Subject: **Pathological physiology 1**	Subject type:	**Compulsory**
Study year: 3	Content:	**2/3 winter time**
Study program: **General Medicine**		

Aim of the course

Pathophysiology is the essential part of pre-clinical medical education. Pathological Physiology 1 provides a systematic review of the scientific basis for the emergence and development of the disease, symptoms (nosology), contemporary overview of the causes and risk factors (etiology) of human diseases, mechanisms of progression and development of the clinical expressions (pathogenesis), including molecular and cellular processes and changes during different pathophysiological processes and diseases.
The course is included in the winter semester of the 3rd year of study. The prerequisite subject is Physiology 2.
Pathophysiology is an integrative biomedical subject that helps to understand the mechanisms of diseases. It is an important part of undergraduate medical education and a necessary prerequisite for the study of clinical subjects.

Education: lectures/seminars
Assessment: credit (2 written tests)

Syllabus

Week 1
Etiology I: Monogenic and chromosomal diseases; Mendelian, non-Mendelian inheritance

Week 2
Etiology II: Hereditary metabolic disorders

Week 3
Etiology III: Disorders of nutrition; Obesity, Malnutrition qualitative & quantitative; Dietology

Week 4
Etiology IV: Disorders of inner milieu (water, electrolytes); Edemas

Week 5
Pathogenesis I: Microcirculatory failure (shock), MODS, DIC (hypercoagulation)

Week 6
Pathogenesis II: Typical pathological manifestations; Pain, Hypoxia, Ischemia, Fever

Week 7
Pathogenesis III: Acute inflammation

Week 8
Pathogenesis IV: Chronic inflammation; Systemic effects; SIRS; Sepsis

Week 9
Pathogenesis V: Immunopathology (hypersensitivity, immunodeficiency)

Week 10
Pathogenesis VI: Neoplasms – biology; genetics, metastasing

Week 11
Pathogenesis VII: Stress, maladaptation; Cellular stress

Week 12
Pathogenesis VIII: Disorders of consciousness – qualitative & quantitative; Terminal states

Week 13
Cellular pathophysiology I: Basics of intercellular signalling; intracellular pathways

Week 14
Cellular pathophysiology II: Cell death, necrosis, apoptosis; degeneration, dystrophy