COURSE DESCRIPTIONS

Faculty	Pharmacy				
Department	Medical laboratory sciences			**NQF level**	6
Course Title	Blood Banking and transfusion	**Code**	902428	**Prerequisite**	**902365**
Credit Hours	3	**Theory**	2	**Practical**	1
Course Leader	**SokiynaAbabneh, M.Sc**	**email**	s.ababneh@jadara.edu.jo		
Lecturers	**SokiynaAbabneh, M.Sc**	**emails**	s.ababneh@jadara.edu.jo		
Lecture time		**Classroom**			
Semester	First 2021-2022	**Production**	2019	**Updated**	2020
Awards				**Attendance**	Fulltime

ShortDescription

The mission of blood banks is to provide safe blood and blood components for safe transfusion to the proper recipients who are suffering of specific blood disorders. To achieve this, a series of technical procedures must be carried out prior to the release of blood/blood components to ensure safe blood donation and transfusion. Henceforth, this course intends to provide students with the basics of immunohematology principles and applications including blood grouping, pre-transfusion testing, therapeutic approaches and adverse reaction to blood donation and transfusion. The accompanying practical sessions of this course will educate students about the practical applications and technical performance of blood bank procedures that are required for transfusion of blood and blood components and for handling and storage of blood and blood components.

Course Objectives

The major goal of this course is to provide students with knowledge in Immunohematology and blood banking. Therefore, upon completion of this course, the student will be able to:

- To understand the basic principles and applications in immunohematology
- To understand the work-flow and the routine procedures of blood banks
- To describe the process of blood donation and preparation of blood components
- To understand and experience all pre-transfusion tests including blood typing, cross matching, antibodies screening and identification
- To be aware of the adverse reaction of blood donation and administration

Learning Outcomes
A. Knowledge - Theoretical Understanding
a1. outline basic principles , applications,the work-flow , the routine procedures of blood banks and the process of blood donation and preparation of blood components.
B. Knowledge - Practical Application
a2. apply all pretransfusion tests including blood typing, cross matching, antibodies screening and the different techniques and criteria necessary for blood donation and processing.
C. Skills - Generic Problem Solving and Analytical Skills
b1. Analyze the scientific procedures for solving problems in identifying and studying different topics related to immunohematology and blood banking through analyzing course example ,answer questions through the lecture and analyzing scientific papers.
D. Skills - Communication, ICT, and Numeracy
b2. prove the ability to communicate information and arguments effectively using written and oral skills.
E. Competence: Autonomy, Responsibility, and Context
c1. adapt the knowledge gained from this course, in some of the specific methodologies and techniques used in medical tests in blood banking. **c2.**Discuss the adverse reaction of blood donation and administration
Teaching and Learning Methods
Lectures will be given according to the specified time and location as assigned on the academic schedule (see course information above) Lectures will be administrated using power-point presentations and will be provided to the students through JU e-learning website. Textbook is obligatory and required by the students. **Teaching duration**: According to the academic calendar provided at JU website
Assessment Methods
• Mid Term Exam (30%) • Quiz (10%) • Lab reports 10% • Final Exam (50%)

Course Contents					
Week	**Hours**	**CLOs**	**Topics**	**Teaching & Learning Methods**	**Assessment Methods**
1.	3	,a1,a2	Immunohematology: Blood Banking	Power-point presentation & handout	Mid Term Exam & quiz
2.	3	,a1,a2	Blood donation process	Power-point presentation & handout	Mid Term Exam & quiz
3.	3	,a1,a2	Blood components processing	Power-point presentation & handout	Mid Term Exam & quiz
4.	3	,a2,b2	Blood grouping systems: ABO	Power-point	Mid Term

		a1	ABO discrepancies • **Midterm exam**	presentation & handout	Exam & quiz
5.	3	,a2,b2, b1	Blood grouping systems: Rh	Power-point presentation & handout	Mid Term Exam & quiz
6.	3	,a2,b2, c1,b1	Blood grouping systems: Others	Power-point presentation & handout	Mid Term Exam & quiz
7.	3	a1,a2, b1,c1	Antihuman globuling AHG (Coomb's) test: Principle & application	Power-point presentation & handout	Final Exam & homework
8.	3	a1,a2, b1,c1, b2	Blood Hemolytic disease of newborn	Power-point presentation & handout	Final Exam & homework
9.	3	a1,a2, b1,c1, b2	• Immunohematology: kinetics of antigen-antibody reaction. • Autoimmune hemolytic anemia.	Power-point presentation & handout	Final Exam & homework
10.	3	a1,a2, b1,c1	Pre-transfusion compatibility testing: Cross matching	Power-point presentation & handout	Final Exam & homework
11.	3	a1,a2, b1,c1, b2	Pre-transfusion compatibility testing: antibodies screening and identification. antibody titration.	Power-point presentation & handout	Final Exam & homework
12.	3	c2,b1, b2,c1, c2	Pre-transfusion testing: transfusion transmitted diseases	Power-point presentation & handout	Final Exam & homework
13.	3	c2,b1, b2,c1, c2	Transfusion therapeutic approaches	Power-point presentation & handout	Final Exam & homework
14.	3	c2,b1, b2,c1, c2	Adverse reactions of blood transfusion	Power-point presentation & handout	Final Exam & homework
15.	3	b1,b2, c2	Quality control and quality assurance in blood banking	Power-point presentation & handout	Final Exam & homework
16.	3	a1,a2, b1,b2, c1,c2	• Revision • **Final exam**		

Infrastructure	
Textbook	Immunohematology: principles and practice. Eva D. Quinley.

	Publisher: Lippincott, Williams and Wilkins. 2001, Third Edition.
References	• Lecture handouts • NCBI Database (https//:www.ncbi.nlm.nih.gov/): includes many updated textbooks that are available online FREE. • Internet: there are many websites that provide updated valuable data related to blood banking including research paper, books, animation, etc. you 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. • http://www.lww.com/product/Immunohematology/?978-0-7817-8204-3
Required reading	
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	b1	b2	c1	c2
First(Midterm)		30%	12	6	6	6		
Second (if applicable)								
Final Exam		50%	8	2	10	7	12	11
Coursework								
Coursework assessment methods	Assignments							
	Case study							
	Discussion and interaction							
	Group work activities							
	Labtests and assignments	10%					5	5
	Presentations							
	Quizzes	10%		1			9	
Total		100%	20	9	16	13	26	16

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.