# Module(Course Syllabus)Catalogue

# 2022-2023

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| **College/ Institute** | **Shaqlawa Technical College** | |
| **Department** | **Medical Lab. Technology** | |
| **Module Name** | **Bloodbank** | |
| **Module Code** | BLB 403 (SHTC02M-2S-SM4) | |
| **Degree** | **Technical Diploma** ✔ **Bachler** ☐<br>**High Diploma** ☐ **Master** ☐ **PhD** ☐ | |
| **Semester** | **4th semester** | |
| **Qualification** | **Ph.D.** | |
| **Scientific Title** | **Lecturer** | |
| **ECTS (Credits)** | | |
| **Module type** | **Prerequisite** ☐ **Core** ✔ **Assist.** ☐ | |
| **Weekly hours** | **8 Hrs.** | |
| **Weekly hours (Theory)** | **( 2 )hr Class** | **( 4 )Total hrs Workload** |
| **Weekly hours (Practical)** | **( 2 )hr Class** | **( 6 )Total hrs Workload** |
| **Number of Weeks** | **14** | |
| **Lecturer (Theory)** | **Dr. Salam Adil Ahmed** | |
| **E-Mail& Mobile NO.** | **salamadil@epu.edu.iq, 07508174822** | |
| **Lecturer (Practical)** | **Dr. Salam Adil, Mr. saifullah, Mrs. awaz** | |
| **E-Mail & Mobile NO.** | **salamadil@epu.edu.iq, 07508174822** | |
| **Websites** | | |

# Course Book

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| **Course Description** | Blood bank is a place where blood obtained through blood donation is stored and preserved for later use. The preserved blood is later used for blood transfusion.<br><br>The main subject areas will include blood Blood collection and its necessary equipment, the blood donation and how to select the suitable donors, screening of blood for infections, and the processes of transfusion with its practices. Blood compatibility tests, plasma and cellular components, and safety procedures are covered in this course.<br><br>This text is designed for phlebotomists and laboratory staff in training and in practice. The work presented in this course will be of benefit to medical students that interested in donation and transfusion of blood. |
| **Course objectives** | 1. Understand blood banking processes<br>2. Understand the important roles of blood banks in surgery and emergency departments.<br>3. Understand the details and purposes of transfusion of blood components.<br>4. Understand the necessary steps for blood safety.<br>5. Be familiar with the collection, donation, and transfusion of blood. |
| **Student's obligation** | • Attendance 85-90% of lectures.<br>• Completion of all the requirements quizes, exams, reports, assignments, siminars, ….etc.<br>• Participation in the laboratory works (practical lectures). |
| **Required Learning Materials** | • The lectures showed by **data show** and the explanations discussed in the **hall** and at the same time the students will |

<table>
<tr><td></td><td colspan="5">have a copies of the lectures.<br>• The lectures will be available on line (Moodle platform)<br>• Lab. Instruments and materials will used in Practical lectures.</td></tr>
<tr><td rowspan="11">Evaluation</td><td colspan="2">Task</td><td>Weight (Marks)</td><td>Due Week</td><td>Relevant Learning Outcome</td></tr>
<tr><td colspan="2">Paper Review</td><td></td><td></td><td></td></tr>
<tr><td rowspan="6">Assignments</td><td>Homework</td><td>14%</td><td></td><td></td></tr>
<tr><td>Class Activity</td><td>2%</td><td></td><td></td></tr>
<tr><td>Report</td><td rowspan="4">24%</td><td></td><td></td></tr>
<tr><td>Seminar</td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td></td></tr>
<tr><td>Project</td><td></td><td></td></tr>
<tr><td colspan="2">Quiz</td><td>4%</td><td></td><td></td></tr>
<tr><td colspan="2">Lab.</td><td></td><td></td><td></td></tr>
<tr><td colspan="2">Midterm Exam</td><td>16%</td><td></td><td></td></tr>
<tr><td colspan="2">Final Exam</td><td>40%</td><td></td><td></td></tr>
<tr><td colspan="2">Total</td><td>100%</td><td></td><td></td></tr>
<tr><td>Specific learning outcome:</td><td colspan="5">Students after this course will be able to identify the potential donors, carry out the necessary tests and operate relevant equipment. Then Learning how to deal with the donors and patients.<br>The main aim of Blood bank course is to train students about blood bank technology and turn them into skilled blood bank technicians. Skilled blood bank technicians ensure the smooth functioning of a blood bank.</td></tr>
<tr><td>Course References:</td><td colspan="5">• Wong, T. (2021). Transfusion Medicine. In Blood and Marrow Transplant Handbook (pp. 187-199). Springer, Cham.<br>• Lozada, M. J., Cai, S., Li, M., Davidson, S. L., Nix, J., & Ramsey, G. (2019). The Las Vegas mass shooting: an analysis of blood component administration and blood bank donations. Journal of Trauma and Acute Care Surgery, 86(1), 128-133.<br>• Christopher D. Hillyer (2007). Blood Banking and Transfusion Medicine: Basic Principles & Practice. Elsevier Health Sciences.<br>• Hillyer, Christopher D., Christopher Hillyer, Ronald Strauss, and Naomi Luban, eds. Handbook of pediatric transfusion medicine. Elsevier, 2004.</td></tr>
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| Course topics (Theory | Week | Learning Outcome |
|---|---|---|
| Overview and introduction to Bloodbank | 1 | |
| Blood donation | 2 | |
| Blood transfusion | 3 | |
| Collection and processing | 4 | |
| Storage and management | 5 | |
| Screening donated blood | 6 | |
| ABO Blood group system | 7 | |
| Rh Factor | 8 | |
| Haemorrhage | 9 | |
| Haemostasis and platelet | 10 | |
| Coagulation cascades | 11 | |
| Thrombosis | 12 | |
| Transfusion Medicine | 13 | |
| Donor and patient education | 14 | |
| **Practical Topics** | **Week** | **Learning Outcome** |
| Blood collection procedures | 1 | |
| Anticoagulants | 2 | |
| Blood bags | 3 | |
| ABO Blood groubs test – slide method | 4 | |
| Blood group test – tube method | 5 | |
| Rh Blood groubs test | 6 | |
| Cross-match test- short method | 7 | |

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| Cross-match test – long method | **8** | |
| Clotting time | **9** | |
| Bleeding time | **10** | |
| Prothrombin time | **11** | |
| Partial prothrombin time | **12** | |
| | **13** | |

# Questions Example Design

## 1- *Compositional*:

1. What are the main purposes of the cross-match?
2. What are the types of blood bags? Explain its uses.
3. Enumerate 5 conditions not allowed for blood donation permanently.
4. What are the percentages of each blood group in the population?

## 2- *True or false type of exams*:

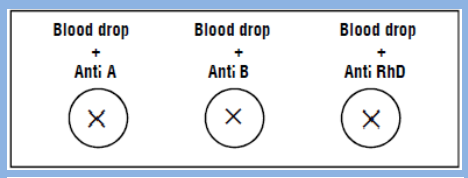
1. Primary hemostasis is consisting of clots form by the conversion of fibrinogen to fibrin.
2. Blood type O+ is considering the universal donor of plasma..

## 3- *Fill in the blanks*:

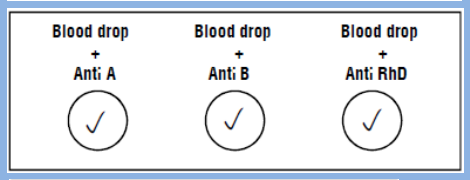
1. 4. Platelets can be stored at 22 °C for up to ……
   - 1 day - 1 week - 1 month - 1 year
2. 5. When RH- mother's and RH+ baby's bloods mix, the …… will be in risk
   - First baby - Mother - Second baby - None
3. 6. The disorder in the fetus due to Rh D incompatibility is known as ……
4. Coagulation factors are produced by …….. and circulate in an inactive form until the coagulation cascade is initiated.

4- Find the blood group of following: (✓ for Agglutination) (X for Non-Agglutination)

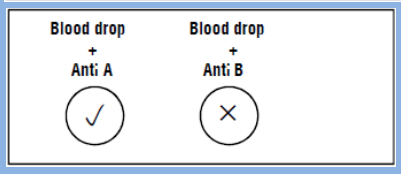
1. **Forward method**



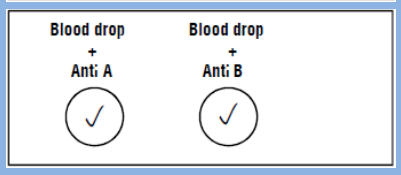

2. **Forward method**




3. **Reverse method**




4. **Reverse method**




**Extra notes:**