The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Med. Lab. Instrumentation and Techniques
2	Course number	0308241
3	Credit hours (theory, practical)	2
	Contact hours (theory, practical)	2
4	Prerequisites/corequisites	-
5	Program title	Clinical Laboratory Sciences
6	Program code	
7	Awarding institution	The University of Jordan
8	Faculty	Sciences
9	Department	Clinical Laboratory Sciences
10	Level of course	2nd year
11	Year of study and semester (s)	Second semester 2017/2018
12	Final Qualification	BSc
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Date of production/revision	2018

16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Office Hours: Tuesdays 10:00- 11:00 and Wednesdays 12:00-1:00
Office: Cell Therapy Center
Tel.: 5355000
Email: azab.belalm@gmail.com

17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.

None

18. Course Description:

As stated in the approved study plan.
This course will provide a broad-based understanding of clinical laboratory instrumentation principles, their specific applications and the process of instrument selection as well as their calibration and maintenance to produce quality analysis, particularly the following instruments: spectrophotometrs, ion-selective electrodes, thermal equipments, centrifuges and balances, turbidometers. hematology analyzers, coagulation instruments, clinical chemistry analyzers, osmometers, electrochemistry, electrophoresis, chromatography, molecular techniques, automation and immunochemical methodologies.

19. Course aims and outcomes:

A- Aims:
1. Identify the types and uses of laboratory balances.
2. Explain the advantages of laboratory refrigerators.
3. Describe the importance of ovens, water baths and incubators.
4. State the use of photometers and desiccators.
5. Identify the types and uses of microscopes.
6. State the basic components centrifuge

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to
1. Become familiar with diagnostic laboratory instruments
2. Lean the use and utilization of laboratory instruments
3. Understand how laboratory instruments work
4. Read the laboratory instruments results

20. Topic Outline and Schedule:

Topic	Week	Achieved ILOs	Evaluation Methods	Reference
Introduction	1	1,2,3,4	NA	
Microtome	1	1,2,3,4	Group project, presentation and test	
pH meter	2	1,2,3,4	Group project, presentation and test	
CBC device	2	1,2,3,4	Group project, presentation and test	
Electrophoresis	2	1,2,3,4	Group project, presentation and test	
PCR	3	1,2,3,4	Group project, presentation and test	
Vidas	3	1,2,3,4	Group project, presentation and test	
Microscopy	4	1,2,3,4	Group project, presentation and test	
spectrophotometer	4	1,2,3,4	Group project, presentation and test	
ba-88a	4	1,2,3,4	Group project, presentation and test	
Architect	5	1,2,3,4	Group project, presentation and test	
Autoclaving	5	1,2,3,4	Group project, presentation and test	
Centrifuge	6	1,2,3,4	Group project, presentation and test	
Colony counter	6	1,2,3,4	Group project, presentation and test	
Osmometer	6	1,2,3,4	Group project, presentation and test	
Test tubes	7	1,2,3,4	Group project, presentation and test	
Rotovap	7	1,2,3,4	Group project, presentation and test	
Incubator	8	1,2,3,4	Group project, presentation and test	
urine analysis	8	1,2,3,4	Group project, presentation and test	
glucose meter	8	1,2,3,4	Group project, presentation and test	
Blood gas analyzer	9	1,2,3,4	Group project, presentation and test	
HPLC	9	1,2,3,4	Group project, presentation and test	
Hemocytometer	10	1,2,3,4	Group project, presentation and test	
water bath	10	1,2,3,4	Group project, presentation and test	
Veinlite	10	1,2,3,4	Group project, presentation and test	
Lumniex	11	1,2,3,4	Group project, presentation and test	
sanger sequencer	11	1,2,3,4	Group project, presentation and test	
Sphygmomanometer	12	1,2,3,4	Group project, presentation and test	
ESR automated analyzer	12	1,2,3,4	Group project, presentation and test	

21. Teaching Methods and Assignments:

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

- Groups projects
- Groups presentations
- facilitator-led discussion of course modules

22. Evaluation Methods and Course Requirements:

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

Participation	10%
Project report	10%
Group lecture	40%
Final Written Exam	40%

23. Course Policies:

A- Attendance policies:

- attend and participate in all classes: attendance will be taken..

Class time will be used to discuss, elaborate, expand, etc., on the written modules. This may include formal/informal lectures, audio visual presentations, demonstrations, labs, etc.

B- Absences from exams and handing in assignments on time:

1. A student who has been absent for 15% or more of the total hours of any course, including absences for medical or compassionate reasons, may be required to withdraw from that particular course.

2. Students who miss quizzes or examinations will automatically be assigned a mark of zero unless the respective instructor, or the Program Head, has been notified of the reason for absence *PRIOR* to the commencement of the exam. Acceptable reasons will be evaluated at the time (e.g., illness - medical certificate may be required, serious illness or death in the family, etc.). Supplemental examinations may be allowed in legitimate cases.

C- Health and safety procedures:

All students need to be immunized against hepatitis B, immunization certificate must be forwarded to the coordinator of the hospital training. Pregnancy affects immunization and it is the responsibility of the student to notify the health person as soon as possible of her pregnancy. If there are fees related to immunization, it is the responsibility of the student.

D- Honesty policy regarding cheating, plagiarism, misbehavior:

E- Grading policy:

F- Available university services that support achievement in the course:

24. Required equipment:

25. References:

A- Required book (s), assigned reading and audio-visuals:
Locquin, M. *Handbook of Microscopy*. Butterworths. Boston 1983.
Raphael, S.S. *Lynch's Medical Laboratory Technology*. W.B. Saunders. Toronto 4th edition. 1983.

B- Recommended books, materials, and media:

26. Additional information:

Name of Course Coordinator: Dr. BELAL AZAB Signature: *Belal Azab* Date: *8 June 2018*

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

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

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

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

Copy to:
Head of Department
Assistant Dean for Quality Assurance
Course File