



# Medicinski fakultet u Rijeci

# IZVEDBENI NASTAVNI PLAN 2023/2024

Za kolegij

# **Ethics and Artificial Intelligence**

Studij: Medical Studies in English (R) (izborni)
Sveučilišni integrirani prijediplomski i diplomski studij

Katedra: Katedra za društvene i humanističke znanosti u medicini

Nositelj kolegija: izv. prof. dr. sc. Horvat Saša

Godina studija: 1
ECTS: 1.5
Stimulativni ECTS: 0 (0.00%)

Strani jezik: Mogućnost izvođenja na stranom jeziku

#### Podaci o kolegiju:

Introduce participants with fundamental ethical issues related to the development and application of artificial intelligence.

#### Popis obvezne ispitne literature:

Lecture presentations.

Christoph Bartneck , Christoph Lütge , Alan Wagner , Sean Welsh, An Introduction to Ethics in Robotics and AI, Springer, 2021. Open access: https://link.springer.com/book/10.1007/978-3-030-51110-4

Silja Voeneky, Philipp Kellmeyer, Oliver Mueller, Wolfram Burgard, *The Cambridge Handbook of Responsible Artificial Intelligence: Interdisciplinary Perspectives*, Cambridge, 2022. (selected parts)

High-Level Expert Group on Artificial Intelligence (AI HLEG). *Ethics Guidelines for Trustworthy AI*, Brussels, 2019, available at: https://ec.europa.eu/futurium/en/ai-alliance-consultation.1.html (selected parts)

Niklas Lidströmer, Hutan Ashrafian (eds.), Artificial Intelligence in Medicine, Springer, 2022. (selected parts)

#### Popis dopunske literature:

Manda Raz, Tam C. Nguyen, Erwin Loh (eds.), Artificial Intelligence in Medicine. Applications, Limitations and Future Directions, Springer, 2022. (selected parts)

#### Nastavni plan:

#### Seminari popis (s naslovima i pojašnjenjem):

#### Introduction to the topic

Students will be able to explain the fundamental concepts related to the topic of ethics of artificial intelligence.

#### **Trust and Fairness in AI Systems**

Students will be able to recognize and identify the key aspects of trust and fairness in Al Systems.

#### Responsibility and Liability in the Case of AI Systems

Students will be able to identify the main arguments concerning responsibility and liability in the case of AI systems.

#### **Psychological Aspects of AI**

Students will be able to recognize and identify main issues regarding psychological aspects of AI.

#### **Privacy Issues of AI**

Students will be able to describe and discuss fundamental elements of privacy issues of AI.

#### **Application Areas of Al**

Students will be able to identify the main concerns regarding application areas of AI.

#### **Artificial Intelligence**

Students will be able to recognize, describe and critically discuss the following topics related to AI: The Turing Test; Strong and Weak AI; Types of AI Systems; What Is Machine Learning?; What Is a Robot?; Sense-Plan-Act / System Integration. Necessary but Difficult; What Is Hard for AI; Science and Fiction of AI.

#### Ethical theories related to AI

Students will be able to describe and discuss fundamental elements of ethical theories related to AI, such as:

Descriptive Ethics; Normative Ethics; Deontological Ethics; Consequentialist Ethics; Virtue Ethics; Meta-ethics; Applied Ethics; Relationship Between Ethics and Law; Machine Ethics / Machine Ethics Examples / Moral Diversity and Testing.

#### Presentations of students' essays on selected topics

Students critically analyze a selected topic related to ethics and artificial intelligence and showcase their depth of understanding and analytical skills.

#### Predavanja popis (s naslovima i pojašnjenjem):

#### **Artificial Intelligence**

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#### Obveze studenata:

Regular attendance, written seminar paper and final examination.

# Ispit (način polaganja ispita, opis pisanog/usmenog/praktičnog dijela ispita, način bodovanja, kriterij ocjenjivanja):

Assessment is carried out in accordance with the Rules of Assessment of the Faculty of Medicine, University of Rijeka: course attendance 54 (%), written seminar paper 23 (%), and final exam 23 (%).

#### Ostale napomene (vezane uz kolegij) važne za studente:

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# SATNICA IZVOĐENJA NASTAVE 2023/2024

Ethics and Artificial Intelligence

Predavanja (mjesto i vrijeme / grupa)	Seminari (mjesto i vrijeme / grupa)			
11.03.2024				
Artificial Intelligence:  • Z-sala (16:00 - 17:30) [1602]  • EAAI	Introduction to the topic: • Z-sala (17:30 - 18:15) [1602]  • EAAI			
izv. prof. dr. sc. Horvat Saša <sup>[1602]</sup>				
14.03.2024				
	Ethical theories related to AI:  • Z-sala (16:00 - 18:15) [1602]  • EAAI			
	Trust and Fairness in Al Systems:  • Z-sala (18:15 - 19:00) [1602]  · EAAI			
izv. prof. dr. sc. Horvat Saša <sup>[1602]</sup>				
21.03.2024				
Ethical theories related to AI:  • Z-sala (16:00 - 17:30) [1602]  • EAAI	Privacy Issues of AI:  • Z-sala (17:30 - 18:15) [1602]  • EAAI  Application Areas of AI:  • Z-sala (18:15 - 19:00) [1602]  • EAAI			
izv. prof. dr. sc. Horvat Saša <sup>[1602]</sup>				
28.03.2024				
	Artificial Intelligence:  • ONLINE (16:00 - 19:00) [1602]  · EAAI			
izv. prof. dr. sc. Horvat Saša <sup>[1602]</sup>				
15.04.2024				
Artificial Intelligence:  • ONLINE (17:00 - 17:45) [1602]  · EAAI	Trust and Fairness in Al Systems:  • ONLINE (17:45 - 19:15) [1602]  · EAAI			
izv. prof. dr. sc. Horvat Saša <sup>[1602]</sup>				
22.04.2024				
	Responsibility and Liability in the Case of Al Systems:  • ONLINE (17:00 - 19:15) [1602]  • EAAI			
izv. prof. dr. sc. Horvat Saša <sup>[1602]</sup>	·			
02.05.2024				

- Psychological Aspects of AI:
   Z-sala (13:30 14:15) [1602]
  - o EAAI

Presentations of students' essays on selected topics:  $\bullet$  Z-sala (14:15 - 16:30) [ $^{1602}$ ]

- - o EAAI

izv. prof. dr. sc. Horvat Saša  $^{[1602]}$ 

### Popis predavanja, seminara i vježbi:

PREDAVANJA (TEMA)	Broj sati	Mjesto održavanja
Artificial Intelligence	3	ONLINE Z-sala
Ethical theories related to Al	2	Z-sala

SEMINARI (TEMA)	Broj sati	Mjesto održavanja
Introduction to the topic	1	Z-sala
Trust and Fairness in Al Systems	3	ONLINE Z-sala
Responsibility and Liability in the Case of Al Systems	3	ONLINE
Psychological Aspects of Al	1	Z-sala
Privacy Issues of AI	1	Z-sala
Application Areas of Al	1	Z-sala
Artificial Intelligence	4	ONLINE
Ethical theories related to Al	3	Z-sala
Presentations of students' essays on selected topics		Z-sala

# ISPITNI TERMINI (završni ispit):