

**COURSE DATA****Data Subject**

Code	34475
Name	Hematology
Cycle	Grade
ECTS Credits	4.5
Academic year	2022 - 2023

Study (s)

Degree	Center	Acad. year	Period
1204 - Degree in Medicine	Faculty of Medicine and Odontology	4	First term

Subject-matter

Degree	Subject-matter	Character
1204 - Degree in Medicine	13 - Human clinical training II	Obligatory

Coordination

Name	Department
SOLANO VERCET, CARLOS	260 - Medicine

SUMMARY

This speciality of Haematology and Haematotherapy consists of a branch of Medicine which is concerned with:

- Blood physiology and haematopoietic organs.
- Clinical-biological study on blood diseases and of the haematopoietic organs, and of all aspects related to its treatment.
- Carrying out tests and interpreting them, which are derived from such diseases or other pathologies which may provoke blood dyscrasias through different mechanisms, as well as analytical tests of hematologic type which are necessary for the study, diagnosis and assessment of processes affecting any organs or systems.
- Aspects regarding transfusion medicine, such as blood collection and control, including haematopoietic progenitors, as well as their therapeutic use.



The main objective in this subject is to instruct general doctors with theoretical and practical knowledge, attitudes and skills which make them able to solve and guide clinical situations which have some haematological implication outside the scope of the field.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

1204 - Degree in Medicine

- Obtain and elaborate a clinical history with relevant information.
- Perform a physical examination and a mental health assessment.
- Have the capacity to make an initial diagnosis and establish a reasonable strategy of diagnosis.
- Establish the diagnosis, prognosis and treatment, applying principles based on the best information available and on conditions of clinical safety.
- Indicate the most accurate therapy in acute and chronic processes prevailing, as well as for terminally ill patients.
- Plan and propose appropriate preventive measures for each clinical situation.
- Acquire proper clinical experience in hospitals, health care centres and other health institutions, under supervision, as well as basic knowledge of clinical management focused on the patient and the correct use of tests, medicines and other resources available in the health care system.
- Know how to use the sources of clinical and biomedical information available, and value them critically in order to obtain, organise, interpret and communicate scientific and sanitary information.
- Know how to use IT in clinical, therapeutic and preventive activities, and those of research.
- Understand the importance and the limitations of scientific thinking in the study, prevention and management of diseases.
- Proper organisation and planning of the workload and timing in professional activities.
- Team-working skills and engaging with other people in the same line of work or different.
- Criticism and self-criticism skills.
- Capacity for communicating with professional circles from other domains.
- Acknowledge diversity and multiculturality.



- Consideration of ethics as a fundamental value in the professional practise.
- Working capacity to function in an international context.
- Recognises, diagnoses and guides the management of the main blood pathologies.
- Knows how to perform a complete anamnesis, focused on the patient and orientated to various pathologies, interpreting its meaning.
- Knows how to evaluate modifications in clinical parameters at different ages.
- Knows how to set an action plan, focused on the patients needs and the family and social environment, which should be coherent regarding the patients symptoms and signs.

LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

1. Acquiring knowledge about the main syndromes and entities that involve the hematologic disorders.
2. Acquiring attitude and skilfulness to develop a proper initial action in the hematologic syndromes.
3. Acquiring the ability to identify and guide the initial treatment of the hematological entities and evaluate their moving to a specialized centre.

DESCRIPTION OF CONTENTS

1. Theoretical teaching

1. Microcytic and normochromic anemias.
2. Macrocytic anemias.
3. Hemolytic anemias.
4. Primary hemostasis disorders.
5. Coagulation disorders.
6. Thrombosis and anti-thrombosis treatment.
7. Phagocytic mononuclear system diseases. Mastocytosis and eosinophilia.
8. Leukopenias and spinal cord insufficiency.
9. Myelodysplastic syndromes.
10. Acute leukemias.
11. Chronic myeloproliferative diseases. Chronic myeloid leukemia.
12. Chronic myeloproliferative diseases different from the CML.
13. Chronic lymphoproliferative syndromes with leukemic expression.
14. Lymphoma.
15. Monoclonal gammopathy.
16. Hemotherapy.
17. Transplantation of hematopoietic precursors.

**2. Practical teaching****CLINICAL CASES**

1. Anemia.
2. Polyglobulia.
3. Thrombocytopenia and thrombocytosis.
4. Leukocytosis.
5. Leukopenia. Neutropenia.
6. Adenopathy and splenomegaly.
7. Monoclonal gammopathy.
8. Hemorrhagic symptoms.

SEMINARS

1. Red Series 1 disorders (anemias).
2. Red Series 2 disorders (anemias).
3. Red Series 3 disorders (Polyglobulia).
4. White Series 1 disorders (Leukopenia).
5. White Series 2 disorders (Leukocytosis).
6. Adenopathy and splenomegaly.
7. Hemostasis 1 disorders (Primary hemostasis).
8. Hemostasis 2 disorders (coagulation and fibrinolysis).

CLINICAL PRACTICES

In the services of Hematology in the University Hospitals.

WORKLOAD

ACTIVITY	Hours	% To be attended
Seminars	24,00	100
Theory classes	19,00	100
Clinical practice	13,02	100
Development of individual work	5,00	0
Study and independent work	8,00	0
Preparation of evaluation activities	10,00	0
Preparing lectures	17,00	0
Preparation of practical classes and problem	16,00	0
TOTAL	112,02	



TEACHING METHODOLOGY

In the **theoretical lessons**, the professor will expose through a master class the most important concepts and contents, in a structured way, to acquire the knowledge and the skills that the students must acquire. Thus, the bibliography that better suits each lesson will be delivered. The students' participation during the lesson will be encouraged. The teaching material used by the professor will be available for the students through the electronic resource Aula Virtual.

Classroom practices: they will be developed in Seminars and Clinical Cases. In the **Seminars** with reduced groups, the professor will set practical scenarios of the most common hematological disorders that can be seen in the non-hematological diseases, to be discussed in depth, encouraging the students' active participation. In the **Clinical Cases**, clinical situations will be discussed in detail about the most common hematological diseases that a general doctor could face.

Clinical practices: students' clinical practices in sanitary services in the different university hospitals in order to learn how to perform an anamnesis and basic clinical explorations, with a first contact with patients, supervised by the professor.

EVALUATION

Theoretical assessment: it represents the 50% of the final mark. It will be made through a written test with questions with 5 possible answers and only 1 correct. A mistake on the answers to three questions neutralizes the score of a right answer. These questions will have as the main objective to assess the acquisition of knowledge of the theoretical program, structured in 17 units. The content of the test will be the same for each group of the same subject.

Practical assessment: it represents the 50% of the final mark. It will be made through a written test with questions about **cases studies** with 5 possible answers and only 1 correct. A mistake on the answers to three questions neutralizes the score of a right answer. These questions will have as the main objective to assess the ability to face hematological practical problems and will be about the content of the practical program, structured in seminars, clinical cases and clinical practices. The attendance to a minimum of the 80% of the seminars, clinical cases and clinical practices is a pre-requisite to make the written practical test.

The **final assessment** will be the addition of the score of both tests, theoretical and practical, but in order to pass the subject, the student needs to get 2,5 points over the 5 possible points (or 5 over 10) in each of the parts.

In order to access to an advance on the call of this subject, it is a requirement that the student has coursed all his/her practices.

Attendance to practical sessions is mandatory. Unjustified non-attendance to more than 20% of the sessions will make it impossible to pass the course.



REFERENCES

Basic

- Farreras Rozman. Medicina Interna. Elsevier. Madrid. 18ª ed. 2015
- Harrison. Principios de Medicina Interna. McGraw Hill. México. 19ª ed. 2016.
<http://www.harrisonmedicina.com/resourceToc.aspx?resourceID=106>. Versión en libro electrónico accesible en la biblioteca de la Facultad.
- San Miguel JF., Sánchez-Guijo FM. Hematología. Manual básico razonado. Elsevier. Amsterdam. 4ª ed. 2015.
- <http://www.cancer.gov/espanol>
- Sanz MA, Carreras E. Manual práctico de Hematología Clínica. 4ª ed. Ed. Antares. 2015.
- Moraleda JM. Pregrado de Hematología 4ª edición. Ed. Luzan5. 2017. ISBN 978-84-7989-874-8
- Manual de exploración clínica. Opciones: Guía Seidel, Guía Mosby, Guía Bates. Guía Macleod.
- Recursos-e Salut: ClinicalKey Student. Elsevier (Scopus, ScienceDirect):
uv-es.libguides.com/RecursosSalut/BibliotecaSalut