

**Medicine and Surgery I**

Code: 102945  
ECTS Credits: 7.5

| Degree           | Type | Year | Semester |
|------------------|------|------|----------|
| 2502442 Medicine | OB   | 4    | 0        |

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

**Contact**

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**Use of Languages**

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: No

**Teachers**

Alejandro Carballo García  
Nayana Joshi i Jubert  
José Antonio Hernández Hermoso  
Claudia Mariana Lamas Gómez

**Prerequisites**

It is advisable that the student has achieved basic skills in Anatomy, locomotor system physiology, cell biology, biochemistry and histology.

It is convenient to have sufficient knowledge about the psychological bases of the states of health and illness, as well as an adequate level of knowledge in interpersonal communication.

It is absolutely necessary to have achieved sufficient knowledge in:

1. General and specific anatomy of the locomotor system.
2. General and specific physiology of the locomotor system.
3. Physiopathology and semiology of the locomotor system.

The student will acquire the commitment of preserving the confidentiality and professional secrecy of the data to which he / she may have access in the case of learning to the assistance services. Also to maintain an attitude of professional ethics in all its actions.

**Objectives and Contextualisation**

Development of semiology and complementary examination of the locomotor system and of the systemic autoimmune diseases.

General etiology of musculoskeletal diseases and of systemic autoimmune diseases. Pathophysiology and large locomotor system syndromes.

Distributive areas

A. Introduction to the pathology of the locomotor system: course distribution, bone patterns, pathophysiology of the locomotor System

B. Etiology, pathophysiology, semiology, classification, diagnosis, prognosis and treatment of the musculoskeletal system traumatism

C. Etiology, physiopathology, semiology, classification, diagnosis, prognosis and treatment of orthopedic disorders of the musculoskeletal system.

D. Systemic autoimmune disorders and collagenopathies

## Competences

- Demonstrate basic research skills.
- Demonstrate understanding of the manifestations of the illness in the structure and function of the human body.
- Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
- Establish a diagnostic approach and a well thought-out strategy for action, taking account of the results of the anamnesis and the physical examination, and the results of the appropriate complementary tests carried out subsequently.
- Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
- Give the patient and/or accompanying persons the relevant information about the disease process, its bases and consequences, including bad news, in an appropriate way.
- Indicate the basic diagnosis techniques and procedures and analyse and interpret the results so as to better pinpoint the nature of the problems.
- Indicate the most suitable treatment for the most prevalent acute and chronic processes, and for the terminally ill.
- Obtain and prepare a patient record that contains all important information and is structured and patient-centred, taking into account all age and gender groups and cultural, social and ethnic factors.
- Perform a general and a system-by-system physical examination appropriate to the patient's age and sex, in complete and systematic way, and a mental evaluation.
- Recognise and take action in life-threatening situations and others that require an immediate response.
- Recognize one's role in multi-professional teams, assuming leadership where appropriate, both for healthcare provision and for promoting health.

## Learning Outcomes

1. Anticipate and compare information for good decision-making.
2. Assess modifications to clinical parameters in the different age groups.
3. Demonstrate basic research skills.
4. Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
5. Describe the effects on all organs and systems of diseases of the blood, the cardiovascular system, the digestive system, the respiratory system, the endocrine system, the nervous system, the genitourinary system, infectious pathologies and diseases of the elderly.
6. Describe the main pathological situations of nutrition.
7. Describe the main pathological situations of the musculoskeletal system, the blood, the cardiovascular system, the digestive system, the respiratory system, the endocrine system, the nervous system, the genitourinary system, infectious pathologies and diseases of the elderly.
8. Design the treatment for the main infectious diseases, diseases of the blood, of the elderly, and of the hematopoietic system, the cardiovascular system, the digestive system, the respiratory system, the

endocrine system, the nervous system, the renal and genitourinary system, the retroperitoneal system and the musculoskeletal system.

9. Detail the steps and procedures for giving bad news.
10. Explain multidisciplinary intervention during patient care.
11. Explain the mechanisms by which illness affects the structure and function of the human body.
12. Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
13. Give patients the maximum possible information about their health, diagnostic steps, complementary examinations and treatments in an appropriate way.
14. Identify the fundamental principles of palliative medicine.
15. Identify the pathologies of the immune system and the diagnosis and management of these.
16. Identify tumour diseases, and the diagnosis and management of these.
17. Indicate the complementary examinations for diagnosing the main infectious diseases, diseases of the blood, of the elderly, and of the hematopoietic system, the cardiovascular system, the digestive system, the respiratory system, the endocrine system, the nervous system, the renal and genitourinary system, the retroperitoneal system and the musculoskeletal system.
18. Inform with caution and clarity, including measures to prevent the spreading of disease.
19. Know the main agents of infection and their mechanisms of action.
20. Perform a suitable physical examination for the main infectious diseases, diseases of the blood, of the elderly, and of the hematopoietic system, the cardiovascular system, the digestive system, the respiratory system, the endocrine system, the nervous system, the renal and genitourinary system, the retroperitoneal system and the musculoskeletal system.
21. Perform basic and advanced life support manoeuvres.
22. State the most probable diagnosis for the main infectious diseases, diseases of the blood, of the elderly, and of the hematopoietic system, the cardiovascular system, the digestive system, the respiratory system, the endocrine system, the nervous system, the renal and genitourinary system, the retroperitoneal system and the musculoskeletal system.
23. Write a report giving guidance on diagnosing the main infectious diseases, diseases of the blood, of the elderly, and of the hematopoietic system, the cardiovascular system, the digestive system, the respiratory system, the endocrine system, the nervous system, the renal and genitourinary system, the retroperitoneal system and the musculoskeletal system.

## **Content**

### Theory classes

1. Introduction to the pathology of the locomotor System: course distribution, bone patterns, pathophysiology of the locomotor System

SUBJECT 1. Course distribution. Bone patterns

SUBJECT 2. Physiopathology of the joint.

SUBJECT 3 Physical structure and function of the bone

SUBJECT 4. General principles of fractures. Pathological fractures

SUBJECT 5. Fractures and dislocations. Clinic and Complications

SUBJECT 6. Treatment of fractures. Surgical treatment. Osteosynthesis

1. Etiology, pathophysiology, semiology, classification, diagnosis, prognosis and treatment of the musculoskeletal system traumatism.

SUBJECT 7. Children's skeletal trauma. Traumatic epiphysiolysis.

SUBJECT 8. Bone healing.

SUBJECT 9. Polytraumatism.

SUBJECT 10. Fractures of the scapular waist. Fractures of the upper limb of the humerus. Shoulder dislocation

SUBJECT 11. Humeral Shaft Fractures. Distal humerus fractures. Volkman's contracture. Elbow dislocations.

SUBJECT 12. Fractures and dislocation of the wrist and hand. Carpal instabilities. Hand tendon injuries.

SUBJECT 13. Pelvis and acetabular fractures.

SUBJECT 14. Proximal femur fractures. Partial femoral head fractures. Femoral shaft fractures and the distal femoral and proximal tibial segments that constitute the knee. Knee dislocation.

SUBJECT 15. Meniscus and knee ligaments injuries. Patella fractures

SUBJECT 16. Shaft tibia and fibula fractures. Fractures and dislocations of the ankle. Fractures and dislocations of the tarsus and foot.

SUBJECT 17. Spine trauma. Spinal cord injury.

SUBJECT 18. Physiology and injuries of muscles, tendons and ligaments. Enthesitis

1. Etiology, physiopathology, semiology, classification, diagnosis, prognosis and treatment of orthopedic disorders of the musculoskeletal system.

SUBJECT 19. Bone disorders of ischemic origin. Epiphyseal necrosis. Bone infarction Osteochondritis dissecans.

SUBJECT 20. Bone infections. Osteitis. Osteomyelitis. Acute septic arthritis. Chronic synovial diseases.

SUBJECT 21. Osteoarticular tuberculosis, mycosis, surgical implant infections. SUBJECT 22. Bone tumors. Soft tissue tumors. Classification. Description.

SUBJECT 23 Bone metastatic disease.

SUBJECT 24. Traumatic injuries of peripheral nerves. Compressive Neuropathies of peripheral nervous trunks. Brachial plexus injuries

SUBJECT 25. Painful adult shoulder. Painful adult elbow.

SUBJECT 26. Painful adult wrist and hand syndrome. Infections of the hand: tenosynovitis.

SUBJECT 27. Child hip I. Congenital hip dislocation. Congenital varus Hip

SUBJECT 28. Child hip II. Epiphysiolysis. Perthes disease.

SUBJECT 29 Painful hip. Painful knee

SUBJECT 30. Angular deviations of the lower limbs.

SUBJECT 31. Foot deformity. Clubfoot, equinus, cavus, talus, adducto

SUBJECT 32 Static-postural foot deformity. Flat foot. Painful foot of the adult.

SUBJECT 33. Painful adult spine. Spondylolysis, Spondylolisthesis. Spinal stenosis.

SUBJECT 34. Spine deformities in the anteroposterior plane. Scoliosis

SUBJECT 35. Spine deformities in the sagittal plane.

D. Rheumatology and systemic autoimmune diseases

SUBJECT 36. Rheumatoid arthritis.

SUBJECT 37. Ankylosing spondylitis.

SUBJECT 38. Other spondyloarthropathies.

SUBJECT 39. Systemic Lupus Erythematosus - Antiphospholipid Syndrome.

SUBJECT 40. Scleroderma - Mixed connective tissue disease.

SUBJECT 41. Idiopathic inflammatory myopathies. - Sjögren syndrome.

SUBJECT. 42. Vasculitis (I)

SUBJECT. 43. Vasculitis (II).

SUBJECT 44. Osteoporosis.

SUBJECT 45. Arthrosis.

SUBJECT 46. Microcrystalline arthritis.

#### Seminars.

Seminar 1. Diagnosis of bone injuries.

Seminar 2. Neurological exploration of the locomotor system

Seminar 3. Clinical cases of the locomotor system.

Seminar 4. Clinical and radiological exploration of the hip and knee.

Seminar 5. Clinical cases and interactive MIR questions.

Seminar 6. Auto-antibodies in systemic autoimmune diseases

#### Clinical case seminars

3 cases

#### Clinical care practice

### **Methodology**

This Guide describes the framework, contents, methodology and general rules of the subject, in accordance with the current curriculum. The final organization of the subject with regard to the number and size of groups, distribution in the calendar and dates of examinations, specific criteria for evaluation and review of exams, will be specified in each of the Hospital Teaching Units (UDH), which will be explained through their web pages and the first day of class of each subject, through the teachers responsible for the subject at UDH.

For the present year, the professors appointed by the Departments as responsible for the subject at the Faculty level and the UDH are:

Teaching Unit Sant Pau

|                          |                          |                          |
|--------------------------|--------------------------|--------------------------|
| Responsible subject/part | Responsible subject/part | Responsible subject/part |
| at UDH                   | at UDH - Surgery         | at UDH - Medicine        |

|                              |                                           |                                           |                                      |
|------------------------------|-------------------------------------------|-------------------------------------------|--------------------------------------|
| Medicine and Surgery, I      | Claudia Lamas Gomez<br>clamas@santpau.cat |                                           |                                      |
| • Locomotor System disorders | Claudia Lamas Gomez<br>clamas@santpau.cat | Claudia Lamas Gomez<br>clamas@santpau.cat | ---                                  |
| • Rheumatology               | Ana Laiz Alonso<br>alaiz@santpau.cat      | ---                                       | Ana Laiz Alonso<br>alaiz@santpau.cat |

### Teaching Unit Vall d'Hebron

|                              | Responsible subject/part<br>at UDH                                               | Responsible subject/part<br>at UDH - Surgery | Responsible subject/part<br>at UDH - Medicine |
|------------------------------|----------------------------------------------------------------------------------|----------------------------------------------|-----------------------------------------------|
| Medicine and Surgery I       | Nayana Joshi<br>njoshi@vhebron.net<br>Vicent Fonollosa<br>vfonollosa@vhebron.net |                                              |                                               |
| • Locomotor System disorders | Nayana Joshi<br>njoshi@vhebron.net                                               | Nayana Joshi<br>njoshi@vhebron.net           | ---                                           |
| • Rheumatology               | Vicent Fonollosa<br>vfonollosa@vhebron.net                                       | ---                                          | Vicent Fonollosa<br>vfonollosa@vhebron.net    |

### Teaching Unit Germans Trias i Pujol

|                              | Responsible subject/part<br>at UDH                                     | Responsible subject/part<br>at UDH - Surgery                           | Responsible subject/part<br>at UDH - Medicine     |
|------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------|
| Medicine and Surgery I       | José Antonio Hernández Hermoso<br>jahernandezh.germanstrias@gencat.cat | José Antonio Hernández Hermoso<br>jahernandezh.germanstrias@gencat.cat | Alejandro Olivé<br>aolive.germanstrias@gencat.cat |
| • Locomotor System disorders | José Antonio Hernández Hermoso<br>jahernandezh.germanstrias@gencat.cat | José Antonio Hernández Hermoso<br>jahernandezh.germanstrias@gencat.cat | ---                                               |

## Teaching Unit Parc Taulí

|                              | Responsible subject/part<br>at UDH               | Responsible subject/part<br>at UDH - Surgery     | Responsible subject/part<br>at UDH - Medicine |
|------------------------------|--------------------------------------------------|--------------------------------------------------|-----------------------------------------------|
| Medicine and Surgery I       | Alejandro Carballo Garcia<br>acarballo@tauli.cat |                                                  |                                               |
| • Locomotor System disorders | Alejandro Carballo Garcia<br>acarballo@tauli.cat | Alejandro Carballo Garcia<br>acarballo@tauli.cat | ---                                           |
| • Rheumatology               | Carles Tolosa Vilella<br>ctolosa@tauli.cat       | ---                                              | Carles Tolosa Vilella<br>ctolosa@tauli.cat    |

## Methodology

### Teaching typologies:

Theoretical classes: TE: 46h

Seminars: Specialized Seminars, SESP: 6h

Seminars of clinical cases: SCC: 3 h

Clinical healthcare practices: PCA: 30 h (3h x day x 10 days)

### CLINICAL HEALTHCARE PRACTICES

(8 students) (3-hour sessions / day) (2 weeks / 5 days)

Total: 30 hours

### Practice

Tutored for 15 days by a member of the Service assigned to each student

At the end of each period of practice, the assessment will be evaluated with a clinical case presentation, and discussed with the rest of the group of practices

### SEMINARS OF CLINICAL CASES

Total: 3 hours

Case 1: Beginning of the Second quarter

Case 2: half of the second quarter

Case 3: end of second quarter

In the current exceptional circumstances, at the discretion of the teachers and also depending on the resources available and the public health situation, some of the theoretical classes, practicals and seminars organized by the Teaching Units may be taught either in person or virtually.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Activities

| Title                                                                            | Hours | ECTS | Learning Outcomes    |
|----------------------------------------------------------------------------------|-------|------|----------------------|
| Type: Directed                                                                   |       |      |                      |
| CLINICAL CASES SEMINARS (SCC)                                                    | 3     | 0.12 | 3, 4, 5, 11, 12, 17  |
| CLINICAL HEALTHCARE PRACTICES (PCAh)                                             | 30    | 1.2  | 3, 4, 20, 12, 23     |
| SPECIALIZED SEMINARS (SEM)                                                       | 6     | 0.24 | 3, 5, 11, 12, 17     |
| THEORY (TE)                                                                      | 46    | 1.84 | 3, 5, 11, 12, 17, 23 |
| Type: Autonomous                                                                 |       |      |                      |
| PROJECTS ELABORATION / INDIVIDUAL STUDY / READING OF ARTICLES / INTEREST REPORTS | 94    | 3.76 | 3, 5, 11, 12         |

## Assessment

Practical evaluation: open and descriptive registries and / or closed registers;

Narrative registries Seminars and / or problems and / or clinical cases: Written evaluation through objective tests. 30%

Theory. Written evaluation through objective tests: items of selection; test essay

(extended questions / restricted questions). Oral evaluation 35% 1st partial + 35% 2nd partial

## Assessment Activities

| Title                                                                            | Weighting                         | Hours | ECTS | Learning Outcomes                              |
|----------------------------------------------------------------------------------|-----------------------------------|-------|------|------------------------------------------------|
| Practical evaluations: open and descriptive registries and / or closed registers | 30%                               | 4     | 0.16 | 1, 4, 9, 18, 20, 10, 16, 15, 17, 13, 21, 23, 2 |
| Written evaluation through objective tests                                       | 35% 1st parcial + 35% 2nd parcial | 4.5   | 0.18 | 19, 3, 5, 7, 6, 8, 11, 22, 12, 14, 16, 15, 23  |

## Bibliography

APUNTS OFICIALS Lecciones traumatologia y Ortopedia (Apunts oficilas). En versió PDF. (Proubasta I , Cáceres E, Majo J i colaboradores)-Laboratoris Jansen

APLEY, A.G. y SOLOMON, L.: Manual de Ortopedia y Tratamiento de las fracturas. Barcelona Ediciones Científicas y Técnicas cop., 1992.

SHELDON, R.S.: Ciencias Básicas en Ortopedia. Vols I y II. American Academy of Orthopaedic Surgeons, 1997.

DURAN SACRISTAN, H. y cols.: Tratado de Patología y Clínica Quirúrgicas. Interamericana.McGraw-Hill, 1996.

MUNUERA, L.: Introducción a la Traumatología y Cirugía Ortopédica. 1ª Edición. Interamericana-McGraw-Hill, 1996.

KELLEY'S Textbook of Rheumatology. 8th edition. 2008

FARRERAS ROZMAN. Medicina Interna. 16ª edición, 2008

HARRISON'S Principles of Internal Medicine. 18th edition. 2011

MILLER'S Review of Orthopaedics, 7th edition. 2016

## **Software**

No programs required