

QF09/0413-4.0E	Study Plan for Master program - Study Plan Development and Updating Procedures/ Civil and Infrastructure Engineering Department
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Course Plan for Engineering Management (Master Program) No.: (01-2023/2024)			
Approved by Deans Council by decision (05/2023-2024) dated (18/12/2023)			
(33) Credit Hours		Study system / hybrid program	
Type of specialty	<input type="checkbox"/> Humanitarian	<input checked="" type="checkbox"/> Scientific / technical	<input type="checkbox"/> 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 Engineering Management, 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	Learn the basics and principles of engineering management and its applications in projects and production.
MK2	A broad understanding of the stakeholders in engineering projects involved in the design, implementation and management of facilities, their roles, responsibilities, interaction, and effective communication of ideas, concepts and solutions to them.
MK3	High level of technical understanding of engineering management and economy, and identification of associated operations and processes.
MK4	Understand and manage engineering contracts and modern engineering codes in practice.
Basic skills	
MS1	Design the systems and operations necessary for the digital management of engineering projects and production.
MS2	Using computer skills, techniques and scientific tools necessary for technical information and for the preparation of official reports in different ways.
MS3	Apply digital technologies and various advanced programs to identify and analyze risks and solve real problems in engineering management.
MS4	Consolidating the concepts of sustainable practices and green requirements in the design and implementation of engineering projects.

General competencies	
MC1	Critical and creative thinking, exercising independence of mind and thought, and the ability to communicate ideas.
MC2	Demonstrate effective practices for managing, motivating and leading workers in engineering project teams.
MC3	Effectively communicate information and learning for the purpose of continuing professional development and in a broader context throughout their career, communicate designer ideas professionally and communicate with target audience using manual and digital skills.
MC4	Scientific research and continuous development of the engineering management and making the appropriate decision at the individual level or within a work team.

1. Master thesis program (33) credit hours:

Teaching style			Course No.	Course name	Credit hour	Indicative		Notes
Traditional learning	Blended learning	Fully electronic learning				Semester	year	
1. Mandatory requirements (15) credit hours								
.			0908711	Research Methodology	3	1	1	
		.	0908712	Advanced Engineering Management	3	2	1	
		.	0908713	Engineering Contract Administration and Arbitration	3	1	2	
		.	0908714	Advanced Technologies in Engineering Management	3	2	2	
		.	0908715	Advanced Engineering Economy	3	1	2	
2. electives requirements (9) credit hours								
	.		0908720	Special Topics in Engineering Management	3			
	.		0908721	Total Quality Management	3			
	.		0908722	Information System Management	3			
	.		0908723	Risk Management	3			
	.		0908724	Safety Engineering	3			
	.		0908725	Sustainable Projects Management	3			
	.		0908726	Operations Research	3			
	.		0908727	Cost Engineering	3			
	.		0908728	Traffic and Transportation Management	3			
	.		0908729	Water Resources and Environmental Systems Management	3			
	.		0908730	Production Planning and Control	3			
	.		0908731	Advanced Applied Statistics	3			
	.		0908732	Computer and Communications Networks Management	3			
	.		0908733	Energy Management and Audit	3			
3. Thesis (9) Credit Hours								

2. Comprehensive exam program (33) credit hours:

Teaching style			Course No.	Course name	Credit hour	Indicative		Notes
electronic learning	Fully learning	Blended learning				Semester	year	
1. Mandatory requirements (24) credit hours								
•			0908711	Research Methodology	3	1	1	
		•	0908712	Advanced Engineering Management	3	2	1	
		•	0908713	Engineering Contract Administration and Arbitration	3	1	2	
		•	0908714	Advanced Technologies in Engineering Management	3	2	2	
		•	0908715	Advanced Engineering Economy	3	1	2	
•			0908716	Selected Research Topics	3	2	1	
	•		0908721	Total Quality Management	3	2	2	
	•		0908722	Information System Management	3	1	1	
2. Electives requirements (9) credit hours								
	•		0908720	Special Topics in Engineering Management	3			
	•		0908723	Risk Management	3			
	•		0908724	Safety Engineering	3			
	•		0908725	Sustainable Projects Management	3			
	•		0908726	Operations Research	3			
	•		0908727	Cost Engineering	3			
	•		0908728	Traffic and Transportation Management	3			
	•		0908729	Water Resources and Environmental Systems Management	3			
	•		0908730	Production Planning and Control	3			
	•		0908731	Advanced Applied Statistics	3			
	•		0908732	Computer and Communications Networks Management	3			
	•		0908733	Energy Management and Audit	3			
3. Comprehensive Exam (0) Credit Hours								