[Medicinski fakultet u Rijeci]

**Curriculum**
**2023/2024**

[Za kolegij]

# Orthopaedics

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|---|---|
| Study program: | **Medical Studies in English (R)**<br>[Sveučilišni integrirani prijediplomski i diplomski studij] |
| Department: | **[Katedra za ortopediju i fizikalnu medicinu]** |
| Course coordinator: | **izv. prof. dr. sc. Jotanović Zdravko, dr. med.** |
| Year of study: | **5** |
| ECTS: | **3.5** |
| Incentive ECTS: | **0 (0.00%)** |
| Foreign language: | **Possibility of teaching in a foreign language** |

## Course information:

Orthopaedics is compulsory course on 5th year of study. It consists of 30 lectures and 32 practical hours (3,5 ECTS). Lectures and practicals will be organized at Clinic for orthopedic surgery Lovran, M. Tita 1, Lovran.

In the case of the unfavorable epidemiological situation educational process will be held online.

Learning outcomes:
• identify disorders and injuries of musculoskeletal system
• diagnose and explain causes of impairment of musculoskeletal system
• distinguish diagnostic and therapeutic procedures used to treat disorders and injuries of musculoskeletal system
• evaluate importance of right treatment method for orthopedic patient
• integrate acquired knowledge with general approach to the patient

## List of assigned reading:

1. Apley and Solomon’s System of Orthopaedics and Trauma, 10th ed., CRC Press,2017

## List of optional reading:

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## Curriculum:

### [Predavanja] list (with titles and explanation):

**L1. Introduction and history of orthopedics**

Acquiring knowledge about history of orthopedics .Get acquainted with goal of orthopedics

**L2. History,clinical examination, types of orthopaedic operations**

Get acquainted with basics in anamnesis , clinical examination, diagnostics and therapy in orthopedics

**L3. Diagnostic imaging (plain radiography,computed tomography,magnetic resonance imaging,ultrasound,radionuclide imaging)**

Get acquinted with diagnostic imaging methods encountered in diagnosis of orthopedic disorders. Describe and explain indications for each diagnostic method. Correlate results of diagnostic imaging with clinical examination

**L4. Tissues of musculosceletal system**

Acquiring knowledge about tissues comprising musculosceletal system

**L5. Normal bone healing**

Understanding mechanism of normal bone healing

**L6. Impaired bone healing**

Understanding causes of bone healing impairment

**L7. Bone remodelling and endocrine disorders of skeletal system**

Describe and explain mechanism of endocrine regulation of bone remodelling Acquiring knowledge about endocrine bone disorders

**L8.Metabolic disorders of skeletal system**

Get acquinted with major metabolic disorders of skeletal system

**L9., L10. Infections of musculoskeletal system**

Recognize and explain causes of infection of musculoskeletal system Know how to diagnose and treat bone infection

**L9., L10. Infections of musculoskeletal system**

Recognize and explain causes of infection of musculoskeletal system Know how to diagnose and treat bone infection

**L11., L12. Degenerative disorders of musculoskeletal system**

Describe and explain mechanism of musculoskeletal system degeneration Recognize and determine diagnostics and therapy in degenerative disorders of musculoskeletal system

**L13. Children's orthopedics: immature skeleton**

Get acquinted with immature skeleton and its specificity. Distinguish pediatric from adult musculoskeletal system

**L14. Children's orthopedics:the hip**

Describe and explain causes of pediatric hip disorders .Recognize and determine diagnostics and therapy of pediatric hip disorders

**L15. Children's orthopedics:the foot**

Describe and explain causes of pediatric foot disorders. Recognize and determine diagnostics and therapy protocol of pediatric foot disorders

**L16.,L17. The neck and pectoral girdle disorders**

Get acquinted with major disorders of neck and pectoral girdle. Learn how to diagnose and treat neck and pectoral girdle disorders

**L18., L19. The shoulder and upper arm**

Acquiring knowledge about shoulder and upper arm disorders. Recognize and determine diagnostics and therapy in shoulder and upper arm disorders.

**L20. i L21. The elbow and forearm**

Determine diagnostic and treatment protocol of elbow and forearm disorders

**L22. The wrist and the hand**

Get aquainted with major disorders affecting wrist and the hand. Selecting appropriate diagnostic and treatment method to solve disorder of wrist and the hand

**L23., L24. The hip and upper leg**

Recognize disorders of hip and upper leg. Determine diagnostics and therapy in hip and upper leg disorders

**L25.,L26 The knee and lower leg**

Describe knee and lower leg disorders. Determine diagnostic and treatment method for specific knee and lower leg disorder

**L27.,L28. The foot and ankle**

Recognize foot and ankle disorders. Determine appropriate diagnostic and treatment method in foot and ankle disorders

**L29.,L30 Tumors of musculoskeletal system**

Describe tumors of musculoskeletal system. Recognize and diagnose tumors of musculoskeletal system .Get acquinted with treatment options for musculoskeletal tumors.

**[Vježbe] list (with titles and explanation):**

**Practicals 1-5. History and clinical examination of the spine**

Following theoretical part apply practical knowledge of taking history and clinical examination of the spine

**Practicals 6-10. History and clinical examination of the hip and upper leg**

Following theoretical part apply practical knowledge of taking history and clinical examination of the hip and upper leg

**Practical 11-15. History and clinical examination of the knee and lower leg**

Following theoretical part apply practical knowledge of taking history and clinical examination of the knee and lower leg

**Practical 16-20. History and clinical examination of the foot and ankle**

Following theoretical part apply practical knowledge of taking history and clinical examination of the foot and ankle

**Practical 21-25. History and clinical examination of the shoulder, upper arm, elbow and lower arm**

Following theoretical part apply practical knowledge of taking history and clinical examination of the shoulder, upper arm, elbow and lower arm

**Practical 26-32. History and clinical examination of the wrist and the hand**

Following theoretical part apply practical knowledge of taking history and clinical examination of the wrist and the hand

## Student obligations:

Attendance on lectures and practicals are mandatory. Communication between the teaching stuff and students will take place by e-mail addresses (@uniri.hr)

## Exam (exam taking, description of the written/oral/practical part of the exam, point distribution, grading criteria):

Student assessment is carried out in accordance with the current University of Rijeka Study Regulations and the Student Regulations at the Faculty of Medicine Rijeka (adopted by the Faculty Council of the Faculty of Medicine Rijeka). Students' performance will be evaluated during the course and at the final exam. Out of a total of 100 credits, a student can earn 50 credits (50%) during the course, and 50 credits (50%) at the final exam. Student assessment is performed using ECTS (A-E) and number system (1-5). Student assessments in ECTS system is carried out by is performed by absolute distribution, and according to graduate assessment criteria. Out of a total of 50 credits that can be earned during the course, student must earn minimum 25 credits to take final exam.

I. During the course (maximum 50 credits):

Obligatory colloquium I and II test (maximum up to 25+25 credits) During the course all students must take obligatory first colloquium earning maximum 25 credits (range 13-25 maximum). During course all students must take second obligatory colloquium aswell earning maximum 25 credits (range 13-25)

| grade | credits |
|---|---|
| sufficient | 13-15 |
| good | 16-19 |
| very good | 20-23 |
| excellent | 24-25 |

II. Final exam (maximum 50 credits):

Final exam consists of obligatory written exam on Merlin platform in the form of essay. Student who earn 25 or more credits during the course can take final exam. Student who earn less than 25 credits during the course cannot take final exam. Final exam is scored maximal up to 50 credits. Final exam consists of 5 questions and brings 50 credits (range 25-50). To earn the credits student must pass 50% of final test. Correct answers are converted in credits by the following criteria:

| grade | credits |
|---|---|
| sufficient | 13-15 |
| good | 16-19 |
| very good | 20-23 |
| excellent | 24-25 |

For a passing grade during classes and on the final exam, student has to obtain minimum of 50 credits.

The ECTS grading system is defined by the following criteria: A - 90 -100% credits B - 80 - 89,9% credits C - 70 - 79,9% credits D - 60 - 69,9% credits E - 50 - 59,9% credits Grades in ECTS grading system are converted in numerical system by the following criteria: A = excellent (5) B = very good (4) C = good (3) D = sufficient (2) E = insufficient (1)

## Other notes (related to the course) important for students:

Course content and all information related to the course as well as exam dates can be found on the MedRi web pages. All student inquiries, regarding the course and possible problems, remarks and inquiries are provided exclusively using the official e-mail addresses (@medri.uniri.hr). It is possible to arrange consultations with the teaching staff during working hours.

## COURSE HOURS 2023/2024

Orthopaedics

| **[Predavanja]**<br>(Place and time or group) | **[Vježbe]**<br>(Place and time or group) |
|---|---|
| **12.07.2023** | |
| L29.,L30 Tumors of musculoskeletal system:<br>• [Ortopedija - Lovran] (18:00 - 20:00) [305]<br>  ○ O_393 | |
| doc. dr. sc. Prpić Tomislav, dr. med. [305] | |
| **26.02.2024** | |
| L1. Introduction and history of orthopedics:<br>• [ONLINE] (08:00 - 08:45) [304]<br>  ○ O_393<br><br>L2. History,clinical examination, types of orthopaedic operations:<br>• [Ortopedija - Lovran] (08:45 - 09:30) [304]<br>  ○ O_393<br><br>L3. Diagnostic imaging (plain radiography,computed tomography,magnetic resonance imaging,ultrasound,radionuclide imaging):<br>• [ONLINE] (09:30 - 10:15) [305]<br>  ○ O_393<br><br>L4. Tissues of musculosceletal system:<br>• [ONLINE] (10:15 - 11:00) [305]<br>  ○ O_393<br><br>L5. Normal bone healing:<br>• [Ortopedija - Lovran] (11:00 - 11:45) [301]<br>  ○ O_393 | |
| doc. dr. sc. Mađarević Tomislav, dr. med. [301] · doc. dr. sc. Prpić Tomislav, dr. med. [305] · prof. dr. sc. Šantić Veljko, dr. med. [304] | |
| **27.02.2024** | |
| | Practicals 1-5. History and clinical examination of the spine:<br>• [Ortopedija - Lovran] (08:00 - 11:45) [1429] [1950]<br>  ○ ORTHOPAEDICS A1<br>  ○ ORTHOPAEDICS A2<br>  ○ ORTHOPAEDICS B1<br>  ○ ORTHOPAEDICS B2 |
| naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950] | |
| **28.02.2024** | |

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|---|---|
| L6. Impaired bone healing:<br>• [ONLINE] (13:00 - 14:00) [300]<br>◦ O_393<br><br>L7. Bone remodelling and endocrine disorders of skeletal system:<br>• [ONLINE] (14:00 - 15:00) [301]<br>◦ O_393<br><br>L8.Metabolic disorders of skeletal system:<br>• [ONLINE] (15:00 - 16:00) [305]<br>◦ O_393<br><br>L9., L10. Infections of musculoskeletal system:<br>• [ONLINE] (16:00 - 18:00) [301]<br>◦ O_393 | |
| nasl.doc. dr. sc. Gržalja Nikola, dr. med. [300] · doc. dr. sc. Mađarević Tomislav, dr. med. [301] · doc. dr. sc. Prpić Tomislav, dr. med. [305] | |
| **29.02.2024** | |
| | Practicals 1-5. History and clinical examination of the spine:<br>• [Ortopedija - Lovran] (08:00 - 11:45) [1950] [1429]<br>◦ ORTHOPAEDICS B1<br>◦ ORTHOPAEDICS B2<br>◦ ORTHOPAEDICS C1<br><br>Practicals 6-10. History and clinical examination of the hip and upper leg:<br>• [Ortopedija - Lovran] (08:00 - 11:45) [1950] [1429]<br>◦ ORTHOPAEDICS B1<br>◦ ORTHOPAEDICS B2<br>◦ ORTHOPAEDICS C1 |
| naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950] | |
| **01.03.2024** | |
| L11., L12. Degenerative disorders of musculoskeletal system:<br>• [ONLINE] (16:00 - 18:00) [299]<br>◦ O_393<br><br>L13. Children's orthopedics: immature skeleton:<br>• [ONLINE] (18:00 - 19:00) [305]<br>◦ O_393<br><br>L14. Children's orthopedics:the hip:<br>• [ONLINE] (18:00 - 19:00) [305]<br>◦ O_393<br><br>L15. Children's orthopedics:the foot:<br>• [ONLINE] (19:00 - 20:00) [305]<br>◦ O_393 | |
| nasl. izv. prof. dr. sc. Legović Dalen, dr. med. [299] · doc. dr. sc. Prpić Tomislav, dr. med. [305] | |
| **04.03.2024** | |
| | Practicals 6-10. History and clinical examination of the hip and upper leg:<br>• [Ortopedija] (08:00 - 11:45) [1429] [1950]<br>◦ ORTHOPAEDICS A1<br>◦ ORTHOPAEDICS A2<br>◦ ORTHOPAEDICS C1 |
| naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950] | |

| **05.03.2024** | |
|---|---|
| L16.,L17. The neck and pectoral girdle disorders:<br>• [ONLINE] (12:00 - 14:00) [305]<br>◦ O_393<br><br>L18., L19. The shoulder and upper arm:<br>• [ONLINE] (14:00 - 16:00) [305]<br>◦ O_393<br><br>L20. i L21. The elbow and forearm:<br>• [ONLINE] (16:00 - 17:00) [305]<br>◦ O_393 | |
| doc. dr. sc. Prpić Tomislav, dr. med. [305] | |
| **06.03.2024** | |
| | Practical 11-15. History and clinical examination of the knee and lower leg:<br>• [Ortopedija - Lovran] (08:00 - 11:45) [1950] [1429]<br>◦ ORTHOPAEDICS A1<br>◦ ORTHOPAEDICS A2<br>◦ ORTHOPAEDICS B1<br>◦ ORTHOPAEDICS B2 |
| naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950] | |
| **07.03.2024** | |
| L20. i L21. The elbow and forearm:<br>• [ONLINE] (16:00 - 17:00) [305]<br>◦ O_393<br><br>L22. The wrist and the hand:<br>• [ONLINE] (17:00 - 18:00) [302]<br>◦ O_393<br><br>L23., L24. The hip and upper leg:<br>• [ONLINE] (18:00 - 20:00) [305]<br>◦ O_393<br><br>L25.,L26 The knee and lower leg:<br>• [ONLINE] (19:00 - 20:00) [303]<br>◦ O_393 | |
| prof. dr. sc. Gulan Gordan, dr. med. [303] · izv. prof. dr. sc. Jotanović Zdravko, dr. med. [302] · doc. dr. sc. Prpić Tomislav, dr. med. [305] | |
| **08.03.2024** | |
| | Practical 11-15. History and clinical examination of the knee and lower leg:<br>• [Ortopedija] (08:00 - 11:45) [1429] [1950]<br>◦ ORTHOPAEDICS B1<br>◦ ORTHOPAEDICS B2<br>◦ ORTHOPAEDICS C1<br><br>Practical 16-20. History and clinical examination of the foot and ankle:<br>• [Ortopedija] (08:00 - 11:45) [1429] [1950]<br>◦ ORTHOPAEDICS B1<br>◦ ORTHOPAEDICS B2<br>◦ ORTHOPAEDICS C1 |
| naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950] | |
| **11.03.2024** | |

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|---|---|
| | Practical 16-20. History and clinical examination of the foot and ankle:<br>• [Ortopedija - Lovran] (08:00 - 11:45) [1950] [1429]<br>◦ ORTHOPAEDICS A1<br>◦ ORTHOPAEDICS A2<br>◦ ORTHOPAEDICS C1 |
| naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950] | |
| **12.03.2024** | |
| L25.,L26 The knee and lower leg:<br>• [ONLINE] (16:00 - 17:00) [303]<br>◦ O_393<br><br>L27.,L28. The foot and ankle:<br>• [ONLINE] (17:00 - 18:00) [304]<br>◦ O_393 | |
| prof. dr. sc. Gulan Gordan, dr. med. [303] · prof. dr. sc. Šantić Veljko, dr. med. [304] | |
| **13.03.2024** | |
| L22. The wrist and the hand:<br>• [Ortopedija - Lovran] (08:00 - 11:45) [1429] [1950]<br>◦ ORTHOPAEDICS A1<br>◦ ORTHOPAEDICS A2<br>◦ ORTHOPAEDICS B1<br>◦ ORTHOPAEDICS B2<br><br>L23., L24. The hip and upper leg:<br>• [Ortopedija - Lovran] (08:00 - 11:45) [1429] [1950]<br>◦ ORTHOPAEDICS A1<br>◦ ORTHOPAEDICS A2<br>◦ ORTHOPAEDICS B1<br>◦ ORTHOPAEDICS B2<br><br>L25.,L26 The knee and lower leg:<br>• [Ortopedija - Lovran] (08:00 - 11:45) [1429] [1950]<br>◦ ORTHOPAEDICS A1<br>◦ ORTHOPAEDICS A2<br>◦ ORTHOPAEDICS B1<br>◦ ORTHOPAEDICS B2<br><br>L27.,L28. The foot and ankle:<br>• [Ortopedija - Lovran] (08:00 - 11:45) [1429] [1950]<br>◦ ORTHOPAEDICS A1<br>◦ ORTHOPAEDICS A2<br>◦ ORTHOPAEDICS B1<br>◦ ORTHOPAEDICS B2 | Practical 21-25. History and clinical examination of the shoulder, upper arm, elbow and lower arm:<br>• [Ortopedija] (08:00 - 11:45) [1950] [1429]<br>◦ ORTHOPAEDICS B1<br>◦ ORTHOPAEDICS B2<br>◦ ORTHOPAEDICS C1 |
| naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950] | |
| **15.03.2024** | |
| | Practical 26-32. History and clinical examination of the wrist and the hand:<br>• [Ortopedija] (08:00 - 11:45) [1429] [1950]<br>◦ ORTHOPAEDICS A1<br>◦ ORTHOPAEDICS A2<br>◦ ORTHOPAEDICS C1 |
| naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950] | |

### List of lectures, seminars and practicals:

| [PREDAVANJA] (TOPIC) | Number of hours | Location |
|---|---|---|
| L1. Introduction and history of orthopedics | 1 | [ONLINE] |
| L2. History,clinical examination, types of orthopaedic operations | 1 | [Ortopedija - Lovran] |
| L3. Diagnostic imaging (plain radiography,computed tomography,magnetic resonance imaging,ultrasound,radionuclide imaging) | 1 | [ONLINE] |
| L4. Tissues of musculosceletal system | 1 | [ONLINE] |
| L5. Normal bone healing | 1 | [Ortopedija - Lovran] |
| L6. Impaired bone healing | 1 | [ONLINE] |
| L7. Bone remodelling and endocrine disorders of skeletal system | 1 | [ONLINE] |
| L8.Metabolic disorders of skeletal system | 1 | [ONLINE] |
| L9., L10. Infections of musculoskeletal system | 1 | [ONLINE] |
| L9., L10. Infections of musculoskeletal system | 2 | |
| L11., L12. Degenerative disorders of musculoskeletal system | 2 | [ONLINE] |
| L13. Children's orthopedics: immature skeleton | 1 | [ONLINE] |
| L14. Children's orthopedics:the hip | 1 | [ONLINE] |
| L15. Children's orthopedics:the foot | 1 | [ONLINE] |
| L16.,L17. The neck and pectoral girdle disorders | 2 | [ONLINE] |
| L18., L19. The shoulder and upper arm | 2 | [ONLINE] |
| L20. i L21. The elbow and forearm | 2 | [ONLINE] |
| L22. The wrist and the hand | 1 | [ONLINE]<br>[Ortopedija - Lovran] |
| L23., L24. The hip and upper leg | 2 | [ONLINE]<br>[Ortopedija - Lovran] |
| L25.,L26 The knee and lower leg | 2 | [ONLINE]<br>[Ortopedija - Lovran] |
| L27.,L28. The foot and ankle | 2 | [ONLINE]<br>[Ortopedija - Lovran] |
| L29.,L30 Tumors of musculoskeletal system | 2 | [Ortopedija - Lovran] |

| [VJEŽBE] (TOPIC) | Number of hours | Location |
|---|---|---|
| Practicals 1-5. History and clinical examination of the spine | 5 | [Ortopedija - Lovran] |
| Practicals 6-10. History and clinical examination of the hip and upper leg | 6 | [Ortopedija - Lovran]<br>[Ortopedija] |
| Practical 11-15. History and clinical examination of the knee and lower leg | 6 | [Ortopedija - Lovran]<br>[Ortopedija] |
| Practical 16-20. History and clinical examination of the foot and ankle | 5 | [Ortopedija - Lovran]<br>[Ortopedija] |
| Practical 21-25. History and clinical examination of the shoulder, upper arm, elbow and lower arm | 5 | [Ortopedija] |
| Practical 26-32. History and clinical examination of the wrist and the hand | 5 | [Ortopedija] |

**EXAM DATES (final exam):**

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|---|---|
| 1. | 18.03.2024. |
| 2. | 05.09.2024. |
| 3. | 19.09.2024. |