

STANDARD COURSE SYLLABUS
for academic year 2012/2013

Description of Subject of Education - Teaching Program							
Name of subject: PATHOPHYSIOLOGY							
Head of the Department: Witold Pilecki dr hab. prof. nadzw.							
Faculty:		Medical					
Field of study:		Medical-Dentistry					
Level of study:		Uniform, Magister-level					
Form of study:		stationary nonstationary					
Year of study:		III		Semester: winter			
Type of subject:		obligatory					
Lecturer's language:		English					
Department conducting the subject		Winter Semester (hrs)			Summer Semester (hrs)		
		L	C	S	L	C	S
Department of Pathophysiology – Unit of Electrocardiology and Cardiovascular Disease Prevention		15		45			
Total:							
60 hours							
Educational goals							
G1 – The aim of the subject is to present and elucidate in the clear and comprehensive manner the structural and functional pathomechanisms underlying the most common disorders and diseases affecting the individual systems and organs of the human body.							
G2 – The special attention is focused on the pathomechanisms of the diseases that have the clinical presentations within the oral cavity.							
Matrix of the education effects for the subject in reference to methods of verification of the effects intended and to forms of the course (K – knowledge; C – competence)							
No. of education effect	Description of education effect	Verification methods of achieving the intended education effects*			Forms of the course**		
K1	Student knows and understands the pathophysiological background of the most common and crucial clinical conditions.	oral response, colloquium			L, S		
K2	Student knows how to combine the various symptoms to make up a diagnosis of the disease.	oral response, discussion			L, S		

K3	Student knows how to predict the complications of the diseases.	oral response, colloquium	L, S
C1	Student is able to recognize and give an interpretation of the essential abnormalities of the electrocardiographic (ECG) recordings.	discussion	S

* presentation, oral response, report, discussion, essay, colloquium, examination (oral, written)
 ** L- lecture; S- seminar; C- class; EL- e-learning

Balance of ECTS points (student's work input)

Classes at the university	60 hours
Own work	26 hours
Summary student's work load	86 hours
ECTS points for the subject	4

The course detailed program

Lectures (15 hours)

1. Pathophysiological principles of electrocardiography (ECG).
2. Pathomechanisms and risk factors of atherosclerosis; essentials of cardiovascular disease prevention.
3. Ischemic heart disease – pathogenesis, clinical forms, diagnostics.
4. Heart failure – pathomechanism and clinical manifestation
5. Peptic ulcer disease (PUD) – etiology, signs, complications.
6. Jaundice – pathomechanisms and differential diagnosis.
7. Bronchial asthma and COPD – etiology, clinical presentation, differential diagnostics.
8. Hormones – classification, structure, secretion and molecular functioning.
9. Pituitary gland – structure, hormones, regulation axis, hypofunction, hyperfunction.
10. Metabolic syndrome, obesity – definition, epidemiology, clinical relevance.
11. Diabetes mellitus type 2 as civilization pandemic; definition of cardiometabolism.
12. Menopause – pathophysiology, signs, management.
13. Biochemical disorders in kidney insufficiency.
14. Genetic background of the blood coagulation disorders.
15. Thrombophilia (prothrombotic state) – predisposing factors, consequences.

Seminars (45 hours)

1. Principles of normal ECG analysis. Practicing the normal ECGs interpretation and description.
2. Pathomechanisms and classification of cardiac rhythm disturbances. Reading the ECGs presenting cardiac arrhythmias.
3. Pathomechanisms and types of heart blocks. Reading the ECGs presenting heart blocks.
4. Acute coronary syndromes and myocardial infarction – pathogenesis and diagnostics. Reading the ECGs presenting various forms of myocardial ischemia.
5. Arterial hypertension – causes, consequences. Valvular heart disease – etiology, signs.
6. ECGs interpretation practicing.
7. **Credit Test #1 (Cardiology).**
8. Oesophageal achalasia, GERD (gastroesophageal reflux disease).
9. Inflammatory bowel disease (IBD) – pathogenesis, clinical presentation.
10. Hepatitis – etiology, clinical presentation.
11. Cholelithiasis and cholecystitis – etiology, clinical presentation.
12. Pancreatitis, acute and chronic – etiology, clinical presentation.
13. Acute and chronic respiratory insufficiency – etiology, clinical presentation.
14. Obstructive and restrictive lung diseases. Spirometry – parameters, interpretation.
15. Emphysema, pneumothorax, atelectasis, pulmonary oedema. Pulmonary embolism – etiology, clinical presentation, outcome.
16. **Credit Test #2 (Alimentary and Respiratory Systems)**
17. Growth hormone – dwarfism, gigantism and acromegaly. Posterior pituitary hormones (ADH and oxytocin) abnormalities.
18. Hyperthyroidism, Graves' disease – etiology, pathomechanism, symptoms and signs.
19. Hypothyroidism – congenital, acquired; etiopathogenesis, clinical presentation.
20. Calcium-phosphates metabolism; hormonal regulation, rickets.
21. Hypoparathyroidism – causes, clinical signs: hypocalcemia, tetany.

22. Hyperparathyroidism: primary and secondary – causes; hypercalcemia – consequences.
23. Hypercortisolism – Cushing syndrome, Cushing disease, cushingdoidal syndrome.
24. Hyperaldosteronism – Conn’s syndrome: arterial hypertension, hypopotasemia.
25. Adrenocortical insufficiency – Addison’s disease: etiopathogenesis, clinical presentation.
26. Diabetes mellitus type 1 – clinical presentation, acute and chronic complications, treatment.
27. Diabetes mellitus type 2 – clinical presentation, acute and chronic complications, management (diet, drugs and physical activity).
28. **Credit Test # 3 (Endocrinology)**
29. Urinalysis – normal and pathological; polyuria, oliguria, anuria; proteinuria, bacteriuria.
30. Acute renal failure – causes, pathomechanisms, clinical presentations, lab tests.
31. Chronic renal failure – causes, pathomechanisms, clinical presentations, lab tests.
32. Nephrotic syndrome – causes , clinical presentation, complications.
33. Glomerulonephritis – etiology, classification, manifestations, diagnostics, complications.
34. Pyelonephritis – etiology, clinical presentation, diagnostics, complications.
35. Renal stones – etiology, clinical presentation, diagnostics, complications.
36. Acid-base equilibrium (renal, lung and blood components), gasometric tests analysis.
37. Acidosis and alkalosis (respiratory / metabolic): causes, signs, compensatory mechanisms.
38. Normal blood composition , blood count, main blood functions.
39. Pathological bleeding – vascular, platelets, and coagulation factors disorders.
40. Platelets disorders: thrombocytopenia, thrombocytosis, thrombocytopathia.
41. Blood coagulations factors pathology: inherited and acquired.
42. Hemophilia A and B – etiopathogenesis, clinical course, outcome, replacement therapy.
43. Anemias – etiopathogenesis, classification, clinical signs, laboratory diagnostics.
44. Leukemias – acute and chronic: etiology, classification, signs, diagnostics, prognosis.
45. **Credit Test # 4 (Nephrology & Hematology)**

Literature:

1. Pathophysiology, L-E.C. Copstead, J.L. Banasik, Elsevier Saunders, 2005.
2. Pathophysiology of Disease 5th edition, S.J. McPhee, Lange Medical Books, 2006.
3. Manual of Cardiovascular Medicine, S.P. Marso, B.P. Griffin, E.J. Topol, Lippincott Williams & Wilkins, 2002.
4. Silbernagl S.: Color atlas of pathophysiology, Stuttgart, Thieme, 2000.
5. MacDermott M.T.: Endocrine secrets, 3rd edition, Hanley & Belfus, Philadelphia, 2001.

Teaching aids:

Laptop, multimedia projector, ECG recordings

Requirements concerning instructional aids (e.g. laboratory, multimedia projector, other ...)

Conditions for successful completion of course:

Four credit tests. Oral final examination.

Name and address of the unit conducting the subject, contact information (tel./email):

Zakład Elektrokardiologii i Prewencji Chorób Sercowo Naczyniowych Katedry Patofizjologii
Tel./fax: 71 784 12 47 E-mail: malsobie@poczta.onet.pl

Person responsible for the course:

Dr hab. Małgorzata Sobieszkańska prof. nadzw.

Date:

30.09.2012

The Unit Head’s signature:

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Dean’s signature:

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