

Faculty of Medicine in Rijeka

**Curriculum
2021/2022**

For course

**Prehrana,metabolizam,starenje i bolesti povezane sa
starenjem**

Study program: **Medicina (R)** (elective)
University integrated undergraduate and graduate study
Department: **Department of Molecular Medicine and Biotechnology**
Course coordinator: **prof. dr. sc. Volarević Siniša, dr. med.**

Year of study: **4**
ECTS: **1.5**
Incentive ECTS: **0 (0.00%)**
Foreign language: **Possibility of teaching in a foreign language**

Course information:

Glavni cilj predmeta upoznati je studente s najnovijim molekularnim spoznajama o međuodnosu prehrambenih navika, metabolizma, raka i ubrzanog starenja. Studenti će biti upoznati sa važnošću ovih spoznaja za uvođenje novih preventivnih mjera koje mogu usporiti procese starenja i nastanak raka te liječenje bolesti povezanih sa starenjem, poglavito raka i neurodegenerativnih bolesti.

List of assigned reading:

Lodish H, Berk A, Zipursky SL, Matsudaira P, Baltimore D, Darnell JE. (1999) *Molecular Cell Biology*. 4th edition, W H Freeman & Co.

List of optional reading:

Deleyto-Seldas N and Efeyan A. The mTOR-autophagy axis and the control of metabolism. *Front Cell Dev Biol*, 9:655731 (2021)

Vander Heiden MG et al. Understanding the Warburg effect: the metabolic requirements of cell proliferation. *Science*, 324:1029-1033 (2009)

de Cabo, and Mattson MP. Effects of Intermittent fasting on health, aging, and disease. *N Engl J Med*. 381:2541-2551 (2019)

Longo VD and Anderson RM. Nutrition, longevity, and disease: from molecular mechanisms to interventions. *Cell*. 185:1455-1470 (2022)

Curriculum:

Student obligations:

Obveze studenata/studentica su pohađanje nastave, sudjelovanje u raspravama, priprema za nastavu (čitanje zadane literature) i pristupanje završnom ispitu.

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

70% prisutnosti na nastavi.

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

Sadržaj kolegija:

1. Reprogramiranje metabolizma u raku
2. Poremećaji energetskeg metabolizma u raku
3. Uloga inzulina i inzulinom potaknutog signalnog puta PI3K-mTORC1 u raku i starenju organizma
4. Poremećaj sinteze proteina i ostalih makromolekula u raku i starenju organizma
5. Loše prehrambene navike, metabolizam i patogeneza raka
6. Mogu li odgovarajuće prehrambene navike prevenirati rak i biti lijek za rak?
7. Mogu li odgovarajuće prehrambene navike usporiti procese starenja?
- 8. Jesu li mehanizmi putem kojih loše prehrambene navike utječu na razvoj raka i ubrzanog starenja organizma identični?**

COURSE HOURS 2021/2022

Prehrana,metabolizam,starenje i bolesti povezane sa starenjem

List of lectures, seminars and practicals:

EXAM DATES (final exam):
