

Al-Mansour University College

كلية المنصور الجامعة



Bachelor of Science Honours (B.Sc. Honours) – Computer Science

بكالوريوس علوم – علوم حاسوب



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1. Mission & Vision Statement

Vision Statement

The branch looks forward to preparing and qualifying competencies in the field of building and analysing software, which makes it a leading role model in the field of computer science.

Mission Statement

The mission of software program is to cope with up to data developments in the field of programming and its applications. And to achieve quality assurance criteria in students, faculty, curriculum, and staff to meet the constituencies needs in all scientific and educational area.

2. Program Specification

Programme code:	BSc-Computer Science	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

Computer **science** is a wonderfully wide-ranging subject. The emphasis of the programme is the whole organism to which everything is related, The degree is popular - for some it's the breadth of the subject that appeals, for others it's a path to specialisation. All students have the opportunity to transfer onto our specialist degrees in software, computer, and programming at the end of the first year.

Level 1 exposes students to the fundamentals of computer, suitable for progression to all programmes within the computer programme group. Programme-specific core topics are covered at Level 2 preparing for

research-led subject specialist modules at Levels 3 and 4. A computer science graduate is therefore trained to appreciate how research informs teaching, according to the University and School Mission statements.

At Levels 2, 3 and 4 students are free to choose more than half of their module credits with the proviso a range of modules are selected. This allows students to develop their own wide-ranging interests in computer field. Decisions on what to study are made with input from personal tutors.

Academic tutorials are held at Levels 1 and 2 with the same tutor, who is also the personal tutor, providing continuity and progressive guidance. Level 1 and 2 tutorials include a number of workshops to teach skills, e.g. library use and presentation skills, followed by assessed exercises, e.g. essays and talks, as opportunities to practice these skills in a subject-specific context.

International years and Industrial placements are also offered and individual needs are discussed with the appropriate tutor and accommodated wherever possible.

3. Program Goals

1. To provide a comprehensive education in Computer Science that stresses scientific reasoning and problem solving across the spectrum of disciplines within Computer Science.
2. To prepare students for a wide variety of post-baccalaureate paths, including graduate school, professional training programs, or entry level jobs in any area of Computer Science.
3. To provide extensive hands-on training in electronic technology, statistical analysis, laboratory skills, and field techniques
4. To provide thorough training in written and oral communication of scientific information
5. To enrich students with opportunities for alternative education in the area of Computer Science through undergraduate research, internships, and study-abroad

4. Student Learning Outcomes

This report contains information about the Computer Science Department, at the University of Technology/software branch. Since the founding of Section 1983 was called the Computer branch on behalf of the branch name was changed to the software in 2004 - 2005, and it represents knowledge in the understanding and development programs. The graduate works in the area of learning, designing and software developing. It also has expertise in the field of infrastructures and methods of data storage, transfer and implementation

of calculation algorithms and methods of object-oriented programming and networking concepts, communication and information transfer. He\she also has expertise in basic structures and methods of data storage and transfer, and the implementation of algorithms and calculation methods of object-oriented programming and concepts of networks and communication and information transfer.

Outcome 1

Identification of Complex Relationships

Graduates will be able to understand, design, and develop software products, and to build structures for data storage and information transfer.

Outcome 2

Oral and Written Communication

Graduates will be able to understand problems and suggest solutions. Formally communicate the results of investigations using both oral and written communication skills. Satisfying the requirements by collecting data, executing algorithms, using computation methods, and programming.

Outcome 3

Laboratory and Field Studies

Graduates will be able to perform laboratory experiments and field studies, by using scientific equipment and computer technology while observing appropriate safety protocols.

Outcome 4

Scientific Knowledge

Graduates will be able to demonstrate a balanced concept of how scientific knowledge develops, including the historical development of foundational theories and laws and the nature of science.

Outcome 5

Data Analyses

Graduates will be able to demonstrate scientific quantitative skills, such as the ability to conduct simple data analyses.

Outcome 6

Critical Thinking

Graduates will be able to use critical-thinking and problem solving skills to develop a research project and/or paper.

5. **Academic Staff**

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6. Credits, Grading and GPA

Credits

College is following the Bologna Process with the European Credit Transfer System (ECTS) creditsystem. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

Calculation of the Grade Point Average (GPA)

- The GPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

GPA of a 4-year B.Sc. degrees:

$$\text{GPA} = [(1\text{st module score} \times \text{ECTS}) + (2\text{nd module score} \times \text{ECTS}) + \dots] / 240$$

7. Curriculum/Modules

Semester 1 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
PRFU111	programming fundamental	108	92	8	B	
MATH112	Mathematics	108	92	8	B	
STPR113	statistics and probability	93	57	6	B	
FUCT114	Fundamental of Computer Technology	63	37	4	C	
DEHR105	Democracy and Human Rights	33	17	2	S	
WORK106	Arabic Language	47	3	2	S	

Semester 2 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
STPR121	Structured Programming	108	92	8	B	programming fundamental
DIST122	Discrete Structures	63	62	5	B	
COLD123	Computer Organization and Logic Design	95	55	6	B	
SODT124	Software Development Techniques	63	37	4	C	Fundamental of Computer Technology
SOEN125	Software Engineering	80	45	5	C	Fundamental of Computer Technology
WORK106		47	3	2	S	

Semester 3 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
OBOP211	Object Oriented Programming	110	90	8	C	Structured Programming
DAST212	Data Structures	80	45	5	C	Structured Programming
NUAN213	Numerical Analysis	80	45	5	C	
ADSE214	Advance Software Engineering	80	45	5	C	Software Engineering
ANDA215	Analysis and Design of Algorithms	80	45	5	C	
ENLA216	English language	33	17	2	C	

Semester 4 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
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DATA221	Database	110	90	8	C	
MICR222	Microprocessor	95	55	6	C	Logic Design
SOSA223	Sorting and Searching Algorithms	80	45	5	C	Data Structures
COCO224	Computational Complexity	63	37	4	C	
SOMA225	Software Modelling and analysis	80	45	5	C	Software Engineering
HURI226	Human Rights	33	17	2	C	

Semester 5 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
COAR311	Computer Architecture	95	55	6	C	Microprocessor
COTH312	Computation Theory	63	37	4	C	
COGR313	Computer Graphics	95	55	6	C	
PAPP314	Parallel Programming Paradigms	95	55	6	C	
SODE315	Software Design	63	62	5	C	Software Modelling and analysis
ETHI316	Ethics	33	17	2	C	

Semester 6 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
WEPR321	Web Programming	110	90	8	C	
CODE322	Compiler Design	95	55	6	C	Computation Theory
INRT323	Information Retrieval Techniques	48	27	3	C	
COVI324	Computer Visualization	80	45	5	C	Computer Graphics
MOAD325	Mobile Application Design	80	45	5	C	
ENAW326	English Academic Writing	48	27	3	C	

Semester 7 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
OPSY411	Operating System	110	90	8	C	
MALE412	Machine Learning	80	45	5	C	
DASE413	Data Security	80	45	5	C	
WIPR414	Windows Programming	80	45	5	C	
HUCI415	Human Computer Interaction	48	27	3	C	
PROJ406	Project	62	38	4	C	

Semester 8 | 30 ECTS

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
IMOR421	Image Processing	95	55	6	C	
DMDW422	Data Mining and Data Warehousing	63	37	4	C	Machine Learning
SESE423	Secure Software Engineering	63	37	4	C	
INSM424	Intelligent Search Methods	95	55	6	C	
CONE425	Computer Network	95	55	6	C	
PROJ406	Project	62	38	4	C	

8. **Contact**

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