



KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY (KUST)

Introduction to Medical Laboratory Science			
Course Title	Introduction to Medical Laboratory Science		
Course Code	MLS1200	No. of Credits	2
Department	MLS	College	Science
Pre-requisites Course Code	Talent Science (TLS)	Co-requisites Course Code	
Course Coordinator(s)	Dr. Salih Ahmed Hama	Office number	241
Email	Salih.hama@komar.edu.iq	IP No.	
Other Course Teacher(s)/Tutor(s)			
Learning Hours	Monday S1 16:00 - 18:00 G15-16 Thursday S2 10:00 - 12:00 112		
Contact Hours	Monday 9:30 – 10:00 AM; 14:30 – 16:00 Thursday 9:30 – 10:00 AM; 13:30 – 14:00		
Course Type	Departmental course		
Offer in Academic Year	Spring 2016		
Course Description			
The Medical Laboratory Science department is dealing with laboratory analyses used in the diagnosis, prognosis, and treatment of disease as well as in the maintenance of health. Introduction to MLS course is designed to clarify the concepts and principles of Medical Laboratory Science; definition and types of medical laboratories, laboratory services, roles of medical laboratories, introducing necessary solutions and reagents used in medical laboratories, glass/plastic wares, and instruments used in diagnostic procedures. Moreover, this course clarifies the principles of sterilization, sampling, rules of laboratory safety, quality control....., etc. Introduction to MLS course also provides summarized information about Microbiology, Bacteriology, Immunology & Serology, Virology and Parasitology laboratories.			
Course Objectives			
This course will provides students with a comprehensive knowledge about: - Different issues related to MLS and clinical topics including various chemical and biological tests used in diagnosing human diseases. - The types, service, of medical laboratories, principles of sterilization, sampling, and general information about microbiological and other laboratories, rather than Biosafety rules and quality control. Relationships of MLS to the medicine, health sector, and the community.			



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Course Learning Outcomes

After participating in the course, students would be able to:

1. Define and differentiate between the main types and service of medical laboratories.
2. Arrange the medical important priorities of MLS and describe its relation to the medicine and human health.
3. Identify the correct procedure of sampling, labeling, transporting and storage of medical samples.
4. Recognize the main commonly used solutions & equipment used in the medical laboratories.
5. Outline the fundamental concepts of sterilization techniques used in the medical laboratories
6. List the basic concepts of Biosafety rules in medical laboratories and quality control procedures.
7. Define the cells; recognize the cellular organelles, and the cell cycle.
8. Describe basic concepts of microbiology, bacteriology, Parasitology, hematology, immunology, and virology laboratories and their significant roles in MLS.

Guidelines on Grading Policy

<i>Points</i>	<i>Percentage Scores</i>	<i>Grade</i>
<i>A</i>	<i>95–100</i>	<i>4.0</i>
<i>A-</i>	<i>90-94</i>	<i>3.7</i>
<i>B+</i>	<i>87–89</i>	<i>3.3</i>
<i>B</i>	<i>83-86</i>	<i>3.0</i>
<i>B-</i>	<i>80-82</i>	<i>2.7</i>
<i>C+</i>	<i>75–79</i>	<i>2.3</i>
<i>C</i>	<i>70-74</i>	<i>2.0</i>
<i>C-</i>	<i>65-69</i>	<i>1.7</i>
<i>D+</i>	<i>60–64</i>	<i>1.3</i>
<i>D</i>	<i>55-59</i>	<i>1.0</i>
<i>D-</i>	<i>50-54</i>	<i>0.7</i>
<i>F</i>	<i>0–49</i>	<i>0</i>
<i>I</i>	<i>Incomplete Course Work</i>	
<i>W</i>	<i>Official Withdrawal</i>	



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Course Teaching and Learning activities

Course Teaching and Learning Activities: (short description)

Lectures: The students are responsible for all material covered in the lecture subjects, and they should make every effort to attend the lectures and take complete and accurate notes.

Methods of Presentation and Evaluation:

Information will be presented through power point lectures and class discussion using data show and appropriate visual aids.

Course Assessment Tools

Assessment Tool	Description	Weight
Homework	During the course, students are going to do at least two homework assignments.	10%
Reports	Students are going to do at least 1-2 reports during the course	10%
Quizzes	Students are going to do at least four quizzes.	10%
Tests	Students are going to do at least one test during the course	10%
Midterm exam	Done in the middle of the course	25%
Final Exam	All course lectures will be required	35%
Total		100%

Grading: Passing Grade: 65%

Essential Readings: (Journals, textbooks, website addresses, etc.)

Textbooks:

- Name of the Textbook: Introduction to medical laboratory technology. EPHTI.
- Authors: Seyoum Berhanu
- Publisher: EPHTI
- ISBN:
- Year: 2006

References:

1. - Title: Laboratory Biosafety Manual. 3rd edition. Geneva.
 - Authors: WHO
 - Edition: 3rd
 - ISBN:
 - Year: 2004
2. - Title: Essentials of Clinical Laboratory Science.
 - Authors: Ridley John.
 - Edition:
 - ISBN:
 - Year: 2010



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Course policy (including plagiarism, academic honesty, attendance, etc.)

General Guidelines for MLS Students

Useful Guidelines:

1. Work both independently and in groups of your peers, who can help you understand the course material.
2. Attend every lecture, discussion, and lab.
3. Make every effort to interact with your class partner(s).
4. Try to stay active throughout the class period.
5. Don't hesitate to ask questions in class.
6. Put your fair share of efforts in preparing the term projects and the term paper.
7. Be cooperative at all times.
8. Spend at least 2-3 hours each day for studying and doing homework.

Portable Electronic Devices:

- Using of any electronic devices, like cell phones, MP3 players,....., during class are not allowed.
- In Case of necessity for using electronic devices, approval should be given by the instructor.
- If students use a portable electronic device during tests, quizzes, or other assessment, they are eligible to receive a failing grade or zero.

Class attendance:

Attendance is important and will be taken at each lecture. Students will attend all class meetings, except in cases of reasonable extenuating circumstances. In cases of an emergency, students should contact their instructor. Students need to be in the class to take notes, ask questions and stay involved in the course, and they are personally responsible for the assignments and all information missed due to an absence. Absence (excused or unexcused) may affect on student's grades.



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Course Schedule

Weeks	Topics (Chapters)	Matching with outlines	Quizzes	Home works	Reports
W1	Introduction to MLS: Course description, course objective, outcomes, and syllabus	Outcome 1,2			
	Medical Laboratory: General overview		Quiz 1		
W2	Classification of medical laboratories, the importance of each type Structure of medical laboratory service, Roles of medical laboratory				
W3	Sample Collection, transportation, labeling and handling.	Outcome 3		HW1	
W4	Solutions used in medical Laboratory	Outcome 4	Quiz 2		
W5	Laboratory glass and Plastic wares, A simple description Laboratory instruments and tools; their uses				
W6	Sterilization and Disinfection and Decontamination	Outcome 5	Quiz 3		Rep1
W7	Laboratory hazards, accidents, and safety First aid for laboratory hazards				
Mid-Term Exam					
W8	Causes of errors in medical Laboratories and quality control	Outcome 6	Quiz 4		
W9	Cells and principles of cytology and cell cycle	Outcome 7			
W10	Microbiology laboratories / Bacteriology	Outcome 8		HW2	
W11	Test				
W12	Microbiology- continued / Parasitology, Virology		Quiz 5		Rep2
W13	Hematology laboratories				
W14	Immunology and Serology I				
W15	Revision				

HW = Homework

Rep = Report