

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

Quality Management Course Definition Document

Course: Quality Management - QM Master's degree qualification and specialization in Building Information Modeling -

Dr.Rana Maya

NO Of Sessions :12

Course summary:

This course presents the basic knowledge and skills including principles, procedures, concepts, methods and tools related to quality control and assurance and their applications with statistical quality control using EXCEL, MINITAB for various activities in the different stages of the construction project life cycle, in order to improve the construction process through effective management For projects (planning, control, control) and making projects more quality, competitive and economical. It also covers concepts related to developing a quality control plan, components of an integrated quality management system (ISO 9001:2015), how to document it, and methods for .measuring and improving performance for construction projects and institutions

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

Course code: QM

No	Chapter name	Brief explanation
1	Introduction to quality management and construction projects	<ul style="list-style-type: none"> - Engineering projects, their goals, their concept - Definition of quality and its historical development
2	Costs and benefits of quality management	<ul style="list-style-type: none"> - Measurement and analysis of quality costs - Benefits of applying quality management in construction projects
3	Quality Control Tools	Statistical Quality Control Tools
4	Methods of improving the quality of preparing designs and engineering studies	<ul style="list-style-type: none"> - Ensure and control project quality during the design phase and preparation of studies - Building information modeling- applications to improve the quality of designs and studies
5	Methods for improving the quality of project implementation	<ul style="list-style-type: none"> - Quality Assurance and Quality Control in the Construction Phase - Building information modeling applications for quality control of construction projects
6	Requirements for quality management systems according to the international standard ISO 9001	ISO 9001:2015 system requirements

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

7	ISO 9001 Quality Management Systems Documentation	- Documentation, its benefits and importance -Documentation requirements according to ISO 9001:2015
----------	---	--

Learning outcomes

		assignment	Synchronous sessions	exam
Learning Outcomes	Learning Outcomes			
LO1	Knows the basic concepts of quality management systems and the concepts of total quality management		√	
LO2	Acquire statistical quality control skills	√	√	
LO3	Infer, analyze and solve quality problems		√	
LO4	Uses quality assurance and control tools in the design and implementation stages		√	
LO5	Design a quality control plan	√	√	
LO6	Understands the requirements of ISO 9001 quality management systems and evaluates the effectiveness of quality management systems		√	
LO7	Prepares Quality System Documentation - Quality Manual and Procedures	√	√	

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

Evaluation Criteria:

Learning Outcomes	To achieve the results, the student must demonstrate the capabilities in:
LO1	1- Re-read the most important terms that the professor dealt with in the lecture. 2- He asks inquiring questions about the meaning of each term and how it relates to reality. 3- He studies the theories and models related to the terms that were circulated in the lecture.
LO2	1- Lists the types of quality control tools that can be applied in an actual institution that it intends to consider as a case study. 2- Reviews the processes in the organization and chooses the tools that can be applied 3- Explains the results that can be obtained. 4-Suggests possible solutions to improve operations
LO3	1-Learn the steps and stages to solve quality problems. 2- It collects the required information and data using the appropriate tool 3- Analyzes data using quality control tools 4- He makes hypotheses for possible solutions 5- Selects, tests and approves solutions
LO4	1-Understand the stages of engineering design. 2- Learn about quality assurance and control tools.

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

	<p>3- Learn about building information modeling applications to improve design quality</p> <p>4- Evaluate the engineering design process and identify the processes that face problems and need improvement</p> <p>5 -Be able to choose and use quality assurance and control tools to improve the quality of the design</p>
LO5	<p>1- Know the stages of project implementation.</p> <p>2- Learn about quality assurance and control tools.</p> <p>3- Learn about building information modeling applications to improve the quality of implementation</p> <p>4- Evaluating the implementation process of the project and identifying the processes that face problems and need improvement</p> <p>5- Be able to choose and use quality assurance and control .tools to improve the quality of project implementation</p>
LO6	<p>1 - Recognize the requirements of quality management systems in accordance with the international standard ISO 9001</p> <p>2- Links the use of quality assurance and control tools to specific requirements</p> <p>3- Evaluates the effectiveness of quality management systems</p> <p>4-Acquire the skills of designing and managing quality work in the organization</p>

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

LO7	1- Recognize the documents of the quality system according to the international standard ISO 9001 2- Analyzes the work system and analyzes the need for the required documents 3- Designs a quality manual and some procedures for the organization
------------	---

Guidelines:

Generating Evidence: The student individually prepares a brief project in which he demonstrates his ability to understand the previous outcomes, and this is before taking the exam and dealing with:

- Develop a quality control plan for a project of his choice, including some quality procedures and models, specifying the item number he requires from the specification
- Applying two quality control tools, data analysis and results presentation
- Identifying a quality problem in the organization that will be chosen by him personally.
- Then he presents a solution to this problem through a systematically documented scientific presentation in an authentic manner.

References:

Arabic:

- 1- Introduction to Total Quality Management and ISO 9000: Dr. Taher Qaddar, Damascus, 1998

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

- 2- Total Quality Management, Kingdom of Saudi Arabia, Technical and Vocational Training Corporation, 2008
- 3- Quality Control, Kingdom of Saudi Arabia, Technical and Vocational Training Corporation, 2008
- 4- Dr. Muhammad Tawfiq Madi, Project Management and Scheduling, Steps for Planning, Organizing and Scheduling Project Implementation Phases and How to Monitor them, University House, 2014.
- 5- International Standard for Quality Management System ISO 9001:2015, translated by Dr. Osama Syed Abdul Hamid Suleiman

English:

- 6- Abdul Razzak Rumane, Quality Management in Construction Projects, Second Edition, by Taylor & Francis Group, 2018, 578 pp.
- 7- Erik W. Larson, Clifford F. Gray, project management: the managerial process, seventh edition, McGraw-Hill Education, 2018, 681 pp.
- 8- BSI, BRITISH STANDARDS INSTITUTION, PAS 1192-2, Specification for information management for the capital/delivery phase of construction projects using building information modelling, 2013.
- 9- Mark Urizar ; El-Sayed Abdel Monem Sayed Abdel Halim, Construction Supervision: QC+HSE Management in Practice, details the in-practice Quality control, OHS, and environmental performance reference guide, Library of Congress Control Number: 2015901823, 2015.
- 10- ow Sui Pheng, Lau Shing Hou. Construction Quality and the Economy. Springer 2019.

Syrian Arab Republic		الجمهورية العربية السورية
Ministry of Higher Education and Scientific Research		وزارة التعليم العالي والبحث العلمي
Syrian Virtual University		الجامعة الافتراضية السورية

- websites related to the course

- International Organization for Standardization <https://www.iso.org/>
- The American Society for Quality <https://asq.org/>
- Construction management software <https://www.autodesk.com/bim-360/>
- Auto disk model checker <https://www.biminteroperabilitytools.com/modelchecker.php>
- EFQM Global Award <https://www.efqm.org/index.php/efqm-recognition/efqm-global-excellence-award/>

Virtual meetings: The virtual meetings continue concurrently with the simultaneous sessions and listen to all the requirements of the students.