



Table 2

3.2. Course description

Basic description		
Course coordinator	Prof.dr.sc. Ines Mrakovčić-Šutić	
Course title	Pathophysiology of Nutrition	
Study programme	Clinical Nutrition graduated study	
Course status	compulsory	
Year	1.	
ECTS credits and teaching	ECTS student 's workload coefficient	4,5 ECTS
	Number of hours (L+S)	30P +15S

1. COURSE DESCRIPTION

1.1. Course objectives

The objectives of this course include introducing students to the basic etiopathogenetic disorders of the gastrointestinal system. They will become familiar with the characteristics of functional disorders of the pharynx, esophagus and stomach, disorders of the small and large intestine and exocrine pancreas. Special attention will be paid to metabolic disorder of basic nutrients (carbohydrates, lipids and proteins), specific metabolic disorders of transport substance (disorders transport of trace elements, vitamins, fatty acids, purine and pyrimidine bases, and porphyrin metabolism), as well as the basic principles of disorders distribution of extracellular fluids, electrolytic homeostasis, disorders of transport of sodium, potassium, calcium, phosphate and magnesium. Metabolic tests, traffic trace elements and evaluation tests of disturbance of water and electrolytes will be described.

1.2. Course enrolment requirements

There are no course enrolment requirements.

1.3. Expected course learning outcomes

It is expected that at the end of this course each student will be able to have:

Basic competencies (knowledge and skills):

1. Classify and describe disorders of basic and specific metabolic substances
 2. Analyse the etiopathogenic sequence of events in disorders of basic and specific metabolic substances
 3. Connect the pathogenesis and potential risk factors in disorders of basic and specific metabolic substances
- Specific competencies (knowledge and skills).

Students will be at the end of the course:

1. Develop critical judgment of disorders of basic and specific metabolic substances
2. Compare and evaluate the etiological and pathophysiological mechanisms in the development of these disorders

1.4. Course content

1. Pathophysiology of the gastrointestinal system
2. Metabolism of carbohydrates
3. Metabolism of protein
4. Disorders of lipid metabolism
5. Underweight and overweight
6. Disorders of traffic vitamins
7. Disorders of transport of fatty acids
8. Disorders of traffic trace elements



9. Metabolism of purine and pyrimidine bases
10. Disorders of porphyrin metabolism
11. Disorders osmolality and body hydration
12. Disorders distribution of extracellular fluid
13. Electrolytic disorders of homeostasis
14. Disorders traffic sodium
15. Disorders traffic potassium
16. Traffic disturbances of calcium, phosphate and magnesium
17. Metabolic tests
18. Tests of transport of trace elements
19. Evaluation of disturbance of water and electrolytes

1.5. Teaching methods

- | | |
|---|---|
| <input type="checkbox"/> x lectures | <input type="checkbox"/> x individual assignment |
| <input type="checkbox"/> x seminars and workshops | <input type="checkbox"/> x multimedia and network |
| <input type="checkbox"/> exercises | <input type="checkbox"/> laboratories |
| <input type="checkbox"/> long distance education | <input type="checkbox"/> mentorship |
| <input type="checkbox"/> fieldwork | <input type="checkbox"/> other |

1.6. Comments

Teaching is carried out in the form of lectures and seminars. During seminars student actively discusses physiological and pathophysiological mechanisms of gastrointestinal disorders. Student is obliged to prepare course material that is to be discussed during seminars. Professor evaluates student participation in the seminar work (demonstrated knowledge, comprehension, capability to set a problem, drawing conclusions, etc.). "Earned" credits add up to credits received at the final exam of the subject in case. Work of each group of students is overlooked by a tutor who's privilege and duty is to invite to discuss matters with students who are unsuccessful during teaching period.

1.7. Student's obligations

Regular attendance to lectures and seminars. Preparation of the course content to be discussed during seminars and practicals.

1.8. Evaluation of student's work

Course attendance	5%	Activity/Participation	10%	Seminar paper	15%	Experimental work	
Written exam	15%	Oral exam	15%	Essay		Research	
Project		Sustained knowledge check	40%	Report		Practice	
Portfolio							

1.9. Assessment and evaluation of student's work during classes and on final exam

Evaluation would be performed according the actual Rules on studies of University of Rijeka (approved by the Senat) and the Faculty of medicine (approved by the Faculty council). In this system, the overall students' outcome is made up 70% of their achievement during the course itself and 30% of the success in the final exam. Achievements during the course will be evaluated by: a) sustained knowledge check (partial tests, partial exams and other activities in classes), b) activity during the course, c) seminar paper or presentation, d) course attendance

1.10. Assigned reading (at the time of the submission of study programme proposal)

1. Guyton AC, Hall JE. Medicinska fiziologija, Medicinska naklada, 10th Edition, Zagreb, 2006.
 2. Gamulin S, Kovač Z. i Richardson K. Patofiziologija, Medicinska naklada, 7th Edition, Zagreb, 2010.
 3. Z. Kovač Z, S Gamulin et al. Patofiziologija. Zadatci za problemske seminare, Medicinska naklada, 2nd Edition, 2006.
- Study programs, which are outside of recommended books, will be presented as additional literature on web pages or share portal of the Department.

1.11. Optional / additional reading (at the time of proposing study programme)

1. Božidar Vrhovac, Branimir Jakšić, Željko Reiner, Boris Vucelić. Interna medicina, Naklada Ljevak, Zagreb 2008.



1.12. Number of assigned reading copies with regard to the number of students currently attending the course

Title	Number of copies	Number of students

1.13. Quality monitoring methods which ensure acquirement of output knowledge, skills and competences

1. **Conducting student surveys and evaluation of results.** At the end of each course student surveys will be conducted to evaluate the quality of teaching and teachers who participate in the delivery of the course with more than 30%. Evaluation procedures are systematically carried out by Teaching Quality Assurance Committee at our Faculty.
2. **Analysis of the results achieved at exams.**
3. **The mentor system.** Each student group is assigned a mentor who follows the students throughout the course.