QF01/0413-4.0E	**Study Plan for Master program - Study Plan Development and Updating Procedures/ Software Engineering Department**

Course Plan for Software Engineering (Master Program) No.: (2021-2022)			
Approved by Deans Council by decision (14-20/2021/2022) dated (12/8/2021)			
(33) Credit Hours		**Study system / hybrid program**	
Type of specialty	☐ Humanitarian	✓ Scientific / technical	☐ Medical Sciences

Teaching style	**Percentage of study plan hours / number**	**Model used (synchronous: asynchronous)**
Complete e-learning courses	18% / number (6) Credit Hours	1:1
Blended Learning courses (For Humanity)	45% / number (15) Credit Hours	1:1
Blended learning courses (for scientific and medical)	45% / number (15) Credit Hours	1:1
Traditional learning courses (for humanity)	37% / number (12) Credit Hours	1:0
Traditional learning courses (for scientific and medical)	37% / number (12) Credit Hours	1:0

Important note: (The teaching patterns of the subjects are distributed at all academic levels in the program, and the Thesis hours are taught in a blended learning mode).
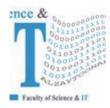
Program vision: Building specialized competencies in the field of Software Engineering , provided with the knowledge, skills and leadership, creative and entrepreneurial competencies necessary to compete in the global labor market, through creative application in the use of information technology and modern teaching and learning strategies.

Program mission and objectives:
1. Achieving the conformity of the learning outcomes in all areas of specialization with the seventh level descriptors (knowledge, skills and competencies) in the National Qualifications Framework.
2. Integrating modern information technology and employing it creatively in the teaching and learning processes in order to achieve more effective learning and take into account the needs of the learner.
3. Promote the principle of self-sustainable, lifelong learning, and highlight the creativity of the learner in light of global changes through the application of various teaching and learning strategies.

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

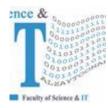| **Main knowledge**	
MK1	Knowledge of a range of advanced topics in software engineering, including knowledge of scientific research methodology.
MK2	Understanding of modern and advanced technology in the field of software engineering.
MK3	Recognize and understand the professional ethics related to software engineering.
Basic skills	
MS1	Design, development and testing of advanced software to achieve specific software specifications.
MS2	Developing and evaluating research ideas and building research and pilot projects.
MS3	Use, maintenance, and development of software.
General competencies	
MC1	Working and effective communication within a diverse work team.
MC2	Preparing and writing research thesis, scientific papers, and research and professional reports.
MC3	Acquisition and transfer of knowledge to others.

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1. Master thesis program (33) credit hours:

Teaching style			Course No.	Course name	Credit hour	Indicative		Notes
Fully electronic learning	Blended learning	Traditional learning				Semester	year	
1.	**Mandatory requirements (18) credit hours**							
*			0104711	Advanced Software Requirements	3			
	*		0104712	Advanced software Architecture and Design	3			
		*	0104713	Advanced Software Development	3			
	*		0104714	Advanced Software Testing	3			
*			0104718	Scientific Research Methods	3			
2.	**electives requirements (6) credit hours**							
		*	0104755	Advanced System Analysis and Design	3			
		*	0104715	Advanced Software Quality	3			
		*	0104716	Advanced software project management	3			
		*	0104752	Advanced software Engineering	3			
		*	0104754	Advanced Software Modelling	3			
		*	0104753	Special topics in Software Engineering	3			
3.	**Thesis (9) Credit Hours**							
	*		0104702	MS Thesis in Software Engineering	9			

2. Comprehensive exam program (33) credit hours:

Teaching style			Course No.	Course name	Credit hour	Indicative		Notes
Fully electronic learning	Blended learning	Traditional learning				Semester	year	
1.	**Mandatory requirements (18) credit hours**							
*			0104711	Advanced Software Requirements	3			
	*		0104712	Advanced software Architecture and Design	3			
		*	0104713	Advanced Software Development	3			
	*		0104714	Advanced Software	3			

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				Testing				
*			0104718	Scientific Research Methods	3			
		*	0104754	Advanced Software Modelling	3			
		*	0104715	Advanced Software Quality	3			
		*	0104716	Advanced software project management	3			
2.	**electives requirements (6) credit hours**							
	*		0104761	Advanced Database management system	3			
	*		0104762	Advanced Software Security	3			
	*		0104763	Software Engineering in Intelligent Systems	3			
	*		0104717	Software Evolution	3			
	*		0104719	Scientific Research project	3			
	*		0104756	Advance Human computer interaction	3			
3.	**Comprehensive exam (0) credit hours**							
		*	0104701	Software Engineering Comprehensive exam	0			