

Course Unit	Transfusion and Transplantation Sciences		Field of study	Biomedical Laboratory Sciences	
Bachelor in	Biomedical Laboratory Sciences		School	School of Health	
Academic Year	2022/2023	Year of study	3	Level	1-3
Type	Semestral	Semester	2	ECTS credits	5.0
Workload (hours)		135	Contact hours	T -    TP 22,5    PL 30    TC -    S -    E -    OT 7,5    O -	
Code: 9995-550-3201-00-22					

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Josiana Adelaide Vaz, Jose Joaquim Costa, Viviana Andreia dos Santos Gonçalves

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Understand some basic concepts and procedures in the area of transfusion science.
2. Participate in routine laboratory work in a laboratory of blood therapy.
3. Perform laboratory work plans under the blood therapy.
4. Participate and interpret laboratory experiments in this area.
5. Analyze and interpret a critical scientific work.

### Prerequisites

Before the course unit the learner is expected to be able to:  
N/A

### Course contents

The content of the course includes the following topics: Whole Blood collection, component processing, storage, conveyance and administration; ABO and Rh blood group system and other related blood group systems; HLA system; Pretransfusion testing; Neonatal and paediatric transfusion practice; Complications of blood transfusions: transfusion reactions and infectious diseases; Transplantation of bone marrow and haemopoietic progenitor cells.

### Course contents (extended version)

1. Whole Blood collection, component processing, storage, conveyance and administration.
2. The ABO blood group system and other related blood group systems.
3. The Rh system.
4. Other blood groups.
5. Platelets and granulocytes antigens and antibody systems. The HLA system.
6. Pretransfusion testing.
7. Positive Direct Antiglobulin test and immune-mediated haemolysis.
8. Neonatal and paediatric transfusion practice.
9. Complications of blood transfusions: transfusion reactions and infectious diseases.
10. Transplantation of bone marrow and haemopoietic progenitor cells.
11. Practices in Imunoheмотerapia:
  - Determination of ABO and Rh group.
  - Determination of Rh Du.
  - Determination of phenotype Rh.
  - Direct Antiglobulina test.
  - Irregular antibodies research.
  - Evidence of compatibility.
  - Elution of antibodies.
  - Reading and interpretation of panels cells.
  - Interpretation of different clinical cases.

### Recommended reading

1. Dacie, J. , Lewis, S. , Bain, B. , Bates, I. , & Failace, R. (2006). Hematologia prática de Dacie e Lewis. Porto Alegre : Artmed.
2. Pádua, M. (2009). Patologia clínica para técnicos. Loures : Lusociência.
3. AABB technical manual. Editado pela American Association of Blood Banks.
4. ABO-Revista de Medicina Transfusional. Editado por Instituto Português do Sangue.

### Teaching and learning methods

Theoretical-practical classes: 30 hours, being the programmatic content presented using the expository methodology and active teaching-learning methodologies. Practical laboratory classes: 30 hours, being performed in these classes some laboratory techniques of immuno-therapy simulating the pre-transfusion routine, analysis and discussion of scientific papers.

### Assessment methods

1. Distributed assessment - (Regular, Student Worker) (Final)
  - Final Written Exam - 60% (Continuous assessment - Written Exam)
  - Practical Work - 20% (Challenges)
  - Laboratory Work - 20% (Laboratorial work assessment)
2. Alternative 2 - (Regular, Student Worker) (Supplementary, Special)
  - Final Written Exam - 100% (Final assessment includes the theoretical component - 60% and practical - 40%)
3. Alternative 3 - (Student Worker) (Final)
  - Final Written Exam - 100% (Final assessment includes the theoretical component - 60% and practical - 40%)

### Language of instruction

1. Portuguese
2. Portuguese, with additional English support for foreign students.

## Electronic validation

Josiana Adelaide Vaz	Carina de Fatima Rodrigues	Juliana Almeida de Souza	Adília Maria Pires da Silva Fernandes
09-03-2023	29-06-2023	30-06-2023	30-06-2023