

Faculty of Medicine in Rijeka

**Curriculum  
2025/2026**

For course

**Introduction to Scientific Research**

|                     |                                                                                                 |
|---------------------|-------------------------------------------------------------------------------------------------|
| Study program:      | <b>Medical Studies in English (R)</b><br>University integrated undergraduate and graduate study |
| Department:         | <b>Department of Humanities and Social Sciences in Medicine</b>                                 |
| Course coordinator: | <b>izv. prof. dr. sc. Pupovac Vanja, prof.</b>                                                  |
| Year of study:      | <b>2</b>                                                                                        |
| ECTS:               | <b>1</b>                                                                                        |
| Incentive ECTS:     | <b>0 (0.00%)</b>                                                                                |
| Foreign language:   | <b>Possibility of teaching in a foreign language</b>                                            |

## **Course information:**

The course "Introduction to Scientific Research" is mandatory for the 2nd year of the Integrated Undergraduate and Graduate University Study of Medicine in English program, encompassing 6 hours of lectures and 14 hours of seminars and enabling the acquisition of one (1) ECTS credit.

After taking the course, students will be able to critically interpret medical research and independently assess the credibility of scientific information.

## **List of assigned reading:**

1. Presentations (PPT);
2. Hulley SB Cummings SR, Browner W S Grady DG, Newman TB, ed., Designing Clinical Research. 4th ed., Philadelphia, USA: Lippincott Williams & Wilkins, A Wolters Kluwer Business; 2013.
3. Matko Marušić, ed., Principles of Research in Medicine, 2nd ed., Zagreb: Medicinska naklada, 2015.

## **List of optional reading:**

Evans I, Thornton H, Chalmers I and Glasziou P. Testing Treatments, 2nd Edition; London: Pinter and Martin. 2011. Available from: <http://www.testingtreatments.org/>

## **Curriculum:**

### **Lectures list (with titles and explanation):**

#### **L1 Introductory lecture**

Definition of basic characteristics of medical research

#### **L2 Research designs lecture**

distinguish basic types of medical research

#### **L3 Population and sample lecture**

Understanding the importance of a representative sample in scientific research.

#### **L4 Variables and data lecture**

distinguish types of variables, data and methods of measurement

#### **L5 Basics of scientific research ethics**

Understand the basic types of dishonesty and bias

#### **L6 Basics of research integrity**

Understand the concept of scientific research ethics and describe ethical doubts in the implementation process and data collection, and understand and explain the importance of adhering to ethical principles in scientific research work. Recognize the forms of plagiarism, discuss prevention methods, and analyze the consequences of fraud in science.

### **Seminars list (with titles and explanation):**

#### **S1 Basic concepts of medical research**

recognize the basic components of the research using examples

#### **S2 Research designs**

distinguish research designs in medical research

#### **S3 Population and sample**

define the basic characteristics of the sample and recognize sampling errors and biases

#### **S4 Variables**

recognize different types of variables and methods of measurement

#### **S5-S7 Analysis of scientific paper 1**

critically interpret parts of a scientific paper

#### **S8-S10 Analysis of scientific paper 2**

critically interpret parts of a scientific paper

#### **S11-S14 Design of a research plan**

create a research plan on a given topic

**Student obligations:**

Regular class attendance (excused absence of 30% from each form of class is allowed (1 out of 6 lectures; 4 out of 14 seminars).

The student will complete the course if he collects 50% of the points that he can collect in the following way:

Four online quizzes ( $4 \times 7\% = 28\%$ ),

Critical analysis of scientific paper 1 (max 28%),

Critical analysis of scientific paper 2 (max 22%),

Design of a research plan (max 20%).

**Exam (exam taking, description of the written/oral/practical part of the exam, point distribution, grading criteria):****Other notes (related to the course) important for students:**

Absence from classes up to 30% (1 lecture and 4 seminars) assumes a justified reason and cannot be compensated (the exception is a discharge letter from hospital treatment). An absence of more than 30%, regardless of the reasons, entails re-enrollment during the following academic year.

It is impossible to "reject" a positive grade obtained on the final exam, but only act per Article 46 of the Regulations on Studies of the University of Rijeka (a student dissatisfied with the grade submits a written appeal to the dean within 24 hours).

## COURSE HOURS 2025/2026

### Introduction to Scientific Research

| Lectures<br>(Place and time or group)                                                                                                                                             | Seminars<br>(Place and time or group)                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>02.03.2026</b>                                                                                                                                                                 |                                                                                                                                                                                                        |
| L1 Introductory lecture: <ul style="list-style-type: none"><li>• ONLINE (13:00 - 14:00) <sup>[420]</sup><ul style="list-style-type: none"><li>◦ ITSr</li></ul></li></ul>          | S1 Basic concepts of medical research: <ul style="list-style-type: none"><li>• ONLINE (14:00 - 15:00) <sup>[420]</sup><ul style="list-style-type: none"><li>◦ ITSr</li></ul></li></ul>                 |
| izv. prof. dr. sc. Pupovac Vanja, prof. <sup>[420]</sup>                                                                                                                          |                                                                                                                                                                                                        |
| <b>04.03.2026</b>                                                                                                                                                                 |                                                                                                                                                                                                        |
| L2 Research designs lecture: <ul style="list-style-type: none"><li>• ONLINE (14:00 - 15:00) <sup>[420]</sup><ul style="list-style-type: none"><li>◦ ITSr</li></ul></li></ul>      | S2 Research designs: <ul style="list-style-type: none"><li>• ONLINE (15:00 - 16:00) <sup>[420]</sup><ul style="list-style-type: none"><li>◦ ITSr</li></ul></li></ul>                                   |
| izv. prof. dr. sc. Pupovac Vanja, prof. <sup>[420]</sup>                                                                                                                          |                                                                                                                                                                                                        |
| <b>12.03.2026</b>                                                                                                                                                                 |                                                                                                                                                                                                        |
|                                                                                                                                                                                   | S5-S7 Analysis of scientific paper 1: <ul style="list-style-type: none"><li>• P03 - IT CLASSROOM (10:00 - 13:00) <sup>[420]</sup><ul style="list-style-type: none"><li>◦ Intro S1</li></ul></li></ul>  |
| izv. prof. dr. sc. Pupovac Vanja, prof. <sup>[420]</sup>                                                                                                                          |                                                                                                                                                                                                        |
| <b>13.03.2026</b>                                                                                                                                                                 |                                                                                                                                                                                                        |
|                                                                                                                                                                                   | S5-S7 Analysis of scientific paper 1: <ul style="list-style-type: none"><li>• v (10:00 - 13:00) <sup>[2739]</sup><ul style="list-style-type: none"><li>◦ Intro S2</li></ul></li></ul>                  |
| Depope Ana <sup>[2739]</sup>                                                                                                                                                      |                                                                                                                                                                                                        |
| <b>16.03.2026</b>                                                                                                                                                                 |                                                                                                                                                                                                        |
| L3 Population and sample lecture: <ul style="list-style-type: none"><li>• ONLINE (13:00 - 14:00) <sup>[420]</sup><ul style="list-style-type: none"><li>◦ ITSr</li></ul></li></ul> | S3 Population and sample: <ul style="list-style-type: none"><li>• ONLINE (14:00 - 15:00) <sup>[420]</sup><ul style="list-style-type: none"><li>◦ ITSr</li></ul></li></ul>                              |
| izv. prof. dr. sc. Pupovac Vanja, prof. <sup>[420]</sup>                                                                                                                          |                                                                                                                                                                                                        |
| <b>23.03.2026</b>                                                                                                                                                                 |                                                                                                                                                                                                        |
| L4 Variables and data lecture: <ul style="list-style-type: none"><li>• ONLINE (13:00 - 14:00) <sup>[420]</sup><ul style="list-style-type: none"><li>◦ ITSr</li></ul></li></ul>    | S4 Variables: <ul style="list-style-type: none"><li>• ONLINE (14:00 - 15:00) <sup>[420]</sup><ul style="list-style-type: none"><li>◦ ITSr</li></ul></li></ul>                                          |
| izv. prof. dr. sc. Pupovac Vanja, prof. <sup>[420]</sup>                                                                                                                          |                                                                                                                                                                                                        |
| <b>26.03.2026</b>                                                                                                                                                                 |                                                                                                                                                                                                        |
|                                                                                                                                                                                   | S8-S10 Analysis of scientific paper 2: <ul style="list-style-type: none"><li>• P03 - IT CLASSROOM (09:00 - 12:00) <sup>[420]</sup><ul style="list-style-type: none"><li>◦ Intro S2</li></ul></li></ul> |
| izv. prof. dr. sc. Pupovac Vanja, prof. <sup>[420]</sup>                                                                                                                          |                                                                                                                                                                                                        |
| <b>27.03.2026</b>                                                                                                                                                                 |                                                                                                                                                                                                        |

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|                                                                                              | S8-S10 Analysis of scientific paper 2:<br>• P15 - TOWN HALL (09:00 - 12:00) <sup>[420]</sup><br>◦ Intro S1 |
| izv. prof. dr. sc. Pupovac Vanja, prof. <sup>[420]</sup>                                     |                                                                                                            |
| <b>30.03.2026</b>                                                                            |                                                                                                            |
| L5 Basics of scientific research ethics:<br>• P08 (13:00 - 14:00) <sup>[142]</sup><br>◦ ITSr |                                                                                                            |
| L6 Basics of research integrity:<br>• P08 (14:00 - 15:00) <sup>[142]</sup><br>◦ ITSr         |                                                                                                            |
| prof. dr. sc. Muzur Amir, dr. med. <sup>[142]</sup>                                          |                                                                                                            |
| <b>09.04.2026</b>                                                                            |                                                                                                            |
|                                                                                              | S11-S14 Design of a research plan:<br>• ONLINE (08:30 - 12:30) <sup>[420]</sup><br>◦ Intro S1              |
| izv. prof. dr. sc. Pupovac Vanja, prof. <sup>[420]</sup>                                     |                                                                                                            |
| <b>10.04.2026</b>                                                                            |                                                                                                            |
|                                                                                              | S11-S14 Design of a research plan:<br>• ONLINE (08:30 - 12:30) <sup>[2739]</sup><br>◦ Intro S2             |
| Depope Ana <sup>[2739]</sup>                                                                 |                                                                                                            |

### List of lectures, seminars and practicals:

| LECTURES (TOPIC)                        | Number of hours | Location |
|-----------------------------------------|-----------------|----------|
| L1 Introductory lecture                 | 1               | ONLINE   |
| L2 Research designs lecture             | 1               | ONLINE   |
| L3 Population and sample lecture        | 1               | ONLINE   |
| L4 Variables and data lecture           | 1               | ONLINE   |
| L5 Basics of scientific research ethics | 1               | P08      |
| L6 Basics of research integrity         | 1               | P08      |

| SEMINARS (TOPIC)                      | Number of hours | Location                              |
|---------------------------------------|-----------------|---------------------------------------|
| S1 Basic concepts of medical research | 1               | ONLINE                                |
| S2 Research designs                   | 1               | ONLINE                                |
| S3 Population and sample              | 1               | ONLINE                                |
| S4 Variables                          | 1               | ONLINE                                |
| S5-S7 Analysis of scientific paper 1  | 3               | P03 - IT CLASSROOM<br>v               |
| S8-S10 Analysis of scientific paper 2 | 3               | P03 - IT CLASSROOM<br>P15 - TOWN HALL |
| S11-S14 Design of a research plan     | 4               | ONLINE                                |

**EXAM DATES (final exam):**

|    |             |
|----|-------------|
| 1. | 10.06.2026. |
| 2. | 07.07.2026. |
| 3. | 14.09.2026. |