

Course Syllabus

1	Course title	Advances in Quality Management
2	Course number	0603741
3	Credit hours (theory, practical)	3, theory
	Contact hours (theory, practical)	3, theory
4	Prerequisites/corequisites	-
5	Program title	Master in Food Science and Technology
6	Program code	037
7	Awarding institution	The University of Jordan
8	School	School of Agriculture
9	Department	Nutrition and Food Technology
10	Level of course	Master
11	Year of study and semester (s)	2019/2020, first semester
12	Final Qualification	Master
13	Other department (s) involved in teaching the course	-
14	Language of Instruction	English
15	Date of production/revision	1 st semester 2020/2021

16. Course Coordinator:

Prof. Mohammed I. Yamani	Office number	126A	Office phone	22420
E-mail: myamani@ju.edu.jo				

Office hours					
Day	Sunday	Monday	Tuesday	Wednesday	Thursday
Time	10-11	10-11	10-11	10-11	10-11

17. Other instructors: / -

18. Course Description:

(0603741) Advances in Quality Management - (3 Credit Hours)

Six Sigma project (ISO 13053-1,-2). Quantitative methods in process improvements: the define, measure, analyse, improve and control (DAMIC) methodology. Tools and techniques for the phases of DAMIC approach. The 8 principles (8D) process to solve problems. Appropriate level of protection (ALOP) and food safety objectives (FSO) concepts.

19. Course aims and outcomes:

A- Aims

Upon completion of this course, the student is expected to:

1. Introducing the quantitative methodology in process improvements, the Six Sigma project (ISO standards: 13053-1, -2),.
2. Provide information about the five phases of the methodology: define, measure, analyze, improve and control (DMAIC)
3. Acquainting with the preferred or best practice for each of the phases of the DMAIC methodology used during the execution of a Six Sigma project.
4. Understanding how Six Sigma projects should be managed and describes the roles, expertise and training of the personnel involved in such projects.
5. Describing the tools and techniques to be used at each phase of the DMAIC approach
6. Introducing the 8 discipline (8D) process to solve problems.
7. Introducing the appropriate level of protection (ALOP) and food safety objectives (FSO) concepts.

B- Intended Learning Outcomes (ILOs):

Upon successful completion of this course students will be able to

A. Knowledge and Understanding

Student is expected to:

A1- Be updated to the quality management system of the ISO 9000 of standards.

A2- Understand the Six Sigma project (ISO standards: 13053-1, -2)

A3- Comprehend the five phases of the the Six Sigma methodology: define, measure, analyze, improve and control (DMAIC).

A3- Know the tools and techniques for the phases of the DMAIC approach

A4- Be introduced to concept of the 8 discipline (8D) process to solve problems different types and sources of different packaging.

A5-. Be introduced to the food safety objectives (FSO) concept

B. Intellectual Analytical and Cognitive Skills

Student is expected to:

B1- Appreciate the new developments in quality management and assurance of food safety.

B2- Consider the implementation the Six Sigma project.

B3- Implement the DMAIC approach.

B4- Use the tools and techniques of the phases of the DMAIC approach.

B5- Consider the implementation of the appropriate level of protection (ALOP) and food safety objectives (FSO) concepts

C. Subject-Specific Skills

Student is expected to:

C1- Participate in the application of the Six Sigma project (ISO standards: 13053-1, -2)

C2- Determine each of the phases of the DMAIC methodology to be used during the execution of a Six Sigma project

C3- Learn how to use the 8 discipline (8D) process to solve problems

C4- Participate in the application of 8 discipline (8D) process and the food safety objectives (FSO)..

D. Transferable Key Skills

Students is expected to:

D1- Apply the tools and techniques, of the DMAIC approach to quality improvement.

D2- Solve problems using the 8 discipline (8D) process.

D3-.Improvement and updating food safety assurance systems.

20. Topic Outline and Schedule:

Topic	Week	Achieved ILOs
Review of ISO 9000 quality management system	1-2	A, B, C, D
The Six Sigma methodology <ul style="list-style-type: none">• Fundamentals of Six Sigma• Six Sigma measures• Six Sigma personnel and their roles• Six Sigma project prioritization and selection	3-4	A, B, C, D
The DMAIC methodology <ul style="list-style-type: none">• Define phase• Measure phase• Analyse phase• Improve phase• Control phase	5-6	A, B, C, D
Tools and techniques of Six Sigma project	7-9	A, B, C, D
Six Sigma, Lean, and “Lean & Six Sigma”	10	A, B, C, D
The 8 discipline (8D) process	11-12	A, B, C, D
Appropriate level of protection (ALOP).	13-14	A, B, C, D
Food safety objectives (FSO)	15-16	A, B, C, D

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

ILO/s	Learning methods	Evaluation methods
A. Knowledge and understanding (A1-A5)	Lectures, discussions and preparation of term papers	Exam, presentations and assignments
B. Intellectual analytical and cognitive skills (B1-B5)	Lectures, discussions and preparation of term papers	Exam, presentations and assignments
C. Subject-specific skills (C1-C4)	Lectures, discussions and demonstrative experiments	Exam, presentations and assignments
D. Transferable key skills (D1-D3)	Lectures, discussions and demonstrative experiments	Exam, presentations and assignments

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation	Point %	Date
Midterm Exam	40	To be assigned by the registration
Term paper (10 points for the report and 5 for presentation)	15	Throughout the term
Free paper presentation	5	Throughout the term
Final Exam	40	To be assigned by the registration

23. Course Policies:

- Students should hand in the assignment(s) on due dates.
- Absence from an examination is only accepted when it is due to extraordinary circumstances as judged by the instructor.
- Assignments submitted after the deadline will not be accepted.
- Eating, drinking and mobiles are not allowed in classroom.
- According to The University regulations, class attendance is the responsibility of the student. Attendance will be taken at each lecture.
- Classroom behavior during lecture must be appropriate at all times. See University Student Academic Rules (<http://www.ju.edu.jo/rules/index.htm>).
- Mobile must be turned off and must be not allowed during exams.
- Talking during class, except in class discussion, is distracting and should be avoided. According to the University policy, the student should leave the class and will considered absent.
- Concerns or complaints should be expressed in the first instance to the module lecturer; if no resolution is forthcoming, then the issue should be brought to the attention of the module coordinator (for multiple sections) who will take the concerns to the module representative meeting. Thereafter, problems are dealt with by the Department Chair and if still unresolved the Dean and then ultimately the Vice President. For final complaints, there will be a committee to review grading the final exam.
- For more details on University regulations please visit:
- <http://www.ju.edu.jo/rules/index.htm>

24. Required equipment:

Lecture room equipped with a board and electronic projection equipment and connected to the internet.

25. References:

1. ISO 9000:2015, Quality management systems — Fundamentals and vocabulary
2. ISO 9001:2015, Quality management systems — Requirements
3. ISO 9004: 2009, Managing for the sustained success of an organization — A quality management approach
4. ISO 13053-1:2011, Quantitative methods in process improvement -- Six Sigma -- Part 1: DMAIC methodology
5. ISO 13053-2:2011, Quantitative methods in process improvement -- Six Sigma -- Part 2: Tools and techniques
- 6.
7. ISO 18404:2015, Quantitative methods in process improvement -- Six Sigma -- Competencies for key personnel and their organizations in relation to Six Sigma and Lean implementation
8. FAO/WHO Relevant publications
9. Basil Jarvis 2016 Statistical Aspects of the Microbiological Examination of Foods. Academic Press
10. Michael Carter (2015) The 8-Disciplines Problem Solving Methodology
11. Terra Vanzant Stern (2015). Lean Six Sigma: International Standards and Global Guidelines. Productivity Press
12. Tauseef Aized (Editor) 2016. Total Quality Management and Six Sigma InTech
13. T.M. Kubiak (2013).The ASQ Pocket Guide for the Certified Six Sigma Black Belt. Quality Press

26. Additional information:

None

Course Coordinator: **Prof. Mohammed I. Yamani** Signature: ----- Date 28/4/2020

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----