

COURSE DESCRIPTIONS

Faculty	Pharmacy				
Department	Medical Laboratory Sciences	NQF level	6		
Course Title	Medical Laboratory Management & Quality Control	Code	902360	Prerequisite	902420
Credit Hours	3	Theory	3	Practical	0
Course Leader	Sokiyna Ababneh, Msc	email	s.ababneh@jadara.edu.jo		
Lecturers	Sokiyna Ababneh, Msc	emails	s.ababneh@jadara.edu.jo		
Lecture time		Classroom			
Semester	Summer Semester, 2021/2022	Production	2020	Updated	2022
Awards		Attendance	Fulltime		

Short Description

This course is designed specifically for medical laboratory sciences students, which provides them a deep knowledge in the main management functions & principles. These functions include: planning, managerial decision-making, organizing, staff directing, and budgeting. Also, it discusses the goal-setting process, the crucial criteria for effective goals, and the indicators of the key performance. Moreover, this course aims to make the student familiar with different concepts of quality control and quality assurance and illustrates the quality control in terms of pre-analytical, analytical, and post analytical phases. Management in Healthcare materials will be incorporated with the course materials in order to be more related to Allied Health Profession theme.

Course Objectives

By the end of this course, the student will be able to:

- Learn about the definition, history, and schools of management.
- Describe and discuss extensively all the main functions/principles of laboratory management.
- Discuss the conflict in organization, and the prominent ways to resolve it.
- Describe the definition, the principles, and the models of quality assurance.
- Explain the three phases of quality control and several important keys related to the medical laboratory sciences practice.
- Establish the desired quality standards for the laboratory results by understanding the control chart.

Course Learning Outcomes (CLOs)

A. Knowledge - Theoretical Understanding

- **a1. Explain** the definition, history, schools, & functions of management, and their importance for organizations.
- **a2. Outline** the definition, the principles/models & three phases of quality assurance, and the factors affecting it in medical laboratory setting.

B. Knowledge - Practical Application
<ul style="list-style-type: none"> • a3. Develop the ability to use of the control chart a long with statistical and non-statistical quality assurance methods as a part of the laboratory quality control.
C. Skills - Generic Problem Solving and Analytical Skills
<ul style="list-style-type: none"> • b1. Apply the scientific procedures for solving problems in identifying and studying different topics related to laboratory management & quality assurance through analyzing course examples and answer questions.
D. Skills - Communication, ICT, and Numeracy
E. Competence: Autonomy, Responsibility, and Context
<ul style="list-style-type: none"> • c1. Select specific statistical and non-statistical quality assurance methods to control the medical analysis in the laboratory. • c2. Assess the appropriate health care organizational behaviors and skills that are required for management roles in the medical laboratory field.
Teaching and Learning Methods
<ul style="list-style-type: none"> • Lectures will be given according to the specified time and location as assigned on the academic schedule. • Lectures will be administrated using power-point presentations and will be provided to the students through JU e-learning website. • Brainstorming & group discussion <p>Teaching duration: According to the academic calendar provided at JU website.</p>
Assessment Methods
<ul style="list-style-type: none"> • Midterm Exam (30%) • Quizzes (10%) • Discussion & Interaction (10%) • Final Exam (50%)

Course Contents					
Week	Hours	CLOs	Topics	Teaching & Learning Methods	Assessment Methods
1.	3	a1, b1	<ul style="list-style-type: none"> • Definition, History, & schools of Management. 	Handout & textbooks	Quiz, Midterm, Discussion & Interaction
2.	3	a1, b1, c1	<ul style="list-style-type: none"> • Management in applied medical sciences. 	Handout & textbooks	Quiz, Midterm, Discussion & Interaction
3.	3	a1, b1, c1	<ul style="list-style-type: none"> • The planning function in organizations. • Functional objectives. 	Handout & textbooks	Quiz, Midterm, Discussion & Interaction

4.	3	a1, b1, c1	<ul style="list-style-type: none"> The decision-making function in organizations. 	Handout & textbooks	Quiz, Midterm, Discussion & Interaction
5.	3	a1, b1, c1	<ul style="list-style-type: none"> Organizing. Organizational structures and charts. 	Handout & textbooks	Quiz, Midterm, Discussion & Interaction
6.	3	a1, b1, c1	<ul style="list-style-type: none"> Controlling function in organizations. Tools of control to include six sigma. 	Handout & textbook	Quiz, Midterm, Discussion & Interaction
7.	2	a1, b1, c1	<ul style="list-style-type: none"> Budgeting in organization. Staffing in organizations. 	Handout & textbooks	Quiz, Midterm, Discussion & Interaction
	1	a1, b1, c1	Midterm Exam		
8.	3	a2, b1, c1	<ul style="list-style-type: none"> Introduction to quality control and assurance for medical laboratories Components of quality assurance Pre-analytical and Analytical aspects of QA. 	Handout & textbooks	Quiz, Final, Discussion & Interaction
9	3	a2, b1, c1	<ul style="list-style-type: none"> Statistical concepts in quality assurance. Terminology in QC and QA. Analytical errors. 	Handout & textbooks	Quiz, Final, Discussion & Interaction
10	3	a2, b1, c1	<ul style="list-style-type: none"> Analytical aspects of QA: Analytical errors (cont.) 	Handout & textbooks	Quiz, Final, Discussion & Interaction
11	3	a2, b1, c1	<ul style="list-style-type: none"> Analytical aspects of QA: Application of statistical concepts in quality assurance (cont.) 	Handout & textbooks	Quiz, Final, Discussion & Interaction
12	3	a3, b1, c1	<ul style="list-style-type: none"> Quality control chart and the Westgard rules 	Handout & textbooks	Quiz, Final, Discussion & Interaction
13	3	a3, b1, c1	<ul style="list-style-type: none"> Application of Quality control chart and the Westgard rules 	Handout & textbooks	Quiz, Final, Discussion & Interaction
14	3	a2, b1, c1	<ul style="list-style-type: none"> Quality of post analytical variability 	Handout & textbooks	Quiz, Final, Discussion &

					Interaction
15	3	a2, a3, b1.c1	Final Exam		
16	3	a2, a3, b1.c1	Final Exam		

Infrastructure	
Textbook	<ul style="list-style-type: none"> • Title: Principles of Management by Tony Morden, 2nd edition. 2004 • Title: Management by Stephen Robbins and Mary Coulter, 11th edition, 2011 • Title: Basic quality assurance for immediate and peripheral laboratories by WHO, regional publication, eastern Mediterranean, 1992. • Title: Clinical chemistry: techniques, principles, correlations by Michel Bishop, 8th edition 2018.
References	<ul style="list-style-type: none"> • Lecture handouts (PowerPoint slides) • NCBI Database (https:// www.ncbi.nlm.nih.gov/): includes many textbooks that are available online FREE. • Internet: there are many websites that provide valuable data related to laboratory management, quality control and assurance including research paper, books, animation, etc. Also, students can find more of these websites by searching in the internet using a suitable searching key. • Many websites will be posted on E-learning during the semester.
Required reading	<ul style="list-style-type: none"> • Chapter 2 (Quality assessment) in the following textbook: Clinical chemistry: a laboratory perspective by Wendy Arneson, Jean BRICKELL, 2007. • Chapter 4 (Method Evaluation and Quality Management)/ Part (QUALITY CONTROL) in the following textbook: Clinical chemistry: techniques, principles, correlations by Michel Bishop, 8th edition 2018.
Electronic materials	Provided to the students through JU e-learning website.
Other	In addition to the above, the students will be provided with handouts by the lecturer.

Course Assessment Plan							
Assessment Method	Grade	CLOs					
		a1	a2	a3	b1	c1	c2
First (Midterm)	30%	14			3		13
Second (if applicable)							
Final Exam	50%		18	22		10	
Coursework							
Assignments							

Case study							
Discussion and interaction	10%	6			2		2
Group work activities							
Lab tests and assignments							
Presentations							
Quizzes	10%	1	2	0	3	2	2
Total	100%	21	20	22	8	12	17

Plagiarism

Plagiarism is claiming that someone else's work is your own. The department has a strict policy regarding plagiarism and, if plagiarism is indeed discovered, this policy will be applied. Note that punishments apply also to anyone assisting another to commit plagiarism (for example by knowingly allowing someone to copy your code).

Plagiarism is different from group work in which a number of individuals share ideas on how to carry out the coursework. You are strongly encouraged to work in small groups, and you will certainly not be penalized for doing so. This means that you may work together on the program. What is important is that you have a full understanding of all aspects of the completed program. In order to allow proper assessment that this is indeed the case, you must adhere strictly to the course work requirements as outlined above and detailed in the coursework problem description. These requirements are in place to encourage individual understanding, facilitate individual assessment, and deter plagiarism.