Course Plan for Master program - Course Plan Development and Updating Procedures/ Computer Science	QF01/0413-4.0

Course Plan for Computer Sciences (Master Program) No (2022/2021)			
Approved by Deans Council by decision 2021-2020/5/1 dated 2021/7/13			
Number of credit hours: (33) Credit Hours		Teaching system / Hybrid	
Course type	Social sciences ☐	Scientific / Technical ✓	Natural sciences ☐

Teaching style	Percentage of study plan hours/number	The model used (synchronous: asynchronous)
Complete e-learning materials	**18% , 6 credit hours**	**1:1**
Blended learning materials (for Social)	45% , 15 credit hours	1:1
Blended learning materials (for scientific and medical)	**45% , 15 credit hours**	**1:1**
Face-to-face learning materials (for Social)	37% , 12 credit hours	0:3
Face-to-face learning materials (scientific and medical)	**37% , 12 credit hours**	**0:3**

Important note: (Teaching patterns of subjects are distributed at all levels of study in the program, and thesis hours are taught in the blended learning style)

Program vision: Building specialized competencies in the field of computer science, equipped with the knowledge, skills, and leadership, creative and entrepreneurial competencies necessary to compete in the global labor market, through the creative application in the use of information technology and modern teaching and learning strategies.

Program mission and goals:

1. **Achieving the conformity of learning outcomes in all areas of specialization with the descriptors of the seventh level (knowledge, skills and competencies) in the National Qualifications Framework.**
2. **Integrating modern information technology and employing it creatively in the teaching and learning processes to reach more effective learning and taking into account the needs of the learner.**
3. **Enhancing the principle of lifelong self-sustaining learning, and highlighting the learner's creativity in light of global transformations through the application of various teaching and learning strategies.**

Program learning outcomes *(MK= Main Knowledge, MS= Main Skills, MC= Main Competences)*

Main knowledge	
MK1	Knowledge of scientific research and constructive thinking in various fields of computer science
MK2	Detailed knowledge of the interior design of a computer and its main contents
MK3	Deep knowledge of methods of programming languages and advanced algorithms
MK4	Advanced knowledge of the stages of building and operating software and networks and their security
Main Skills	
MS1	High skill in Create new or improved algorithms and apply them in different fields

MS2	High skill in Ability to check the validity and reliability of software
MS3	High skill in Scientific research and innovation
MS4	High skill in Develop solutions to technological problems based on computer science and artificial intelligence
General competencies	
MC1	Adhering to the ethics and professional standards of computer science and demonstrating integrity, values and responsible citizenship
MC2	Advanced ability to understand, apply and analyze new issues and find appropriate solutions
MC3	The ability to analyze, design, and build effective and reliable advanced computer programs
MC4	Ability to keep abreast of constant changes in computer science

First: Thesis track (33 credit hours):

Notes	guiding		Credit hours	Course name	Course Number	Teaching style		
	Academic year	Semester				Face to face – learning	Hybrid– learning	E–learning
A: Compulsory requirements (18) credit hours								
	1	1	3	Advanced analysis and design algorithms	0102721	•		
	1	2	3	advanced operating systems	0102733			•
	1	2	3	advanced databases	0102741	•		
	1	2	3	Advanced Networks Messaging	0102742	•		
	1	2	3	Scientific Research Methodology	0102761			•
	1	2	3	Intelligent systems	0102732	•		
B: Elective Requirements (6) Credit Hours								
	1	2	3	Parallel Programming	0102711		•	
	1	2	3	Computer and information security	0102743		•	
	1	2	3	Advanced Software Engineering	0102781		•	
	1	2	3	Symposium on computer science topics	0102763		•	
C: Thesis (9) Credit Hours								

Second: Comprehensive Track (33 credit hours):

Notes	guiding		Credit hours	Course name	Course Number	Teaching style		
	السنة الدراسي	الفصل الدراسي				Face to face –	Hybrid– learning	E–learning
A: Compulsory requirements (18) credit hours								
	1	1	3	Advanced analysis and design algorithms	0102721	•		
	1	2	3	advanced computer architecture	0102731		•	
	1	2	3	advanced operating systems	0102733			•
	1	2	3	advanced databases	0102741	•		
	1	2	3	Advanced Networks Messaging	0102742	•		

	1	**2**	3	Intelligent systems	0102732	•		
	1	**2**	3	Computer and information security	0102743		•	
	1	**2**	3	Parallel Programming	0102711		•	
	1	**2**	3	research project	0102791			•
B: Elective Requirements (6) Credit Hours								
				Wireless networks	0102744		•	
	1	**2**	3	advanced image processing	0102445		•	
	1	**2**	3	Advanced Software Engineering	0102781		•	
	1	**2**	3	Symposium on computer science topics	0102763		•	
C: Comprehensive Exam (0) credit hours								