Faculty of Medicine in Rijeka

Curriculum
2024/2025

For course

Orthopaedics

Study program:	**Medical Studies in English (R)** University integrated undergraduate and graduate study
Department:	**Department of Orthopedics and Physical Medicine**
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:

Lectures 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

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.

Practicals 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 2024/2025

Orthopaedics

Lectures (Place and time or group)	**Practicals** (Place and time or group)
24.02.2025	
L1. Introduction and history of orthopedics: • Orthopedics Lovran (08:00 - 09:00) [304] [305] ◦ O_393 L2. History,clinical examination, types of orthopaedic operations: • Orthopedics Lovran (09:00 - 10:00) [304] ◦ O_393 L3. Diagnostic imaging (plain radiography,computed tomography,magnetic resonance imaging,ultrasound,radionuclide imaging): • Orthopedics Lovran (10:00 - 11:00) [305] ◦ O_393 L4. Tissues of musculosceletal system: • Orthopedics Lovran (11:00 - 12:00) [305] ◦ O_393 L5. Normal bone healing: • Orthopedics Lovran (12:00 - 13:00) [305] [301] ◦ 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]	
25.02.2025	
	Practicals 1-5. History and clinical examination of the spine: • Orthopedics (08:00 - 13:00) [1950] ◦ ORTHOPAEDICS B1 ◦ ORTHOPAEDICS B2 • Orthopedics Lovran (08:00 - 13:00) [1429] ◦ ORTHOPAEDICS A1 ◦ ORTHOPAEDICS A2
naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950]	
26.02.2025	
L6. Impaired bone healing: • ONLINE (13:00 - 14:00) [300] [305] ◦ O_393 L7. Bone remodelling and endocrine disorders of skeletal system: • ONLINE (14:00 - 15:00) [305] ◦ O_393 L8.Metabolic disorders of skeletal system: • ONLINE (15:00 - 16:00) [305] ◦ O_393 L9., L10. Infections of musculoskeletal system: • ONLINE (16:00 - 18:00) [305] ◦ O_393	
nasl.doc. dr. sc. Gržalja Nikola, dr. med. [300] · doc. dr. sc. Prpić Tomislav, dr. med. [305]	
27.02.2025	

	Practicals 1-5. History and clinical examination of the spine: • Orthopedics (08:00 - 13:00) [305] [1429] ◦ ORTHOPAEDICS C1 Practicals 6-10. History and clinical examination of the hip and upper leg: • Orthopedics Lovran (08:00 - 13:00) [1950] ◦ ORTHOPAEDICS B1 ◦ ORTHOPAEDICS B2
naslovni asistent Gulan Leo, dr. med. [1429] · doc. dr. sc. Prpić Tomislav, dr. med. [305] · naslovni asistent Tudor Karlo, dr. med. [1950]	
28.02.2025	
L11., L12. Degenerative disorders of musculoskeletal system: • ONLINE (16:00 - 18:00) [299] ◦ O_393 L13. Children's orthopedics: immature skeleton: • ONLINE (18:00 - 19:00) [305] ◦ O_393 L14. Children's orthopedics:the hip: • ONLINE (18:00 - 19:00) [305] ◦ O_393 L15. Children's orthopedics:the foot: • ONLINE (19:00 - 20:00) [305] ◦ O_393	
nasl. izv. prof. dr. sc. Legović Dalen, dr. med. [299] · doc. dr. sc. Prpić Tomislav, dr. med. [305]	
03.03.2025	
	Practicals 6-10. History and clinical examination of the hip and upper leg: • Orthopedics (08:00 - 13:00) [1429] ◦ ORTHOPAEDICS A1 ◦ ORTHOPAEDICS A2 • Orthopedics Lovran (08:00 - 13:00) [1950] ◦ ORTHOPAEDICS C1
naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950]	
04.03.2025	
L16.,L17. The neck and pectoral girdle disorders: • ONLINE (12:00 - 14:00) [305] ◦ O_393 L18., L19. The shoulder and upper arm: • ONLINE (14:00 - 16:00) [305] ◦ O_393 L20. i L21. The elbow and forearm: • ONLINE (16:00 - 17:00) [305] ◦ O_393	
doc. dr. sc. Prpić Tomislav, dr. med. [305]	
05.03.2025	

	Practical 11-15. History and clinical examination of the knee and lower leg:
	• Orthopedics (07:00 - 13:00) [1950]
	  ◦ ORTHOPAEDICS B1
	• Orthopedics Lovran (08:00 - 15:00) [1429]
	  ◦ ORTHOPAEDICS A1
	• Orthopedics Lovran (08:00 - 13:00) [1429] [1950]
	  ◦ ORTHOPAEDICS B2
	  ◦ ORTHOPAEDICS A2
	• Orthopedics (08:00 - 13:00) [1950]
	  ◦ ORTHOPAEDICS B1

naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950]	
06.03.2025	

L20. i L21. The elbow and forearm:
• ONLINE (16:00 - 17:00) [305]
  ◦ O_393
 	
L22. The wrist and the hand:
• ONLINE (17:00 - 18:00) [302]
  ◦ O_393
 	
L23., L24. The hip and upper leg:
• ONLINE (18:00 - 20:00) [305]
  ◦ O_393
 	
L25.,L26 The knee and lower leg:
• ONLINE (19:00 - 20:00) [303]
  ◦ 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]	
07.03.2025	

	Practical 11-15. History and clinical examination of the knee and lower leg:
	• Orthopedics Lovran (08:00 - 13:00) [1429]
	  ◦ ORTHOPAEDICS C1
	
	Practical 16-20. History and clinical examination of the foot and ankle:
	• Orthopedics (08:00 - 13:00) [1950]
	  ◦ ORTHOPAEDICS B2
	  ◦ ORTHOPAEDICS B1

naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950]	
10.03.2025	

	Practical 16-20. History and clinical examination of the foot and ankle:
	• Orthopedics Lovran (07:00 - 13:00) [1950]
	  ◦ ORTHOPAEDICS C1
	• Orthopedics (08:00 - 13:00) [1429]
	  ◦ ORTHOPAEDICS A1
	  ◦ ORTHOPAEDICS A2

naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950]	
11.03.2025	

L25.,L26 The knee and lower leg: • ONLINE (16:00 - 17:00) [303] ◦ O_393 L27.,L28. The foot and ankle: • ONLINE (17:00 - 19:00) [304] ◦ O_393 L29.,L30 Tumors of musculoskeletal system: • ONLINE (18:00 - 20:00) [305] ◦ O_393	
prof. dr. sc. Gulan Gordan, dr. med. [303] · doc. dr. sc. Prpić Tomislav, dr. med. [305] · prof. dr. sc. Šantić Veljko, dr. med. [304]	
12.03.2025	
	Practical 21-25. History and clinical examination of the shoulder, upper arm, elbow and lower arm: • Orthopedics Lovran (08:00 - 15:00) [1429] ◦ ORTHOPAEDICS A1 • Orthopedics Lovran (08:00 - 05:00) [1429] ◦ ORTHOPAEDICS A2 • Orthopedics (08:00 - 13:00) [1950] ◦ ORTHOPAEDICS B2 ◦ ORTHOPAEDICS B1
naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950]	
13.03.2025	
	Practical 21-25. History and clinical examination of the shoulder, upper arm, elbow and lower arm: • Orthopedics Lovran (08:00 - 13:00) [1950] ◦ ORTHOPAEDICS C1 Practical 26-32. History and clinical examination of the wrist and the hand: • Orthopedics (08:00 - 15:00) [1429] ◦ ORTHOPAEDICS B1 • Orthopedics Lovran (08:00 - 15:00) [1429] ◦ ORTHOPAEDICS B2
naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950]	
14.03.2025	
	Practical 26-32. History and clinical examination of the wrist and the hand: • Orthopedics (08:00 - 15:00) [1429] ◦ ORTHOPAEDICS C1 • Orthopedics Lovran (08:00 - 15:00) [1429] [1950] ◦ ORTHOPAEDICS A2 ◦ ORTHOPAEDICS A1
naslovni asistent Gulan Leo, dr. med. [1429] · naslovni asistent Tudor Karlo, dr. med. [1950]	

List of lectures, seminars and practicals:

LECTURES (TOPIC)	Number of hours	Location
L1. Introduction and history of orthopedics	1	Orthopedics Lovran
L2. History,clinical examination, types of orthopaedic operations	1	Orthopedics Lovran
L3. Diagnostic imaging (plain radiography,computed tomography,magnetic resonance imaging,ultrasound,radionuclide imaging)	1	Orthopedics Lovran

L4. Tissues of musculosceletal system	1	Orthopedics Lovran
L5. Normal bone healing	1	Orthopedics 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	2	ONLINE
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
L23., L24. The hip and upper leg	2	ONLINE
L25.,L26 The knee and lower leg	2	ONLINE
L27.,L28. The foot and ankle	2	ONLINE
L29.,L30 Tumors of musculoskeletal system	2	ONLINE

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

EXAM DATES (final exam):

1.	17.03.2025.
2.	04.09.2025.
3.	18.09.2025.