

Course Syllabus

1	Course title	Quality Management Systems
2	Course number	0603461
3	Credit hours (theory, practical)	3 (2 lecture and 1 lab)
	Contact hours (theory, practical)	5 (2 lecture and 3 lab)
4	Prerequisites/corequisites	-
5	Program title	Bachelor in food science and Technology Bachelor in nutrition and Dietetics
6	Program code	042, 043
7	Awarding institution	The University of Jordan
8	School	School of Agriculture
9	Department	Department of Nutrition and Food Technology
10	Level of course	4
11	Year of study and semester (s)	2019/2020, first semester
12	Final qualification	Bachelor
13	Other department (s) involved in teaching the course	-
14	Language of Instruction	English
15	Date of production/revision	1 st semester 2019/2020

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:

Principles and applications of ISO 9000, HACCP, risk analysis and good manufacturing practice, as well as other quality management systems. The practical part includes field visits and case studies

19. Course aims and outcomes:

A- Aims:

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

1. Have information about the International Organization for Standardization (ISO) and ISO 9000 series of standards.
2. Become informed about the concept of quality and developments in quality management systems (QMS).
3. Be familiar with quality management principles.
4. Get acquainted and understand vocabulary related to quality and quality management
5. Understand the concepts “context of the organization” and “needs and expectations of interested parties”.
6. Be familiar with ISO 9001 quality management system and its processes and plan-do-check-act (PDCA) cycle and risk-based thinking
7. Be informed about requirements of ISO 9001 QMS
8. Know how to develop and implement a QMS based on ISO 9001
9. Be familiar with the concept’s “audit” and “conformity assessment”
10. Get acquainted with laboratory accreditation and good laboratory practice
11. Be informed about business excellence and business excellence models
12. Understand tools of quality management and their use.

B- Intended Learning Outcomes (ILOs):

Upon successful completion of this course students will be able to:

A-Knowledge and Understanding

- A1- Have information about the “ISO” (the International Organization for Standardization) and ISO 9000 series of standards.
- A-2 Be familiar with quality management principles.
- A-3 Become acquainted with and understand quality management systems vocabulary.
- A-4 Understand the concept of risk analysis.

B- Intellectual Analytical and Cognitive Skills

- B-1 Understand fundamentals of quality management systems.
- B-2 Realize the role of QMS in continual improvement.
- B-3 Have information about business excellence and business excellence models.
- B-4 Understand risk-based management.

C- Subject Specific Skills

- C-1 Know how to develop, implement and maintain QMS based on ISO 9001
- C-2 Know how to develop and implement the tools of quality management.
- C-3 Possess knowledge of audit of management systems

D- Transferable Key Skills

- D-1 Know how to develop, implement, and maintain QMS.
- D-2 Be familiar with laboratory accreditation and good laboratory practice.

20. Topic Outline and Schedule:

Topic	Week	Achieved ILOs	Reference
<p><i>Introduction to ISO 9000 series of standards</i></p> <ul style="list-style-type: none"> • ISO 9000:2005:Quality management systems -- Fundamentals and vocabulary • ISO 9001:2015:Quality management systems -- Requirements • ISO 9004:2009:Managing for the sustained success of an organization -- A quality management approach • ISO 19011:2002:Guidelines for quality and/or environmental management systems auditing 	1	A-1, A-3, B-1	<ul style="list-style-type: none"> • ISO 9000:2015: • ISO 9001:2015 • ISO 9004:2018:
<p><i>Quality management principles</i></p> <ul style="list-style-type: none"> • Customer focus • Leadership • Involvement of people • Process approach • System approach to management • Continual improvement • Factual approach to decision making • Mutually beneficial supplier relationships 	2	A-2	<ul style="list-style-type: none"> • ISO 9000:2015: • ISO 9001:2015:
<p><i>Vocabulary of QMS</i></p> <p>Terms and definitions relating to:</p> <ul style="list-style-type: none"> • quality • management • organization • process and product • characteristics • conformity • documentation • examination • audit • measurement processes 	3	A-3	<ul style="list-style-type: none"> • ISO 9000:2015: • ISO 9001:2015:

Topic	Week	Achieved ILOs	Reference
<p><i>Fundamentals of quality management systems</i></p> <ul style="list-style-type: none"> • Rationale for quality management systems • Requirements for quality management systems and requirements for products • Quality management systems approach • The process approach • Quality policy and quality objectives • Role of top management within the quality management system • Documentation • Evaluating quality management systems • Continual improvement • Role of statistical techniques • Quality management systems and other management system focuses • Relationship between quality management systems and excellence models 	4-5	B-1, B-2, D-1	<ul style="list-style-type: none"> • ISO 9000:2015: • ISO 9001:2015:
<p><i>Requirements for the development, implementation, and maintenance of QMS</i></p> <ul style="list-style-type: none"> • General requirements • Documentation requirements • Management responsibility • Resource management • Product realization • Measurement, analysis and improvement 	6-8	B-2, C-1, C-2, D-1	<ul style="list-style-type: none"> • ISO 9000:2015: • ISO 9001:2015:
<p><i>Continual improvement</i></p> <ul style="list-style-type: none"> • Concepts of continual improvement • Managing for continual improvement • Methodology for continual improvement • Supporting tools and techniques for continual improvement 	9	B-2, D-1	<ul style="list-style-type: none"> • ISO 9000:2015: • ISO 9001:2015:
<p><i>Business excellence models</i></p> <ul style="list-style-type: none"> • Business excellence • Business excellence models • Jordan Quality Mark 	10	B-3	<ul style="list-style-type: none"> • ISO 9000:2015: • ISO 9001:2015:

Topic	Week	Achieved ILOs	Reference
<p><i>Prerequisite programs for food safety and QMS</i></p> <ul style="list-style-type: none"> • Codex Alimentarius Commission • Hygiene and sanitation requirement • Prerequisite programs and operational prerequisite programs 	11	A-3, C-1, C-2	<ul style="list-style-type: none"> • ISO 9000:2015: • ISO 9001:2015:
<p><i>Food safety and food safety management system</i></p> <ul style="list-style-type: none"> • Conventional methods to ensure food safety • HACCP system • The ISO 22000 series of standards <ul style="list-style-type: none"> • ISO 22000:2005 • ISO/TS 22003:2007 • ISO/TS 22002-1:2009 • ISO/TS 22004:2005 • ISO 22005:2007 • ISO 22006:2009 	12-14	B-4, D-2,	<ul style="list-style-type: none"> • ISO 2000:2005:
<p><i>Laboratory accreditation and good laboratory practice</i></p> <ul style="list-style-type: none"> • Conformity assessment and the ISO Committee on conformity assessment (CASCO) • CASCO Standards for laboratory accreditation • ISO/IEC 17000:2004: Conformity assessment -- Vocabulary and general principles • ISO/IEC 17025:2005: General requirements for the competence of testing and calibration laboratories • Good laboratory practice 	15	D-3	<ul style="list-style-type: none"> • ISO/IEC 17000:2004: • ISO/IEC 17025:2005:
<p><i>Risk analysis of food borne hazards</i></p> <ul style="list-style-type: none"> • Importance of risk analysis • Risk assessment • Risk communication • Risk management 	16	A-4, B-4	<ul style="list-style-type: none"> • ISO 9000:2015: • ISO 9001:2015: • Forsythe (2002)

21. Teaching Methods and Assignments:

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

ILO/s	Learning Method
A. Knowledge and Understanding (A1-A7)	Lectures and Discussions
B. Intellectual Analytical and Cognitive Skills (B1-B6)	Lectures and Discussions
C. Subject Specific Skills (C1-C6)	Group discussions and oral presentations
D. Transferable Key Skills (D1-D3)	Oral presentations

22. Evaluation Methods and Course Requirements:

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

Exams, Quizzes, open discussion, evaluation and ability to analyze problems using on the spot questions or requirement of assignments.

Evaluation	Point (%)
Midterm exam	30
Quizzes	10
Assignments	10
Final Exam	50
Total	100

ILO/s	Evaluation Method
A. Knowledge and Understanding (A1-A7)	Exams, quizzes,
B. Intellectual Analytical and Cognitive Skills (B1-B6)	Reading Assignments, exams.
C. Subject Specific Skills (C1-C6)	Term papers& assignments; exams
D. Transferable Key Skills (D1-D3)	Reports & assignments; exams.

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:

Required books

- 1- ISO 9000:2015. Quality management systems — Fundamentals and vocabulary
- 2- ISO 9001:2015. Quality management systems — Requirements

Recommended books, materials, and media:

- 1- Natarajan, D. (2017). ISO 9001 Quality Management Systems. Springer. Switzerland.
- 2- Kohl H. (2020) Standards for Management Systems. Springer. Switzerland.
- 3- ISO 9004:2018. Quality management — Quality of an organization — Guidance to achieve sustained success.
- 4- ISO 22000:2018. Food safety management systems — Requirements for any organization in the food chain.
- 5- ISO 14001:2015. Environmental management systems — Requirements with guidance for use.
- 6- ISO 19011:2018. Guidelines for auditing management systems.
- 7- ISO/IEC 17000:2020. Conformity assessment — Vocabulary and general principles.
- 8- ISO/IEC 17025:2017. General requirements for the competence of testing and calibration laboratories.

26. Additional information:

None

Course Coordinator: **Prof. Mohammed I. Yamani** Signature: ----- Date 8/4/2020

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

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

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

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