

**Subject:** Pathological Physiology 1  
**Study programme:** General Medicine  
**Category of subject:** Obligatory

**Form of study:** Lectures/seminars 2/3  
**Study form:** Full-time study  
**Prerequisites:** Physiology 2

**Semester:** 5<sup>th</sup>  
**Completion of the course:** Credit  
**Credits:** 5

**Department of Pathological Physiology, Faculty of Medicine, Pavol Jozef Šafárik University, Košice**  
**Schedule of lectures and tutorials from Pathological Physiology 1 for General Medicine, Winter semester 2024/2025**

| W       | Lecture (Tue 12 <sup>15</sup> -13 <sup>45</sup> P2) |        |   | Lecturer | Practical lessons                   |  | Credit tests (other duties)               |
|---------|---|--------|---|----------|-------------------------------------|--|---|
|         | Date  | Topic  | Date  |          | Topic (T - tutorials, S – seminars) |  |   |
| Unite 1 | 1.  | 17.9.  | <b>Etiology I.</b> Intro; Genetics and epigenetics 1 - principles and diseases            | Beňačka  | 16.9.-20.9.                         | T: Introduction into pathophysiol., Instructions<br>S: <i>Nosology; Pathol. signs, processes</i>                   | Scientific work                           |
|         | 2.  | 24.9.  | <b>Etiology II.</b> Genetics 2 (incl. Hereditary metabolic disorders)                     | Beňačka  | 23.9.-27.9.                         | T: Physical factors, Radiation dis.; Hypo/hyperbaria<br>S: <i>Chem. fact.; heavy metals, smoking, alcohol etc.</i> | Semester work instructions                |
|         | 3.  | 1.10.  | <b>Etiology III.</b> Disorders of nutrition; Obesity, Metabolic sy.                       | Lovásová | 30.9.-4.10.                         | T: Genetics – overview; Epigenetics<br>S: <i>Chromosomal mutations (structural, numeric)</i>                       | QiuZ<br>Presentations                     |
|         | 4.  | 8.10.  | <b>Etiology IV.</b> Disorders of inner milieu (water, electrolytes, acid-base)            | Lovásová | 7.10.-11.10.                        | T: Nutrition; Malnutrition qualit. & quantitative<br>S: <i>Avitaminoses, Trace elements</i>                        | QiuZ<br>Presentations                     |
| Unite 2 | 5.  | 15.10. | <b>Pathogenesis I.</b> Microcirculatory failure (shock), MODS, DIC                        | Beňačka  | 14.10.-18.10.                       | T: Edema<br>S: Acid - base disorders. Case reports   | Practical protocol<br>Acid-base disorders |
|         | 6.  | 22.10. | <b>Pathogenesis II.</b> Typical pathol. manifest; Pain, Hypoxia, Ischemia, Fever          | Beňačka  | 21.10.-25.10.                       | S: <i>Review of etiology; Reserved topic</i>   | <b>Credit test 1</b>                      |
|         | 7.  | 29.10. | <b>Pathogenesis III.</b> Acute inflammation   | Beňačka  | 28.10.-29.10.                       | T: Typical pathol. processes – Hypoxia, Ischemia<br>S: Disorders of thermoregulation, Fever                        | QiuZ<br>Presentations                     |
|         | 8.  | 5.11.  | <b>Pathogenesis IV.</b> Chronic inflammation; Systemic effects; SIRS; Sepsis              | Beňačka  | 4.11.-8.11.                         | S: Markers of inflamm.; Atherosclerosis<br>T: <i>Wound healing – molecular pathophysiology</i>                     | QiuZ<br>Presentations                     |
|         | 9.  | 12.11. | <b>Pathogenesis V.</b> Immunopathology (hypersensitivity, immunodeficiency)               | Beňačka  | 11.11.-15.11.                       | T: Autoimmunity<br>S: <i>Immunodeficiency</i>  | QiuZ<br>Presentations                     |
|         | 10.   | 19.11. | <b>Pathogenesis VI.</b> Neoplasms – biology; genetics, metastases                         | Beňačka  | 18.11.-22.11.                       | T: Tumor biology; clin. markers; Paraneoplastic.sy.<br>S: <i>Molecular carcinogenesis</i>                          | QiuZ<br>Presentations                     |
|         | 11.   | 26.11. | <b>Pathogenesis VII.</b> Stress, maladaptation; Cellular stress                           | Beňačka  | 25.11.-29.11.                       | T: Maladaptation dis.; Molecular pathogen. of stress<br>S: <i>Oxidative stress; Antioxidants; Glycation damage</i> | QiuZ<br>Presentations                     |
|         | 12.   | 3.12.  | <b>Pathogenesis VIII.</b> Dis. of consciousness – qualitative & quantitative; Brain death | Beňačka  | 2.12.-6.12.                         | T: Aging<br>S: Terminal states; Postresuscitation disease  | QiuZ<br>Presentations                     |
| Unite 3 | 13.   | 10.12. | <b>HS I.</b> Disorders of haemostasis   | Ráčz     | 9.12.-13.12.                        | S: <i>Review of pathogenesis; Reserved topic</i>   | <b>Credit test 2</b>                      |
|         | 14.   | 17.12. | Reserved topic  | --       | 16.12.-20.12.                       | S: Credits, evaluation of semester   | Topics of semester works                  |

October 30 – Dean’s day off, October 31 – Rector’s day off, November 1 - National Holiday

**Seminars (S)** = special topics for discussion; **Tutorials & homeworks & exams (T)** = discussions, consultations, oral and quiz exams on the current topics.  
**Responsible for the course:** Doc. MUDr. Roman Beňačka, CSc.