[Medicinski fakultet u Rijeci]

Curriculum
2024/2025

[Za kolegij]

Nutrition - a Source of Health and Disease

Study program:	**Medical Studies in English (R)** (elective) [Sveučilišni integrirani prijediplomski i diplomski studij]
Department:	**[Katedra za medicinsku kemiju, biokemiju i kliničku kemiju]**
Course coordinator:	**izv. prof. dr. sc. Batičić Lara, dipl. sanit. ing.**
Year of study:	**1**
ECTS:	**1.5**
Incentive ECTS:	**0 (0.00%)**
Foreign language:	**Possibility of teaching in a foreign language**

Course information:

Nutrition-a Source of Health and Disease is an elective course in the first year of the University Integrated Undergraduate and Graduate Study of Medicine in English, consisting of 25 seminar hours and graded at 1.5 ECTS. The course is designed to encourage medical students to think critically about various aspects of nutrition whose influence on an individual's health manifests itself throughout life. Nutrients entering the body simultaneously provide a source of energy necessary for growth, physical activity, and maintenance of life, but also pose a potential risk for the development of a variety of diseases. Critical discussions, which are an integral part of the course, aim to familiarise students with the basic concepts related to nutrition and the importance of a healthy diet, as well as the issue of genetically modified organisms. Special emphasis will be placed on the relationship between modern nutrition and diseases such as obesity, anorexia, bulimia, metabolic syndrome, diabetes mellitus, atherosclerosis, cancer, etc.
The aim of the course is to educate students about the basics of nutrition, the factors that influence a healthy diet, and the relationship between diet and lifestyle and common diseases (physical and mental). The main objective is to develop in students a critical attitude toward nutrition. Topics covered in the course "Nutrition - a Source of Health and Disease" include various aspects of nutrition in health and disease, as well as nutritional needs at different stages of life, including child nutrition, nutrition in pregnancy, in the elderly, and in various diseases. The goal of the course is to provide students with a holistic overview of the relationship between nutrition and health, as well as various health problems, potential risk to health, the impact of a particular diet on an individual's health, and targeted nutrition in individual patient populations with various chronic diseases. Students can choose a topic from the suggested topics related to nutrition and freely prepare the presentation and discussion in groups under the guidance of the professor. In this way, students develop presentation and discussion skills and learn how to avoid inaccuracies. **Approaches to Teaching and Learning**: After the initial introduction to the course "Nutrition - a Source of Health and Disease" and the basic facts of nutrition, specific seminar topics are suggested based on the individual interest of the students. Students are free to propose their own topic. Each student prepares a specific topic with the help of the professor. After the presentation of a specific topic, students actively discuss various aspects of the presented problem.
Learning outcomes include the development of knowledge about the dependence of the structure and function of macromolecules on the processes in the living organism, the basics of nutrition, the development of the ability to use the acquired knowledge to understand the role of nutrients in the biological processes in the cell and thus in pathological processes in the body. After passing the exam, the student will be able to describe the guidelines of a balanced diet, the effects of specific diets on human health and the target type of appropriate nutrition in chronic diseases.

List of assigned reading:

1. T.M. Devlin, Textbook of Biochemistry with clinical correlation, J. Wiley & sons, New York 2003.
2. Caroll A. Lutz: Nutrition and Diet Therapy, F. A. Davis Company; 3rd edition 2001
3. Varki, Ajit; Cummings, Richard; Esko, Jeffrey; Freeze, Hudson; Hart, Gerald; Marth, Jamey, editors. Essentials of Glycobiology. 1st ed. Plainview (NY): Cold Spring Harbor Laboratory Press; c1999.
4. Sue Rodwell, Phd Williams: Basic Nutrition and Diet Therapy, C. V. Mosby; 11th CD-Rom, 2000.
5. B. Vrhovac i sur., Interna medicina, 3. i dopunjeno izdanje, Medicinska naklada, Zagreb 2003.
6. S. Gamulin i sur., Patofiziologija, Medicinska naknada, Zagreb 2002.

Seminars and PPT presentations in PDF format will be available for students to download from the Merlin platform.

List of optional reading:

1. C. Smith, A. D. Marks: Mark’s basic Medical Biochemistry, A Clinical Approach. Lippincot & Williams & Wilkins, Philadelphia 2005.
2. L. Rapport, B. Lockwood: Nutraceuticals, Pharmaceutical Press, 2004.
3. K. Saltsman, J. Berg, G. Tomaselli: A Clinical Companion to Accompany Biochemistry, Freeman, New York 2002.
4. R.E.C. Wildman: Handbook of Nutraceuticals and Functional Foods, Lewis Publishers, Inc.; 1st edition, 2000.
5. I. Goldberg: Functional Foods: Designer Foods, Pharmfoods, Nutraceuticals, Plenum US; 1st edition 1994.

Curriculum:

[Seminari] list (with titles and explanation):

S1:Introduction to Nutrition. Basic facts and principles.

Specify, describe and recognize basic facts and principles of nutrition. Describe and define macro- and micronutrients.

S2: Introduction to Nutrition. Basic facts and principle

Specify, describe and recognize basic facts and principles of nutrition. Describe and define macro- and micronutrients.

S3. Mediterranean diet

Specify and describe properties of a Mediterranean diet. Understand the impact of Mediterranean diet on health.

S4. Mediterranean diet

Specify and describe properties of a Mediterranean diet. Understand the impact of Mediterranean diet on health.

S5 Vegetarian and vegan diet

Specify and describe properties of a vegetarian and vegan diet. Understand the effect of vegetarian and vegan diet on health. Advantages and disadvantages of vegetarian and vegan diets.

S6 Vegetarian and vegan diet

Specify and describe properties of a vegetarian and vegan diet. Understand the effect of vegetarian and vegan diet on health. Advantages and disadvantages of vegetarian and vegan diets.

S7 Nutrition in pregnancy

Describe specific nutritional needs of a pregnant women. Specify dietary requirements in pregnancy.

S8. Nutrition in pregnancy

Describe specific nutritional needs of a pregnant women. Specify dietary requirements in pregnancy.

S9 „Superfoods“

Describe, recognize and differentiate various „superfoods“. Explain the impact of „superfoods“ on health.

S10. „Superfoods“

Describe, recognize and differentiate various „superfoods“. Explain the impact of „superfoods“ on health.

S11 Vitamins and Minerals

Specify the importance of vitamins and minerals in biochemical processes. Recognize and differentiate symptoms of hyper and hypovitaminosis. Describe roles of each vitamin and mineral in the human body. Describe pathologies related to vitamin and mineral deficiency.

S12 Vitamins and Minerals

Specify the importance of vitamins and minerals in biochemical processes. Recognize and differentiate symptoms of hyper and hypovitaminosis. Describe roles of each vitamin and mineral in the human body. Describe pathologies related to vitamin and mineral deficiency.

S13Vitamins and Minerals

Specify the importance of vitamins and minerals in biochemical processes. Recognize and differentiate symptoms of hyper and hypovitaminosis. Describe roles of each vitamin and mineral in the human body. Describe pathologies related to vitamin and mineral deficiency.

S14 Vitamins and Minerals

Specify the importance of vitamins and minerals in biochemical processes. Recognize and differentiate symptoms of hyper and hypovitaminosis. Describe roles of each vitamin and mineral in the human body. Describe pathologies related to vitamin and mineral deficiency.

S15 Nutrition and chronic diseases

Specify, recognize and describe nutritional specificities in different chronic diseases. Describe the impact of nutrition on chronic disease developme

S16 Nutrition and chronic diseases

Specify, recognize and describe nutritional specificities in different chronic diseases. Describe the impact of nutrition on chronic disease developme

S17 Nutrition and chronic diseases

Specify, recognize and describe nutritional specificities in different chronic diseases. Describe the impact of nutrition on chronic disease developme

S18 Nutrition and chronic diseases

Specify, recognize and describe nutritional specificities in different chronic diseases. Describe the impact of nutrition on chronic disease developme

S19 Restrictive diets

Specify, recognize and differentiate different causes of weight loss. Describe properties of various restrictive diets.

S20 Restrictive diets

Specify, recognize and differentiate different causes of weight loss. Describe properties of various restrictive diets.

S21 Nutrition disorders. Anorexia. Bulimia

Specify, recognize and differentiate different causes and properties of nutrition disorders. Describe and recognize properties of anorexia and bulimi

S22 Nutrition disorders. Anorexia. Bulimia

Specify, recognize and differentiate different causes and properties of nutrition disorders. Describe and recognize properties of anorexia and bulimi

S23 Genetically modified food

Define genetically modified organisms Describe properties of genetically modified food. Explain potential benefits and disatvantages of genetically modified organisms.

S24 Genetically modified food

Define genetically modified organisms Describe properties of genetically modified food. Explain potential benefits and disatvantages of genetically modified organisms.

S25 Genetically modified food

Define genetically modified organisms Describe properties of genetically modified food. Explain potential benefits and disatvantages of genetically modified organisms.

Student obligations:

Attendance of seminars is mandatory. Students can be absent from up to 30% of seminars for a justified reason. For a detailed description of obligations during classes, see the Assessment section.

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 Ordinance on Student Assessment and Evaluation at the Faculty of Medicine Rijeka (adopted by the Faculty Council of the Faculty of Medicine in Rijeka).
Student work will be evaluated during classes. Out of a total of 100 grade points, the student can obtain 40 grade points (60%) for the written seminar, 40 grade points (40%) for the presentation and discussion of the topic, 10 grade points (10%) for class attendance and activity/participation in discussions and 10 grade points (10%) for students' evaluation.
Student assessment is performed using the ECTS (A–F) and numerical grading system (1–5). Student assessment according to the ECTS system is carried out based on the absolute distribution and graduate-level assessment criteria.
Grades in the ECTS grading system are converted into the numerical system as follows:
A (5, excellent) 90 – 100 % credits
B (4, very good) 75 – 89.99 % credits
C (3, good) 60 – 74.99 % credits
D (2, sufficient) 50 – 59.99 % credits
F (1, insufficient, fail) less than 50 % credits

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

Course content and all information related to the course and exam dates can be found on the Faculty's website. All student inquiries, possible problems and remarks regarding the course are communicated using the official e-mail address (@uniri.hr). It is possible to arrange consultations with the professors.
Retaking the course:
Students who do not give a presentation during classes and/or are absent from more than 30 % of seminars are graded as insufficient (F)

COURSE HOURS 2024/2025

Nutrition - a Source of Health and Disease

[Seminari]
(Place and time or group)

18.10.2024

S1:Introduction to Nutrition. Basic facts and principles.:
- [P03 - INFORMATIČKA UČIONICA] (13:30 - 15:30) [348]
  - Nasohad

S2: Introduction to Nutrition. Basic facts and principle:
- [P03 - INFORMATIČKA UČIONICA] (13:30 - 15:30) [348]
  - Nasohad

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06.11.2024

S3. Mediterranean diet:
- [ONLINE] (14:00 - 17:45) [348]
  - Nasohad

S4. Mediterranean diet:
- [ONLINE] (14:00 - 17:45) [348]
  - Nasohad

S5 Vegetarian and vegan diet:
- [ONLINE] (14:00 - 17:45) [348]
  - Nasohad

S6 Vegetarian and vegan diet:
- [ONLINE] (14:00 - 17:45) [348]
  - Nasohad

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15.11.2024

S7 Nutrition in pregnancy:
- [ONLINE] (15:00 - 18:45) [348]
  - Nasohad

S8. Nutrition in pregnancy:
- [ONLINE] (15:00 - 18:45) [348]
  - Nasohad

S9 „Superfoods“:
- [ONLINE] (15:00 - 18:45) [348]
  - Nasohad

S10. „Superfoods“:
- [ONLINE] (15:00 - 18:45) [348]
  - Nasohad

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12.12.2024

S11 Vitamins and Minerals:
- [ONLINE] (14:00 - 16:00) [348]
  - Nasohad

S12 Vitamins and Minerals:
- [ONLINE] (14:00 - 16:00) [348]
  - Nasohad

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16.12.2024

S13Vitamins and Minerals:
- [ONLINE] (14:30 - 16:30) [348]
  - Nasohad

S14 Vitamins and Minerals:
- [ONLINE] (14:30 - 16:30) [348]
  - Nasohad

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13.01.2025

S15 Nutrition and chronic diseases:
- [ONLINE] (17:45 - 19:30) [348]
  - Nasohad

S16 Nutrition and chronic diseases:
- [ONLINE] (17:45 - 19:30) [348]
  - Nasohad

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15.01.2025

S19 Restrictive diets:
- [ONLINE] (14:30 - 18:00) [348]
  - Nasohad

S20 Restrictive diets:
- [ONLINE] (14:30 - 18:00) [348]
  - Nasohad

S21 Nutrition disorders. Anorexia. Bulimia:
- [ONLINE] (14:30 - 18:00) [348]
  - Nasohad

S22 Nutrition disorders. Anorexia. Bulimia:
- [ONLINE] (14:30 - 18:00) [348]
  - Nasohad

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20.01.2025

S21 Nutrition disorders. Anorexia. Bulimia:
- [ONLINE] (14:15 - 17:00) [348]
  - Nasohad

S22 Nutrition disorders. Anorexia. Bulimia:
- [ONLINE] (14:15 - 17:00) [348]
  - Nasohad

S23 Genetically modified food:
- [ONLINE] (14:15 - 17:00) [348]
  - Nasohad

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24.01.2025

S24 Genetically modified food:
- [ONLINE] (15:00 - 17:00) [348]
  - Nasohad

S25 Genetically modified food:
- [ONLINE] (15:00 - 17:00) [348]
  - Nasohad

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List of lectures, seminars and practicals:

[SEMINARI] (TOPIC)	Number of hours	Location
S1:Introduction to Nutrition. Basic facts and principles.	1	[P03 - INFORMATIČKA UČIONICA]
S2: Introduction to Nutrition. Basic facts and principle	1	[P03 - INFORMATIČKA UČIONICA]
S3. Mediterranean diet	1	[ONLINE]
S4. Mediterranean diet	1	[ONLINE]
S5 Vegetarian and vegan diet	1	[ONLINE]
S6 Vegetarian and vegan diet	1	[ONLINE]
S7 Nutrition in pregnancy	1	[ONLINE]
S8. Nutrition in pregnancy	1	[ONLINE]
S9 „Superfoods“	1	[ONLINE]
S10. „Superfoods“	1	[ONLINE]
S11 Vitamins and Minerals	1	[ONLINE]
S12 Vitamins and Minerals	1	[ONLINE]
S13Vitamins and Minerals	1	[ONLINE]
S14 Vitamins and Minerals	1	[ONLINE]
S15 Nutrition and chronic diseases	1	[ONLINE]
S16 Nutrition and chronic diseases	1	[ONLINE]
S17 Nutrition and chronic diseases	1	
S18 Nutrition and chronic diseases	1	
S19 Restrictive diets	1	[ONLINE]
S20 Restrictive diets	1	[ONLINE]
S21 Nutrition disorders. Anorexia. Bulimia	1	[ONLINE]
S22 Nutrition disorders. Anorexia. Bulimia	1	[ONLINE]
S23 Genetically modified food	1	[ONLINE]
S24 Genetically modified food	1	[ONLINE]
S25 Genetically modified food	1	[ONLINE]

EXAM DATES (final exam):