



**The University of Jordan**

**Accreditation & Quality Assurance Center**

**COURSE Syllabus**

1	Course title	Blood Bank
2	Course number	0308364
3	Credit hours (theory, practical)	2
	Contact hours (theory, practical)	2
4	Prerequisites/corequisites	0308361+0308361
5	Program title	Medical Analysis
6	Program code	
7	Awarding institution	The University of Jordan
8	Faculty	Sciences
9	Department	Clinical Laboratory Sciences
10	Level of course	3 <sup>rd</sup> year
11	Year of study and semester (s)	Summer semester 2016/2017
12	Final Qualification	BSc
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Date of production/revision	2016

**16. Course Coordinator:**

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

Office: Rm 211 Building 31, office hours: 12-15pm every day. phone ext. 22235, email: bilto@ju.edu.jo

**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 focus on the theory and practice needed to perform basic techniques to detect antigen-antibody reactions and how to perform ABO forward and reverse grouping, Rh grouping and the antiglobulin test (direct and indirect). This course will also focus on the theory of other blood group systems and procedures used to detect and identify antigens and antibodies and how to help diagnose, treat and prevent hemolytic disease in newborns.

1. 19. Course aims and outcomes:
- 2.

**A- Aims:**

- Perform basic techniques to detect antigen-antibody reactions in the Blood Bank Laboratory
- Detect and identify ABH antigens and antibodies and to recognize and resolve result discrepancies/anomalies
- Detect and identify Rh antigens and antibodies using the antiglobulin test when required and to recognize and resolve result discrepancies.
- Detect and identify ABH antigens and antibodies and to recognize and resolve result discrepancies/anomalies.
- Detect and identify Rh antigens and antibodies using the antiglobulin test when required and to recognize and resolve result discrepancies.
- Detect and identify antigens and antibodies in other blood group systems and to state the characteristic clinical significance of antibodies.
- Aid in the diagnosis, treatment and prevention of hemolytic disease of the newborn, and to aid in the diagnosis and treatment of other immune hemolytic anemias.

**B- Intended Learning Outcomes (ILOs):** Upon successful completion of this course students will be able to ...

- |   |
|---|
| • Discuss agglutination   |
| • Discuss optimum conditions for RBC antigen-antibody reactions   |
| • Discuss reagents and equipment commonly used in transfusion medicine tests  |
| • Perform, interpret and explain tests to demonstrate the theory of RBC antigen-antibody reactions  |
| • Discuss the principles of blood group inheritance.  |
| • Perform forward (cell) grouping and reverse (serum) grouping, and interpret the results for ABO grouping.   |
| • Perform A subgrouping and interpret the results.  |
| • Detect and resolve discrepancies in ABO forward and reverse grouping, initiate follow-up as required.   |
| • Perform Rh typing using a variety of antisera and interpret the results.  |
| • Perform direct antiglobulin testing and interpret the results.  |
| • Perform indirect antiglobulin tests and interpret the results.  |
| • Use control cells required for antiglobulin tests.  |
| • Determine the most probable Rh genotype from phenotyping results.   |
| • Perform and interpret ABO and Rh tests and initiate follow-up as required.  |
| • Describe Rh antibodies.   |
| • Perform an antibody screen and interpret the results.   |
| • Perform antibody identification and interpret the results.  |
| • Perform and report an antibody titre.   |
| • Elute an antibody from RBC's and identify the antibody.   |
| • Select, perform and report routine prenatal testing to assess the possibility of Hemolytic Disease of the Newborn (HDN).                              |
| • Describe and perform additional prenatal testing to assess the risk to the fetus once HDN has been detected.  |
| • Describe prenatal procedures that may be used in the intervention of HDN and perform related testing.   |
| • Select, perform and report tests to determine the extent of disease and the need for intervention in the immediate post-partum period.                |
| • Determine if a mother meets the criteria for Rh <sub>0</sub> immune globulin, perform tests to calculate the amount to be given and insure injection. |
| • Perform confirmatory tests to determine the type of immune hemolytic anemia and select donor blood if appropriate.                                    |

**20. Topic Outline and Schedule:**

3.					
Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
4.	5.	6.	7.	8.	9.
10.	11.	12.	13.	14.	15.
16.	17.	18.	19.	20.	21.
22.	23.	24.	25.	26.	27.
28.	29.	30.	31.	32.	33.
34.	35.	36.	37.	38.	39.
40.	41.	42.	43.	44.	45.
46.					
47.					

**21. Teaching Methods and Assignments:**

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

- traditional lectures
- 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:

Midterm (theory)	35%
Assignments and lab performance.	15%
Final Written Exam (theory 40, lab 10)	50%

**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:

- Harmening, Denise. *Modern Blood Banking and Transfusion Practices*. 4<sup>th</sup> ed.

B- Recommended books, materials, and media:

- Blaney, Kathy D. and Howard, Paula R. *Basic and Applied Concepts of Immunohematology*.
- Issitt, P.D. and Issitt, C.H. *Spectra Biologicals: Applied Blood Group Serology*, 3<sup>rd</sup> ed.
- Mollison, P.L. *Blood Transfusion and Clinical Medicine*, 7<sup>th</sup> ed.
- Rudmann, Sally V. *Textbook of Blood Banking and Transfusion Medicine*.
- Turgeon, Mary Louise. *Fundamentals of Immunohematology*. 2<sup>nd</sup> ed.
- Canadian Society for Transfusion Medicine, *Standards for Transfusion Medicine*. 6<sup>th</sup> ed.

## 26. Additional information:

Name of Course Coordinator: -Prof. Dr. Y.Y. Bilto- Signature: --- Yousif ---- Date: --1/9/2017---

Head of curriculum committee/Department: - Prof. Dr. Y.Y. Bilto --- Signature: -- Yousif -----

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

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

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

Copy to:  
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Assistant Dean for Quality Assurance  
Course File