with a grade of C-, D+, D and F. The grade used in the final GPA is the highest grade achieved by the student.

Condoned Failures Policy

Condoning regulations are as follows:

1. Condoning regulations apply only if the student has scored a min of 25% in the final exam.
2. Failing students are entitled to 5 marks to be added to one or more module in which he/she has failed subject to scoring a min of 45% in the failed module.
3. In case of failure in two modules with the same grade, the priority for condonement will be granted to the non-core module.
4. The 5 marks are distributed among the largest possible failing modules.

Note that ENG80 & ENG90 modules are not condoned.

Failures can only be condoned by the University Assessment Board.

Grade Appeals Policy

Staff correct the answer sheets with coded numbers in both midterm and final examinations so that the identity of the student remains completely anonymous thus insuring that the assessment is truly objective reflecting the students' true academic standard. Sample of answer sheets are second marked by an assigned second marker with different colour.

Despite this accurate grading procedure, students are allowed to appeal against their final grade. Through the following procedures:

1. Each Faculty has an established “Grade Appeal Committee” that includes a specialized member in the different majors of the faculty, to receive students Grade Appeals.
2. Students need to fill an online “Grade Appeal Form” to the Grade Appeal Committee in their respective faculty.
3. The Grade Appeal Committee investigates the cases thoroughly in coordination with the Examination Unit.
4. The Grade Appeal Committee should give feedback to students within the agreed time frame of each faculty.

Publication of results

Grades will be published on notice boards and on the University website after they have been ratified by the University Assessment Board held at the end of each semester.

Honors Scholarship Policy

Students in the faculty of Computer Science are eligible for 20% honors Scholarship in case they register for ≥ 15 CH in the current semester, achieving a semester GPA ≥ 3.75 and CGPA ≥ 3.67 .

Students are also eligible for 10% honors Scholarship in case they register for ≥ 15 CH in the current semester, achieving a semester GPA ≥ 3.6 and CGPA ≥ 3.5 .

Graduation

Students shall receive the award of the University upon completion of the requisite number of credits with a CGPA equivalent to C or above at the end of the semester during which the total was achieved.

Graduation Ceremonies are usually held every year in September/October for Fall, Spring and Summer Semesters graduates. Graduates are also eligible to travel and attend the Graduation ceremony held by the collaborative University in the UK.

Timetables and Accessing Own Records

During the Registration Period students are offered academic advice via their academic advisors. They are also provided with a detailed Schedule prior to the start of each academic semester. If necessary, students can obtain a replacement copy from the Faculty student affairs office.

Copies of the Examination schedule are available almost one week before exam periods, on the University Web Site and as hardcopies from the Faculty student affairs office.

Students can access their grades via their own accounts on the MSA web-site, or by taking an informal copy of their four/five year plan, or by ordering a formal transcript from the Student Affairs Office.

Transcripts

An official transcript is a complete record of a student's academic work at the University. Transcripts are issued on authentic, official paper and carry the signature of the University, the date of issue, and the seal of the University. Each transcript must include the student's complete record at MSA.

An official transcript is issued only at the written request or authorization of the student concerned. Transcript requests must be made in writing in person to the University Admission office. Students must fill a “*Request for Transcript form*”

When making a request in the student affairs department, a template has to be filled out, it must include one's full name, MSA ID number, the reason for applying for a transcript.. Transcript requests will normally be processed within almost five working days. However, Transcripts cannot be issued during the period of midterm and final exams.

Feedback to Students

Feedback on assessment performance is a vital communication process between staff and student. Constructive feedback facilitates learning, and subsequently enhances marks and grades. The feedback on the programme takes a variety of forms.

Feedback during Teaching and Learning

In class participation and discussions, preparation of work, answering problems that the instructors and teaching assistant have given are an integral part of learning.

Feedback on Coursework

Oral and written feedback will be given following the submission of assignments and during group meetings. Feedback on coursework will be by written comments and grades. Feedback will also be provided through group discussions and group work. Student contribution to these class discussions will be noted according to evidence relating to participation, preparation and attendance.

Feedback on group case studies will be given during group sessions and on the day of the presentation.

Return of coursework

Instructors return graded assignments, tests and term papers to all students complete with comments and feedback. Students are required to file the coursework in their student portfolios to be submitted to instructors at the end of semester for the final appraisal of the students' course work. They are returned to the students.

Feedback on Examinations

The staff may discuss generally with the whole class the model answer for the exam after it has been held as a means of improving future performance. Model answers are provided to the students by the Module Instructor.

Copies of Past Examination Papers and Other Forms of Assessment

Past examination papers are a good guide to the sort of examination question that a student might encounter in the exams. Copies of past examination papers and other forms of assessment are available on the Faculty Web-site for student's reference. Students are required to consult with their staff concerning the validity of these samples.

Marking, Second Marking and Marking Moderation

All assessments are moderated to ensure the integrity of marking and that grades have been recorded accurately. Instructors mark answer sheets with coded numbers to ensure anonymous marking, ultimately, guaranteeing that the marking process was totally unbiased.

If there are significant differences between the marks of the course assessments such events are investigated by the programme assessment boards.

In addition, External examiners review and scrutinize sample exams, answer sheets, course work during their review visits each semester to ensure coherency, parity and the objectivity of the assessment process.

As for the Graduation Projects, the senior students defend their work in front of an Academic Jury (a committee consisting of the Project Supervisor, local External Examiners). This is to ensure that the moderation is undertaken and the mark is verified.

Feedback from students

Boards of Study

The purpose of the Board of Study is to provide a forum for discussion between students and staff involved in all aspects of the programme.

The membership includes:

- Chair (Dean)
- Director of Quality Assurance & Audit Unit
- Programme Leaders and Module Leaders (or their representatives) wherever feasible.
- Student representatives (almost two for each year/major).
- Support services representatives (IT, Admission, HR, PR, Examination Unit, Library etc).
- Secretary to take the minutes

Student Representatives are responsible for notifying the Board with the students concerns, suggestions and complaints.

A meeting is held each semester normally in week six to eight as specified in the Quality Assurance Calendar. Dates of the Boards of Studies are published in all student handbooks, on MSA Website and on MSA Academic Calendar and Quality Assurance Calendar.

The agenda must include all major items but further items suggested by the student representatives and members of the committee may be added where appropriate.

The minutes should cover all agenda items and include a summary of the main points of discussion and an action/outcomes list. Any actions required include the timescale, the name of the person responsible and when a report back to the Board is expected. They should also include progress on actions from the previous minutes.

Within five working days of the meeting a Chairs' Action List will be published and circulated to all those with action points to deal with and to the Quality Assurance and Audit Unit Head. In addition, copies should be put on appropriate student notice boards and made available on MSA webpage.

Staff/Module Evaluation Survey

Students are required to complete the online evaluation (for Module/ instructor/teaching assistant). This is considered an anonymous channel for receiving Student Feedback. Reports of evaluation are sent to the faculty Dean and Programme Leaders for action. Head of Board of Trustees, President, Vice Presidents and Director of Quality Assurance also receive a copy. The process of the online evaluation usually commences after the midterm exams and is announced on the University Academic calendar and on MSA website.

Open Door Policy

MSA University adopts an open door policy for receiving student feedback.

MSA Official facebook Page

This is a new official channel for students feedback. Students can login to <http://www.facebook.com/MSAUniversity.News> to share their feedback.

Complaints Procedure

This section includes all complaints about unfair academic measures taken by staff against students during the semester (for complaints about grades, refer to the Examination & Grading system). Students may also submit petitions to be exempted from certain rules or regulations such as assigned academic load or disqualification actions or module prerequisites.

The complaints procedure ensures that the student's opinion about any action taken against him/her is handled.

- ❑ Students submit their verbal/written complaints/petitions to the students' affairs office/programme leader.
- ❑ Students must submit their complaints within one month of the occurrence of the action otherwise MSA is under no obligation to consider this complaint.
- ❑ The processing of these complaints is the responsibility of the office of Students' Affairs/programme leader.
- ❑ The complaint is discussed with the concerned staff member(s). An immediate feedback is given to the student if the student feels that the matter has been treated justly or the action has been remedied then the complaint is filed.
- ❑ In the event that the student is not satisfied with how the complaint is handled, the issue is escalated to the Faculty Dean. If the student is still unsatisfied the issue can be presented to the University President for final decision.

Misconduct Procedures

Academic Misconduct Procedures:

MSA University complies with the Rules and Regulations of the Ministry of Higher Education in Egypt as per decree 49 for the year 1972, as well as the Rules and Regulations of the Private Universities in Egypt as per decree 101 for the year 1992. All following modifications that have been added from then to date are complied with.

MSA students are expected to be honest in their academic endeavours. To falsify the results of one's research, to use the words or ideas of others as their own, to cheat in an

examination, or to allow another to commit an act of academic dishonesty corrupts the basis of the academic process.

The act of Plagiarism includes:

- Quoting another person's actual words, complete sentences or paragraphs, or entire piece of written work without acknowledgement of the source,
- Using another person's ideas, opinions, or theory even if it is completely paraphrased in one's own words, without acknowledgement of the source,
- Borrowing facts, statistics or other illustrative materials that are not clearly common knowledge without acknowledgement of the source
- Copying another student's essay test answers.
- Copying, or allowing another student to copy, a computer file that contains another student's assignment, and submitting it, in part or in its entirety, as one's own,
- Working together on an assignment, sharing the computer files and programs involved, and then submitting individual copies of the assignment as one's own individual work.

When in doubt about rules concerning plagiarism, students are urged to consult with their faculty.

Procedure of Investigating Plagiarism and Academic dishonesty during in-module assessments:

This procedure applies only to in-module assessment (e.g. assignment or coursework) and can only be applied once per module. It covers the following offences:

- Plagiarism,
- Contract writing of assessment by third party,
- Fabrication of results or conclusion, and
- Collusion.

Where the marker of the assessment suspects that the student's submitted work is plagiarized or one of the above offences has been committed, the marker shall interview the student establish that an offence has been committed or to demonstrate the plagiarized work and the proportion of the plagiarized work. During this interview, the marker shall give the students the opportunity to present his or her case and mitigating circumstances, if any.

Depending on the severity of the plagiarism or the offence being committed, the marker may take one of the following actions:

1. In case of first offence, (not deliberate or intended, one which has arisen inadvertently through mistake or ignorance), student may receive one of the following penalties as determined by the Module Leader or Programme leader.

1.1. Students are reminded of the seriousness of their act and is given a verbal warning

1.2. Students are reminded of the seriousness of their act and are asked to sign a Plagiarism Warning Form (A written warning).

- 1.3. Redo the same assessment or a new assessment within a set deadline. The new mark shall not exceed mark awarded for the offended work, if any.
 - 1.4. Redo the same assessment or a new assessment and the new mark shall not exceed the pass mark.
 - 1.5. Exclude the plagiarized part of the assessment and mark the work accordingly.
 - 1.6. Award a zero grade to the assessment under investigation.
2. In case of second offence, the issue is escalated to the programme leader/Dean. The penalty may reach failing the assignment grade/Course work of the module where the act has been attempted.
 3. In case of repeated act, the issue is escalated to the Respective Dean who directly reports to the University President for final decision. The penalty in this case may reach failing the module where this offence was committed or more than one module.
 4. In severe cases, the issue is escalated to the University President and the penalty may reach dismissal from the University for one semester or more based on the circumstances of the case.

Exam Conduct regulations

- Students must have their MSA IDs available for inspection.
- Strict silence must be observed at all times in the examination room.
- The examination is deemed to be in progress from the time students enter the room until all the scripts have been collected. Students must not speak to or otherwise communicate with any other students throughout the examination.
- Students should avoid cheating during the examination or he/she will be subject to misconduct act.
- A student who causes a disturbance during the examination will be required to leave the room and may be subject to misconduct act.
- Students are advised not to bring personal belongings into the examination room. All briefcases, bags, books, pencil cases etc. must be placed to one side of the examination room as instructed by the proctor and not left beside the desks.
- Students are advised to avoid bringing any material related to the exam.
- It is also prohibited to borrow any tools inside the exam room. Every student must bring with him the needed tools for each exam. The University is not responsible for providing any tool during the exam.
- Students are not allowed to visit the toilet during the exam duration, except in medical cases approved from the floor supervisor.
- Students are not allowed to enter the exam hall before the proctors.
- Students are strictly prohibited to enter exam rooms with their mobile phones.
- All answers must be in English, unless otherwise instructed on the exam template. Slang language should be avoided.
- It is forbidden to write in pencil in the answer sheet.
- It is strictly prohibited to enter the exam rooms with programmable calculators unless otherwise specified on the exam template.
- During the midterm exams (1.5hrs) and final exams (3 hrs.), students are not allowed to arrive after the first 15 minutes of the exam. Students are not allowed to leave before half the exam time.
- Every student is assigned to a specific room for each subject.
- Students have to check their rooms and seat numbers on the bulletin board before every exam

Any violation to these rules; will be documented by the proctor in the “*Exam Misconduct Form*” and reported to the Exam Floor Supervisor who should investigate the case and submit a report to the University for legal action.

Procedure of Investigating Academic Misconduct during Exams:

In the event of a student committing an act that is deemed by a member staff of the University to be an attempt to gain an unfair academic advantage during an exam, that member of staff will refer the case to the Academic Offences Investigating Officer within the Legal Affairs Department. This procedure covers cheating, collusion and impersonation.

Each case is assigned to an investigating panel, which consists of:

- Investigating officer from the Legal Affairs Department,
- Member of the Examination Control Unit and
- Member of the academic staff.

The panel would initially determine whether there is a prima-facie case for investigation. If yes, it will conduct a full investigation and prepare a report with its decision of whether the student has committed an academic offence and a description of the offence committed.

In arriving at its decision, the panel will invite the student(s) against whom the allegation is made to attend a hearing and may also invite the member(s) of staff who initially referred the case as well as other witnesses where applicable.

The panel will scrutinize evidence submitted with the initial referral and may request or collect further evidence. A summary of the panel deliberations will be included in the panel’s report and any evidence will be attached or referred to as appropriate. The panel report is then submitted to the University Examination Offences Committee.

The student will be informed of the panel decision immediately after it has been reached. The student may appeal against the panel’s decision to the University Examination Offences Committee within fifteen days of being informed of the decision.

The University President forms the University Examination Offences Committee, which consists of:

- The University President or a nominee
- The Director of the Examination Control Unit or a nominee
- An Academic member of staff, and
- Head of Legal Affairs Department or a nominee.

The University Examination Offences Committee meets at least twice per-semester (after the mid-term exam and after the end of semester exam) but before the semester assessment board.

The Committee receives all reports from investigating panels that were held within the semester. The Committee ensures that where panels have concluded that an offence has been committed, that an

appropriate penalty is applied and that similar offences across the university receive similar penalties. It also ensures that cases have been investigated fairly and in compliance with the Supreme Council of Universities guidelines and regulations.

The committee produces a list of all students with confirmed penalties and submits it to the assessment board to note at its meeting every semester.

Dismissal from Class

Students dismissed from classes for insubordination or other disciplinary reasons are not to return to class until the faculty member concerned permits it and in some cases after being referred to the respective Dean's office. MSA Management cooperates with the teaching staff to maintain proper discipline.

General conduct regulations

MSA University expects its students to be mature, honest and responsible members on campus and in their larger community. Any behaviour that infringes upon the rights, safety, property and privileges of another person or which impedes the educational process of MSA University is unacceptable.

- MSA students are expected to show their outmost respect towards their fellow students, staff members and MSA University as a whole. Any improper conduct such as *physical violence*, fighting, bullying and harassment of others represent behaviour that is not conducive to an educational environment, will not be tolerated. Immediate disciplinary action will be taken against violators ranging from social probation to dismissal.
- All students must carry their university *ID cards* and provide it to university personnel upon entrance/request. MSA University continues to recognize that its responsibility is linked with the protection of its students, faculty, staff and property.
- Members of MSA community are expected to abide by *Egyptian Laws*, and are subject to them. If any student violates Egyptian law and/or acts in a way that damages the reputation of the institution, the violation may obligate the University to carry out appropriate disciplinary action, which may include expulsion from the University. Moreover, MSA reserves the right to review and address incidents that take place off campus in which MSA students are involved.
- Article 34C of the *Egyptian Drug Law* states that anyone would be penalized if convicted of possessing drugs on educational premises. It is therefore the policy of MSA to prohibit handling of drugs by students on University Campus. Disciplinary action for violations would result in immediate dismissal from the University.
- All students are obliged to switch their *mobile phones* during class time. Any student who violates this policy may be asked to leave the class immediately and

will not be permitted to return until the next lecture. This will be counted as an inexcusable absence. All mobile phones must be switched off in the libraries and computer labs. Ringing phones and loud conversation on these premises disturb students and faculty trying to read and study.

- Students are responsible for the behaviour of their *guests* at all times and are held accountable should the guest cause disturbance or damages. Guests must attain a security clearance from security personnel prior to entering University premises. There should be a valid and acceptable reason for visiting the University. The university retains the right not to grant entrance clearance as it feels appropriate.
- It is not allowed to be in the university campus with no justified purpose after the working hours unless granted a written approval from the University.
- University staff are allowed *parking space* inside the University premises. Students are not permitted to park inside the university campus. Designated parking areas are allocated for students' outside the University gates.
- Dress code* is expected to conform to the educational setting. For example, males are prohibited from wearing shorts and slippers. The University's public image should guide their selection of dress.

The University reserves the right to alter and amend regulations if they are found to be unsatisfactory for prevailing circumstances. Such amendments will be communicated and incorporated in the document at the University's earliest convenience.

Student Support & Career Opportunities and Placement

MSA considers one of its main goals is to provide a unique, friendly and pleasant atmosphere for its students. Staff members and students interact together constantly as members of one large family. Support and guidance is provided to students mainly from the Faculty Student Affairs office. The services include:

- Advice on solving problems and the procedures to be followed.
- Academic Advising & Registration procedures.
- Advice on training opportunities.
- Disability support and guidance.
- Attendance.
- Receive appeals and complaints.
- Counseling.
- Advice on career placement and training opportunities.
- Provide advice on any issue that concerns students' welfare.

Academic Advice and Guidance

MSA's main mission is to provide a well-rounded unique learning environment for the students. MSA has introduced many methods to provide academic advice and aid to all students through the following channels:

Academic Advisor

Academic advisors are available for students to offer advice and guidance during registration of Modules. They also provide information to students about the different majors within the faculty. The assistants are also available to offer advice and support at any time.

Teaching Assistants Support

Teaching Assistants are always there for their students to offer both academic, social and personal advice. Their relation often extends to social activities outside the university as they usually organise group outings and trips.

Office hours/ Extra Tutorial/ Group Revisions

All instructors declare their office hours at the commencement of each semester. The Teaching assistants are available to offer extra help to students. They work with students either individually or in small groups according to their individual needs.

International Student Support

MSA runs 24 offices in various Countries. The offices are located in Saudi Arabia (3), Kuwait (4), Palestine (6), Jordan (10), Syria (1). MSA established testing centers in both Saudi Arabia and Jordan where the new comers are allowed to sit for the English Placement Exam to facilitate the admissions procedure of the international students. Moreover, MSA has always maintained a healthy and fruitful relationship with cultural attachés in Arab embassies.

We live in a global world, boundaries have vanished and cultures have mixed together. MSA has created open communication channels with Arab and Non Arab Universities in order create a Model of United nation and Model of Arab League. In addition, The International Day Festival is a popular event held by MSA University.

Information for students with Special Needs

As an educational institution and employer, MSA recognises the equal rights for all students. Within this context, MSA supports any student with any form of physical disability who would require special tutorial help in academic reading and writing. Students with physical disabilities are taken into consideration not only in respect to examination arrangements but also in attendance and in the marking of coursework and examination papers, provided that the student has reported it at an early stage. Disability that may require consideration and when deemed necessary, MSA offers one to one tutorial help.

MSA is committed to a continuous programme of upgrading its buildings in order to improve accessibility for the disabled by incorporating provisions for wheelchair users. The campus includes ramps, lifts, and toilets for special needs persons.

English Language and Learning Support

MSA is an English Language medium instruction university. Students are required to sit for an English Language Placement Exam during admission. According to the exam result the student is placed in Intensive English courses that range from the elementary to the upper intermediate (ENG80 & ENG 90), or Upper intermediate/Advanced (English101).

Students who need additional help and who have finished all the University language requirements are urged to contact the English Support Unit in the Faculty of Languages to arrange for extra help or to attend the extra group sessions.

Graduating students are advised by their faculties to refer to the English Support Unit for guidance and support for writing their graduation documentation and referencing ethics.

Information & Learning Resources Services

Learning resources and support are provided by MSA through different channels:

IT Unit Services

The unit offers IT Services to the entire University. It is also responsible for:

1. Maintaining the IT infrastructure in the University.
2. Providing hardware and software packages for the faculty requirements;
3. Maintaining equipment.
4. Equipping all computers with different operating systems platforms, database management systems, programming languages, software development kits, and education software tools to provide suitable training for different fields of specialisation.
5. Providing support to all instructors and students in using the audio-visual aids provided by the university.

Library Services

MSA library keeps books and periodicals ordered by University faculties. It also offers online educational and research recourses. In addition, Video, cassette tapes, and CD ROMs are provided for all subjects. A computer lab is annexed providing access to the Internet. All students and staff have their user name and password for accessing all online recourses on campus or from their homes.

Book Store

The bookstore is responsible for distributing textbooks to students at the commencement of each semester. The bookstore is connected to the University database to ensure the proper dissemination of textbooks among students.

Transportation Services

For all information regarding MSA Transportation facilities, Students are kindly requested to visit room B114, theoretical building.

Student Union (SU)

The SU for each faculty is divided into five different committees (Sports, Community Service, Cultural, Social, Press committees). All of them work together for the well-being and the success of the University as a whole. The SU election is held once every academic year.

Health, Safety & Welfare

Students have the same health and safety responsibilities as the employee at MSA and they must take reasonable care of their own health and safety and those of other people. Student's actions should not put them or other people at risk. Student's must follow health and safety

instructions/rules and report any faults or shortcomings in health and safety arrangements to the University Security Office/Faculty student affairs office. All students without exception are expected to comply with all health and safety regulations operating within the University and, in the case of laboratories, workshops and other hazardous places, to acquaint themselves with these regulations. Failure to do so is a serious breach of University regulations.

MSA provides on campus clinic with qualified practitioners (physicians) who are available for the students throughout the week. The clinic is equipped with first aid kits and medication.

Career Opportunities and Placement

MSA is keen to provide its students with competitive programmes that aim to prepare them to compete effectively in the job market. The Career Placement Center (CPC) is part of MSA HR department; it provides feedback on the skills required by the job market in a specific programme. The office also provides feedback on points of strengths of MSA graduates and comments on areas that require improvement. This continuous effort ensures the currency of our programmes and its relevancy to the needs of both national and international employers.

The CPC provides a full range of HR activities that include recruitment, training, and internships. The CPC benefits MSA students and graduates by creating a link between them and the corporate world, providing them with a comprehensive knowledge of the market and giving them firsthand enhancing experience of what to expect in the practical life.

The CPC organizes periodical job fairs that aim to provide students with exceptional work opportunities. The office also contacts new employers to increase the number of companies joining the fair and to improve the standard of the portfolio of companies recruiting MSA graduates.

The Alumni Department is created for Alumni services and activities. It will be offering a range of benefits for MSA University graduates such as: Reunion, Training sessions, Employment Opportunities, Events, Training sessions, Competitions, career Advising, Special discounts and rates.

Its slogan is Belong, Believe, Build and that's because the department's main objective is to make graduates feel that they belong to the University even after graduation, to believe in themselves and their capabilities and to finally build on that by developing their skills and finding the career that best suits them.

The Alumni Department enables graduates to build their personal and professional network, empower career transitions and reconnect with fellow alumni, (to contact the department: training@msa.eun.eg).

N.B. Since rules and regulations may be subject to some changes, please find the link below for the latest version.

http://msa.edu.eg/index.php?option=com_pages&page=page_viewer&page_id=Quality%20Assurance%20Unit