Faculty of Medicine in Rijeka

Curriculum
2026/2027

For course

Occupational Medicine

Study program:	**Medical Studies in English (R)** University integrated undergraduate and graduate study
Department:	**Department of Family Medicine**
Course coordinator:	**doc. dr. sc. Varnai Veda Marija, dr. med.**
Year of study:	**6**
ECTS:	**1.5**
Incentive ECTS:	**0 (0.00%)**
Foreign language:	**Possibility of teaching in a foreign language**

Course information:

Course aims:

The **course Occupational Medicine** is an obligatory course at the sixth year of the Integrated undergraduate and graduate university study of Medicine. It consists of 15 hours of lectures, 3 hours of seminars and 2 hours of practicals. The course has two aims. The first aim is to learn about the factors affecting the work environment, and the second aim is to learn how to assess biological factors arising in or from the workplace. It is necessary to recognize changes in the body provoked by the work environment, especially if the values of different chemicals exceed permitted values (dose-response curves in toxicology), which can cause various diseases. Therefore, medical doctors are an indispensable part of every industrial plant, presented directly to help the employer as well as employees to protect the environment and workers´ health.

Course content:

Occupational medicine: assessment of factors affecting the work environment, lighting, thermal environment, non-ionizing and ionizing radiation, biological effects, dosimetry, radiation protection. Workplace chemical factors, gases, vapors, aerosols. Assessment of occupational capacity, functional diagnostics, ergometry, spirometry. Workplace accidents, occupational diseases. The vision and hearing tests, audiometry. Pneumoconiosis, pneumopathy, exposure to heavy metals. Disability prevention, professional orientation and selection. Occupational health management, motivation for work, occupational psychology.

Sports medicine: basis of physiology, kinesiology, theory and methodology of sports training, anaerobic and aerobic sources, conditioning, tests.

Course teaching:

Classes are conducted in the form of lectures, seminars and practicals organized in the field and industrial sites. During the course, there will be written tests covering the factors that affect the work environment, a multiple-choice test and a short seminar paper. There is an oral exam planned for the end of classes.

List of assigned reading:

1. Gardiner K, Rees D, Adisesh A, Zalk D, Harrington M. Pocket Consultant. Occupational Health. 6th Edition. John Wiley & Sons Ltd, 2022
2. Varnai VM. Lectures (PowerPoint presentations)

List of optional reading:

Curriculum:

Lectures list (with titles and explanation):

L1. Occupational Medicine: Its Past, Present and Future in a Changing World of Work

Occupational Medicine: Its Past, Present and Future in a Changing World of Work

L2. Introduction to Occupational Health: Risk and Protective Factors

Introduction to Occupational Health: Risk and Protective Factors

L3. Adverse Effects of Noise

Adverse Effects of Noise

L4. Adverse Effects of Vibrations

Adverse Effects of Vibrations

L5. Thermal Environment

Thermal Environment

L6. Adverse Effects of Occupational Exposure to Electromagnetic Radiation

Adverse Effects of Occupational Exposure to Electromagnetic Radiation

L7. Workplace Lighting

Workplace Lighting

L8. Occupational Biohazards

Occupational Biohazards

L9. Physical Strain and Injuries at Work

Physical Strain and Injuries at Work

L10. Introduction to Sports Medicine

Introduction to Sports Medicine

L11. Psychosocial Hazards at the Workplace and in Professional Sport

Psychosocial Hazards at the Workplace and in Professional Sport

L12. Introduction to Occupational Toxicology – Part 1

Introduction to Occupational Toxicology – Part 1

L13. Introduction to Occupational Toxicology – Part 2

Introduction to Occupational Toxicology – Part 2

L14. Occupational Pulmonary Diseases

Occupational Pulmonary Diseases

L15. Occupational Skin Diseases

Occupational Skin Diseases

Practicals list (with titles and explanation):

P1. Measuring Noise; Personal Protection of Workers – Noise; Work Ability Assessment

Measuring Noise; Personal Protection of Workers – Noise; Work ability assessment

Seminars list (with titles and explanation):

S1. Seminar

Seminar

Student obligations:

Students are obligated to regularly attend all forms of classes according to the Study Regulations.

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

ECTS credit grading system:

Student grading is conducted according to the current University of Rijeka Study Regulations and the Ordinance on Student Assessment and Evaluation at the Faculty of Medicine in Rijeka (adopted by the Faculty Council of the Faculty of Medicine in Rijeka). Student work is assessed and evaluated during classes and on the final exam. Out of **100 grade points**, the student can achieve **70 grade points** during classes and **30 grade points** on the final exam.

Assessment is conducted using the ECTS (A–E) system derived by absolute distribution and numerical system (1–5). Out of a maximum of 70 grade points, the student has to achieve 35 grade points to access the final exam. Students who achieve less than 35 grade points have the right to one retake.

During classes, students achieve grade points for active participation in classes, solving assignments and taking the midterm exams.

The following is evaluated during classes (maximum of 70 grade points):

a. Midterm exam covering the general part of OM **(6–15 grade points**) • three questions about the factors affecting the work environment
b. Compulsory solving of assignments – factors affecting the work environment **(6–15 grade points)** • calculate noise, lighting and chemical factors
c. Midterm exam covering the visitation to workplaces (industry) **(9–20 grade points)** • describe types of industry, health hazards; protective measures
d. Midterm exam covering the special part of OM **(6–20 grade points)** • four questions (metals, pneumoconiosis, plastics, pesticides).

Class attendance

The student can be absent from up to 30% of classes due to health reasons, which is justified by a medical certificate (doctor’s note). Attendance at seminars and practicals is compulsory. If the student is unjustifiably absent from more than 30% of classes, they lose the right to take the final exam. In this way, the student obtains 0 ECTS credits and an F grade.

Grading in the ECTS system

Student success is expressed by the ECTS grading scale in percentages from 0 to 100%. The passing grade at the graduate level cannot be lower than 50%.

I. A – 90–100% points
II. B – 75–89.9% points
III. C – 60–74.9% points
IV. D – 50–59.9% points

Conversion into the numerical system:

I. A – excellent (5)
II. B – very good (4)
III. C – good (3)
IV. D – sufficient (2)

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

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COURSE HOURS 2026/2027

Occupational Medicine

Lectures (Place and time or group)	**Practicals** (Place and time or group)	**Seminars** (Place and time or group)
27.10.2026		

L1. Occupational Medicine: Its Past, Present and Future in a Changing World of Work:
• P02 (15:00 - 18:00) [3608]
  ○ OM_398
 	
L2. Introduction to Occupational Health: Risk and Protective Factors:
• P02 (15:00 - 18:00) [3608]
  ○ OM_398
 	
L3. Adverse Effects of Noise:
• P02 (15:00 - 18:00) [3608]
  ○ OM_398
 	
L4. Adverse Effects of Vibrations:
• P02 (15:00 - 18:00) [3608]
  ○ OM_398		

doc. dr. sc. Varnai Veda Marija, dr. med. [3608]		
28.10.2026		

L5. Thermal Environment:
• ONLINE (16:00 - 18:30) [3608]
  ○ OM_398
 	
L6. Adverse Effects of Occupational Exposure to Electromagnetic Radiation:
• ONLINE (16:00 - 18:30) [3608]
  ○ OM_398
 	
L7. Workplace Lighting:
• ONLINE (16:00 - 18:30) [3608]
  ○ OM_398
 	
L8. Occupational Biohazards:
• ONLINE (16:00 - 18:30) [3608]
  ○ OM_398		

doc. dr. sc. Varnai Veda Marija, dr. med. [3608]		
29.10.2026		

L9. Physical Strain and Injuries at Work: • ONLINE (16:00 - 18:30) [3608] ◦ OM_398 L10. Introduction to Sports Medicine: • ONLINE (16:00 - 18:30) [3608] ◦ OM_398 L11. Psychosocial Hazards at the Workplace and in Professional Sport: • ONLINE (16:00 - 18:30) [3608] ◦ OM_398 L12. Introduction to Occupational Toxicology – Part 1: • ONLINE (16:00 - 18:30) [3608] ◦ OM_398		
doc. dr. sc. Varnai Veda Marija, dr. med. [3608]		
02.11.2026		
L13. Introduction to Occupational Toxicology – Part 2: • P08 (15:45 - 18:15) [3608] ◦ OM_398 L14. Occupational Pulmonary Diseases: • P08 (15:45 - 18:15) [3608] ◦ OM_398 L15. Occupational Skin Diseases: • P08 (15:45 - 18:15) [3608] ◦ OM_398		
doc. dr. sc. Varnai Veda Marija, dr. med. [3608]		
05.11.2026		
		S1. Seminar: • ONLINE (15:00 - 17:45) [3608] ◦ OM_398
doc. dr. sc. Varnai Veda Marija, dr. med. [3608]		
06.11.2026		
	P1. Measuring Noise; Personal Protection of Workers – Noise; Work Ability Assessment: • P08 (15:00 - 16:30) [3608] ◦ OM_398	
doc. dr. sc. Varnai Veda Marija, dr. med. [3608]		

List of lectures, seminars and practicals:

LECTURES (TOPIC)	Number of hours	Location
L1. Occupational Medicine: Its Past, Present and Future in a Changing World of Work	1	P02
L2. Introduction to Occupational Health: Risk and Protective Factors	1	P02
L3. Adverse Effects of Noise	1	P02
L4. Adverse Effects of Vibrations	1	P02

L5. Thermal Environment	1	ONLINE
L6. Adverse Effects of Occupational Exposure to Electromagnetic Radiation	1	ONLINE
L7. Workplace Lighting	1	ONLINE
L8. Occupational Biohazards	1	ONLINE
L9. Physical Strain and Injuries at Work	1	ONLINE
L10. Introduction to Sports Medicine	1	ONLINE
L11. Psychosocial Hazards at the Workplace and in Professional Sport	1	ONLINE
L12. Introduction to Occupational Toxicology – Part 1	1	ONLINE
L13. Introduction to Occupational Toxicology – Part 2	1	P08
L14. Occupational Pulmonary Diseases	1	P08
L15. Occupational Skin Diseases	1	P08

PRACTICALS (TOPIC)	Number of hours	Location
P1. Measuring Noise; Personal Protection of Workers – Noise; Work Ability Assessment	2	P08

SEMINARS (TOPIC)	Number of hours	Location
S1. Seminar	3	ONLINE

EXAM DATES (final exam):