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

Aim of the course

Since its beginning Department of Pathophysiology provided organizational support and content of pre-graduate subject **Pathological Physiology** for General Medicine and Dentistry. Within the European tradition Pathophysiology is the essential part of pre-clinical medical education, providing 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.
Subject is placed to the 3rd year of study and has prerequisite condition (Physiology 2). It is important part of knowledge of future physician, because it connects pre-clinical and clinical subjects and it gives important informations for understanding of internal medicine and other clinical disciplines.

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

Syllabus

Week 1
Etiology I. Evidence-based medicine. Physical & chemical lesions and reactive changes in the oral cavity.

Week 2
Etiology II. Genetics and epigenetics in dentistry. Soft and hard palate malformations and lesions. Caries. Parodontitis.

Week 3
Etiology III. Disorders of nutrition in dentistry (incl. obesity, malnutrition, avitaminoses). Obesity, undernutrition, Eating disorders.

Week 4
Etiology IV. Disorders of inner milieu (water, electrolytes; calcium, phosphates). Acid-base balance, oedemas in oral cavity

Week 5
Pathogenesis I. Typical pathological processes. Acute and chronic inflammation. Inflammation in oral cavity, wound healing, fever.

Week 6
Pathogenesis II. Carcinogenesis. Cancer in oral cavity – benign, pre-malignant, malignant. Hypoxia, ischemia, cyanosis.

Week 7
Credit test. Semester work instructions

Week 8
Pathogenesis III. Immunology, hypersensitivity, autoimmunity, immunodeficiency. Microcirculation failure – Shock, DIC, MODS

Week 9
Pathogenesis IV. Pain in the head and neck region. Trigeminal neuralgia. Stress – neurohumoral regulation, adaptation, stress diseases

Week 10
Hematology I. Disorders of red and white blood cells in dental medicine.

Week 11
Hematology II. Hemostasis and bleeding diatheses in dental medicine. Disorders of platelets.

Week 12
Renal and urinary tract. Glomerulonephritis, tubular disorders, acute kidney injury, chronic kidney disease. Manifestations in oral cavity

Week 13
Credit test 2. Ageing, alterations in head and oral cavity regions

Week 14
Reserved topic. Topic presented based on students' feedback and actual situation in medicine.