UAB Universitat Autònoma de Barcelona	Immunohaema Code: 44438 ECTS Credits: 9	2022/2024		
Degree	Туре	Year	Semester	
4317563 Transfusion Medicine and Cellular and Therapies	Tissue OB	1	1	

# Contact

## **Use of Languages**

Name: Eduardo Muñiz Díaz/Masja de Haas Email: emuniz@bst.cat/m.dehaas@sanquin.nl Principal working language: English (Eng)

## Other comments on languages

The primary language used during the course will be English. However, the use of Spanish will also be allowed. The course materials will also be in English.

## Teachers

**Eduardo Muñiz:** Has a degree in Medicine from the University of Barcelona (1980) and, since 1986, has been a specialist in hematology and hemotherapy. He presented his doctoral thesis on Platelet antigens, platelet antibodies, and clinical immunological syndromes at the University of Barcelona, directed by Professor AEGKr Von dem Borne, with which he earned the cum laude honorary title. Currently, he is the head of the Department of Immunohematology and the coordinator of the haemovigilance activities of the Banc de Sang i Teixits in Barcelona (Spain). He is a member of the Hemotherapy Commission of the Generalitat de Catalunya (Spain) and of the Scientific Committee of the Spanish Ministry of Health. He also works as an associate professor at the Universitat Autònoma de Barcelona (Department of Medicine).

**Masja de Haas:** earned her doctorate from the University of Amsterdam. She investigates the destruction of blood cells mediated by alloimmune and autoimmune processes and the molecular typing of blood groups. She is a specialist in transfusion medicine, a reference in erythroid and platelet alloimmunization in pregnancy and blood transfusion. In addition, she is Director of the Immunohematology Laboratories at Sanquin Diagnostic Services and Professor of Immunohematology at Leiden University Medical Center.

### Prerequisites

Level B2 or equivalent in English.

### **Objectives and Contextualisation**

In this module, dedicated to immunohaematology, its theoretical bases will be studied, the blood groups (their classification, structure and function). An in-depth study will be made of diseases such as neonatal alloimmune thrombocytopenia, haemolytic disease of the new born, foetal alloimmune thrombocytopenia, and neonatal autoimmune neutropenia.

Serological and molecular techniques will be included for the study of red blood cell antibodies, platelets and granulocytes. The phenotype and genotype of the different blood groups, as well as the HLA system, will also be studied.

### Competences

- Use acquired knowledge as a basis for originality in the development and/or application of ideas, often in a research context.
- Use acquired knowledge to solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
- Define laboratory strategies for the diagnosis of haemolytic disease, immune cytopenias, haematological and other immune- (adverse) effects of the transfusion.
- Integrate scientific and technical knowledge in accordance with a commitment to ethics and the code of conduct.
- Take reasoned decisions based on critical, objective analysis.

#### **Learning Outcomes**

- 1. Understand the basics of immunohematology and the basic techniques used for the diagnosis of the immunological processes associated with erythrocytes, granulocytes and platelets.
- 2. Understand the use of the HLA system and its relationships in the context of different diseases.
- 3. Create an algorithm suitable for each case.

#### Content

- 1. Red blood cell groups.
- 2. platelet groups.
- 3. granulocyte groups.
- 4. HLA system.

# Methodology

The methodology for this course is active and constructive. It does not only contemplate the content but also reading, reflecting and applying knowledge to reasonably close situation to create meaningful learning.

Students will work on real life examples and case studies, reflecting on complex and relatively unstructured situations to find adequate solutions.

Faithful to the proposed methodology, students form the centre of the learning process and generate knowledge by interacting significantly with their peers, with the teaching materials and with the environment. This programme not only teaches training in a virtual environment but also allows them to experience their learning every day.

At the beginning of the unit, the teacher will present a learning plan to the group with specific objectives, learning activities, the necessary resources and recommended deadlines for each activity.

The dates for carrying out the activities are recommended in order to be able to follow the course. The only fixed dates are the beginning and end of each teaching unit. This means that students can do their own planning but they must respect the dates for the beginning and the end of each unit.

Students are recommended to work in a continuous and consistent manner and not allow tasks to accumulate around the deadlines, which may lead to haste, undue time pressure and not allow the students to enjoy their learning or carry out additional reflections. Also the course offers group activities which require synchronisation among the group.

Some of the activities must be send online to the teacher for assessment and receive feedback of progress. Teachers will return the work with comments and together the students can continue to think and learn. The deadline for each of these activities is the end of the teaching unit. Other activities will consist in discussion and working together in shared spaces.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed	37,5	1,5	
Discussions			2, 3, 4
Type: Supervised	75	3	
Virtual Case/Problem Resolution			2, 3, 4, 10
Assignment Making			2, 3, 6, 10
Type: Autonomous	137,5	5,5	
Assessment Assignment/Planning			1, 2, 3, 4, 5, 6 ,7, 8, 9, 10
Independent Study			1, 2, 3, 4, 5, 6 ,7, 8, 9, 10
Reading Articles/Reports of Interest/Videos			1, 2, 3, 4, 5, 6 ,7, 8, 9, 10

#### Assessment

The module will be assessed on the following activities:

1. Exercise 1: Design a comparative study of the prophylactic programmes with anti-D immunoglobulin in different countries. This activity counts for 5% of the final grade.

2. Exercise 2: Describe the procedures for prenatal testing in the country of the student. This activity counts for 9% of the final grade.

3. Exercise 3: Two case studies (AIHA and HDN). This activity counts for 13.5% of the final grade.

- 4. Exercise 4: Individual multiple-choice test. 13.5 % of the final grade.
- 5. Exercise 5: Open discussion. This activity counts for 9% of the final grade.
- 6. Exercise 6: Two case studies (FNAIT and RPT). This activity counts for 4% of the final grade.

7. Exercise 7: Open discussion. This activity counts for 8% of the final grade.

- 8. Exercise 8: Individual multiple-choice test. This test counts for 4% of the final grade.
- 9. Exercise 9: Open discussion. This activity counts for 4% of the final grade.
- 10. Exercise 10: Case study (ANG). This activity counts for 5% of the final grade.
- 11. Exercise 11: Individual multiple-choice test. This test counts for 5% of the final grade.
- 12. Exercise 12: Individual multiple-choice test. This test counts for 20% of the final grade.

#### **Assessment Activities**

Title	Weighting	Hours	ECTS	Learning Outcomes
Exercise 1, 2, 3, 4	45 %	12,5	0,5	1
Exercise 5, 6, 7, 8	20 %	112,5	4,5	2,3,4
Exercise 9, 10, 11	15 %	50	2	5,6,7
Exercise 12	20 %	37,5	1,5	8,9

#### **Bibliography**

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