



Degree Programme in Medicine and Surgery
Academic Year 2026/2027

INTEGRATED COURSE: Diseases of Musculoskeletal system

NUMBER OF CFU CREDITS: 4

SSD: MEDS-19/A

INTEGRATED COURSE COORDINATOR:

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PREREQUISITE COURSES

None.

PREREQUISITES

Knowledge of musculoskeletal anatomy and osteoarticular physiology is required.

LEARNING OBJECTIVES

The course aims to provide students with the basic principles of the most common traumatic and degenerative disorders of the musculoskeletal system. For each condition, the main clinical signs,

the most appropriate imaging techniques for diagnosis and assessment, and the most suitable surgical treatment will be described.

EXPECTED LEARNING OUTCOMES

By the end of the course, students will be expected to know and/or be able to:

- Identify the main bone, musculetendinous, and ligament disorders.
- Describe the classification criteria for the main orthopaedic disorders and traumatic musculoskeletal injuries.
- Recognize the main signs, symptoms, and laboratory findings associated with orthopaedic disorders, as well as the main signs and symptoms of traumatic musculoskeletal injuries.
- Describe the clinical tests most commonly used in the diagnosis of orthopaedic conditions and traumatic injuries.
- Identify the most appropriate radiographic examinations for the diagnosis of orthopaedic conditions, including degenerative and capsuloligamentous disorders.
- Recognize the main types of bone fractures on radiographic imaging.
- Recognize the main sports-related, degenerative, and oncological musculoskeletal conditions.
- Identify the most appropriate treatments for the most common musculoskeletal disorders.
- Develop pharmacological, surgical, and rehabilitation treatment strategies for orthopaedic disorders and musculoskeletal injuries.

DD1: KNOWLEDGE AND UNDERSTANDING

- Recognize the physiological principles governing the function of the musculoskeletal system and the alterations resulting from functional and structural abnormalities.
- Distinguish the most common inflammatory and degenerative disorders of the musculoskeletal system.
- Understand the diagnostic methods, prognosis, and treatment of musculoskeletal disorders.
- Describe the diagnostic methods and treatment approaches for traumatic injuries of the musculoskeletal system.
- Appropriately interpret laboratory and diagnostic tests.

DD2: APPLYING KNOWLEDGE AND UNDERSTANDING

- Provide an etiopathogenetic interpretation of a clinical presentation and identify appropriate diagnostic and therapeutic approaches.
- Formulate a differential diagnosis based on specific clinical findings and support it with coherent clinical reasoning.
- Describe the main rehabilitation medicine techniques and their fields of application.
- Understand the practical aspects of diagnostic tools, including when and how they should be used.

DD3: MAKING JUDGMENTS

- Recognize the importance of an in-depth knowledge of the subject matter as an essential component of appropriate medical education.
- Recognize the fundamental role of sound theoretical knowledge of the subject in clinical practice.

DD4: COMMUNICATING SKILLS

- Present the topics orally in an organized and coherent manner.
- Use appropriate scientific language consistent with the topic being discussed.

DD5: LEARNING SKILLS

- Recognize the potential applications of the acquired skills in their future professional career.
- Assess the importance of the acquired knowledge within the broader process of medical education.

COURSE CONTENT

1. General principles of fractures
2. Paediatric orthopaedics (clubfoot, hip dysplasia, kyphosis and scoliosis, postural disorders, and physal injuries)
3. Shoulder (instability, subacromial impingement, rotator cuff tendinopathies, SLAP lesions, and shoulder osteoarthritis)
4. Knee (meniscal injuries, ligament injuries, osteochondral lesions, and knee arthritis)
5. Pelvis and hip (muscle injuries, bursitis, osteonecrosis of the hip, and hip osteoarthritis)
6. Principles of sports traumatology
7. Foot and ankle (hallux valgus, arthritic disorders, postural disorders, tendon disorders, and diabetic foot)
8. Elbow (ligament injuries and tendinopathies)
9. Hand (traumatic and degenerative disorders of the hand and wrist) and principles of reconstructive microsurgery
10. Spine
11. Tumours (soft tissue and bone)
12. Trauma (management of patients with multiple injuries and principles of fractures)
13. Upper limb fractures
14. Lower limb fractures
15. Spinal and pelvic fractures

TEACHING METHODS

The course consists of face-to-face teaching, with theoretical lectures covering the topics included in the syllabus. Any additional educational activities will be communicated by the lecturers during the course.

- The course comprises 40 hours of face-to-face teaching.

ASSESSMENT METHODS

Students' knowledge will be assessed through a written examination. The written examination will consist of 30 multiple-choice questions, with one point awarded for each correct answer. The final score for the written examination will be calculated as the sum of the points awarded for each correct answer. Students will have 30 minutes to complete the examination. At the end of the written examination, each student will be informed of their grade in compliance with applicable privacy regulations. Students who achieve a score of 18/30 or higher may either accept the grade obtained in the written examination or immediately proceed to an oral examination, during which their final grade may increase or decrease by up to 3 points. Students who obtain a score below 18/30 in the written examination will be recorded as having failed the examination.

Example of an assessment rubric for an oral examination:

Fail	Significant gaps and/or inaccuracies in the knowledge and understanding of the topics; limited analytical and synthesis skills; absent or frequently incorrect reasoning.
18–20	Barely sufficient knowledge and understanding of the topics, with possible inaccuracies; sufficient analytical, synthesis, and independent judgement skills.
21–23	Basic knowledge of the topics; adequate analytical and synthesis skills, supported by coherent logical reasoning.
24–26	Good knowledge and understanding of the topics; good analytical and synthesis skills; arguments presented rigorously.
27–29	Comprehensive knowledge of the topics; very good analytical and synthesis skills; good independent judgement.
30–30L	Excellent level of knowledge and understanding. Outstanding analytical, synthesis, and independent judgement skills. Original arguments expressed with full command of specialist terminology.

SUPPORTING ACTIVITY

In addition to the teaching activities, students will have the opportunity to participate in seminars, research internships, and clinical placements. The topics covered during these activities will not be included in the examination.

RECOMMENDED TEXTBOOKS AND REFERENCES

Mark D. Miller, Stephen R. Thompson. *Miller's Review of Orthopaedics*. 7th Edition.
Postacchini F, Ippolito E, Ferretti A. *Ortopedia e Traumatologia*. Antonio Delfino Editore.