SYLLABUS

1. Course title:

PATHOPHYSIOLOGY

2. Code:

3. Cycle of study:

1

4. ECTS credits:

8

5. Type of course:

(●) Mandatory ( ) Elective

6. Prerequisites:

7. Class restrictions:

8. Duration / semester:

1 4

9. Weekly contact hours:

9.1. Lectures: 3

9.2. Seminars: 0

9.3. Laboratory/Practice classes: 3

10. Faculty:

Faculty of Pharmacy

11. Department/study program:

Pharmacy (integrated academic study I and II cycle)

12. Lecturer:

Dr.sc. Selmira Brkić, associate professor

13. Lecturer's e-mail:

selmira.brkic@untz.ba

14. Web site:

www.frmf.untz.ba

15. Course aims:

The aim of the course is to acquaint the student with the pathophysiological events characteristic of individual functional units, as well as of the entire organism of a sick person.
As part of theoretical classes in pathophysiology, pharmacy students learn about the etiology and pathogenesis of diseases in humans.

16. Learning outcomes:

At the end of the semester/course, successful students, who continuously performed their duties during the entire teaching period, will be able to understand the pathophysiological mechanisms in the emergence of various disorders in the physiological functioning of individual organs and systems in humans.

17. Course content:

Module 1.
Pathophysiology study subject. Concept of etiology and pathogenesis. Concept of health and disease (definition, limits of fluctuations of physiological parameters, adaptation, reactivity, constitution). Disease (course, phases, degrees of the disease). Hereditary and congenital diseases (teratogenic factors). Heritage and environment.
Cell adaptation, intracellular accumulation and cell aging. Etiology of cell damage (lack of oxygen, physical factors, chemical factors and drugs, biological factors, immune reactions, nutritional imbalance). Biochemical mechanisms of cell damage. Cell necrosis.
The influence of factors from the external environment on health. Effect of changed atmospheric pressure (reduced and increased atmospheric pressure). Effect of thermal factors (clinical forms of hyperthermia, hypothermia). Febris (fever).
Disorders of water and electrolyte circulation. Disorders of extracellular fluid volume (hypovolemia and hypervolemia with special reference to the etiopathogenesis of edema). Osmotic pressure disorders

18. Learning methods:

Different teaching methods are used in the course: Lectures (L); Laboratory exercises (LE); Seminar papers (SP). During the entire semester, the student is obliged to attend lectures (L) and laboratory exercises (LE) regularly. During the entire semester, the teacher will monitor the attendance of students on a specially created form. During the semester, a student can miss a maximum of three lectures (3) L.

19. Assessment methods:

The colloquium grading scale has a maximum of 5 points, and the minimum requirement for a successfully completed colloquium is 3 points.
The grading scale of the test has 20 points. Test I contains questions (by essay type and MCQ) covering the material from Modules: 1, 2 and 3. Test II contains questions (by essay type and MCQ) covering the material from Module: 4 and 5.
Each test contains 30 MCQ questions and 2 essay type questions. Each MCQ question carries 0.5 marks and Essay type question carries 2.5 marks. The minimum requirement for a successfully completed test is 16 points.

Student obligations	Points
Attendance at classes	3
Seminar paper	2
Colloquium I	5 (min.3)
Test I	20 (min.12)
Colloquium II	5 (min.3)
Test II	20 (min.12)
Final exam	45

20. Assessment components:

Forming a cumulative grade:
< 55 points = 5 (five)
55-64 points = 6 (six)
65-74 points = 7 (seven)
75-84 points = 8 (eight)
85-94 points = 9 (nine)
95-100 points = 10 (ten)

21. Required reading list:

1. S Gamulin, M Marušić, Z Kovač i suradnici. PATOFIZIOLOGIJA, VII izdanje, Medicinska naklada, Zagreb, 2010.
2. S. Brkić, PATOFIZIOLOGIJA, praktikum sa teoretskim osnovama, Harfograf Tuzla, 2009.
3. Z Kovač, S Gamulin i suradnici. PATOFIZIOLOGIJA

22. Web sources:

23. Applicable starting from the academic year:

2018/2019.

24. Adopted in the Faculty/Academy session:

17.11.2025.