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|  | | | **UNIVERSITY OF EAST SARAJEVO**  Faculty of Medicine Foča | | | | | | | | | | | Description: logo | | | |
| ***Nursing*** | | | | | | | | | | |
| I study cycle | | | | | | II study year | | | | |
| **Full subject title** | | | Pathology and Pathophysiology | | | | | | | | | | | | | | |
| **Department** | | | Department of Preclinical Subjects, Faculty of Medicine Foča | | | | | | | | | | | | | | |
| **Subject code** | | | | | | **Subject status** | | | | | **Semester** | | | **ECTS** | | | |
|
| NU-05-1-015-3 | | | | | | compulsory | | | | | III | | | 6 | | | |
| **Professor/ -s** | | Full professor Radoslav Gajanin, full professor Nebojša Mitić, full professor Mirjana Čuk, associate professor Slaviša Đuričić, associate professor Mirjana Mirić, full professor Ivan Radić, assistant professor Bojan Joksimović, assistant Miloš Vasiljević | | | | | | | | | | | | | | | |
| **Associate/ - s** | | Senior assistant Svjetlana Kulić | | | | | | | | | | | | | | | |
| **Number of lectures/ teaching workload (per week)** | | | | | | | **Individual student workload (in hours per semester)** | | | | | | | | **Coefficient of student workload So[[1]](#footnote-1)** | | |
| **L** | **E** | | | | **SP** | | **L** | | | **E** | | **SP** | | | **So** | | |
| 2 | 2 | | | | 0 | | 60 | | | 60 | | 0 | | | 2 | | |
| total teaching workload (in hours, per semester)  30+30+0=60 | | | | | | | | total student workload (in hours, per semester)  60+ 60 + 0=120 | | | | | | | | | |
| Total subject workload (teaching + student): 60+ 120= 180 hours per semester | | | | | | | | | | | | | | | | | |
| **Learning outcomes** | | Upon completing the course and passing the exam, the student will be qualified to:   1. Recognize the most common pathological processes and diseases, especially from the perspective of macroscopic and microscopic characteristics, which will greatly assist in mastering clinical subjects. 2. Understand the causes and mechanisms of disease development, from the cellular level to the level of the organism as a whole. 3. Correlate the basic clinical manifestations of the most important functional and organic disorders with their causes and mechanisms of development. 4. Understand the role and importance of laboratory and functional tests. | | | | | | | | | | | | | | | |
| **Preconditions** | | Passed exams from the previous year of studies. | | | | | | | | | | | | | | | |
| **Teaching methods** | | Lectures, exercises, seminar. | | | | | | | | | | | | | | | |
| **Subject content per week** | | **Lectures:**   1. Cell Damage and Death   The place and role of pathological physiology in medicine. The concept of health and disease. Types of disease manifestations. The course and outcome of disease. Etiology: types of etiological factors and their involvement in the development of disease.   1. Morphology of Cellular Damage   Inflammation. Inflammatory mediators. Changes during inflammation.   1. Necrosis   Etiological factors, risk factors. Thermal factors. General and local effects of increased temperature. Clinical manifestations of hyperthermia. General and local effects of low temperature.   1. Disorders of Cell Growth and Differentiation   Chemical etiological factors. Exogenous and endogenous intoxications. Biological etiological factors.   1. Disorders of Blood and Lymph Circulation   The effect of radiation on the organism. Non-ionizing radiation. Ionizing radiation. Chronic radiation syndrome. Acute radiation syndrome.   1. Inflammation   Disorder of Acid-Base Balance   1. **Acute Inflammation**   Disorders of fat metabolism. Hypercholesterolemia. Metabolic and pathogenetic aspects of atherosclerosis. Disorder of fat metabolism as a predisposing factor for diabetes.   1. **Morphology of Exudative Inflammations**   Disorders of carbohydrate metabolism. Hypoglycemic and hyperglycemic syndrome. Disorder of glycogen synthesis and breakdown.   1. **Morphology of Productive Inflammations** State of immunological hypersensitivity. Mechanisms of immediate and late hypersensitivity. 2. **Chronic Specific Inflammations** Types of allergic diseases related to specific types of hypersensitivity. Autoimmunity, etiopathogenesis, and types of autoimmune diseases. 3. Infectious Diseases   Disorder of water metabolism. Etiology and pathogenesis of basic types of water and salt metabolism disorders. Intracellular, extracellular, and global dehydration. Types of edema.   1. Pathology of Tumors - Definition, Nomenclature, Classification, Epidemiology   Disorder of mineral metabolism (hypo and hypernatremia, hypo and hyperchloremia, hypo and hyperkalemia). Pathophysiological principles of correcting water and salt imbalance.   1. Pathohistological Characteristics of Benign and Malignant Tumors   Disorder of protein metabolism. Disorder of neuroendocrine regulation of protein metabolism.   1. Grading and Staging of Tumors, Carcinogenesis   Pathogenesis of hypoproteinemia, hypoproteinemia, and dysproteinemia.   1. Molecular Pathology of Neoplasms   Disorder of energy balance (imbalance in energy metabolism, positive energy balance, negative energy balance).  **Exercises:**   1. *Atrophia cyanotica hepatis*   *Hypertrophia myocardii*  *Hyperplasia glandularis endometrii(simplex)*   1. *Degeneratio hydropica et vacuolaris renis*   *Degeneratio adiposa (steatosis) hepatis*  *Infiltratio adiposa myocardii*   1. *Calcificatio metastatica pulmonis*   *Infarctus recens (anaemicus ) myocardii*  *Embolia thrombotica ramorum arteriae pulmonalis*   1. *Granulationes*   *Naevus pigmentosus intradermalis*  *Appendicitis acuta phlegmonosa*   1. *Cholecystitis chronica simplex*   *Tuberculosis disseminata pulmonis*  *Lipoma*   1. *Fibroma durum*   *Liposarcoma*  *Atherosclerosis- atheroma*   1. *Adenoma tubulare intestini crassi*   *Adenocarcinoma intestini crassi*  *Carcinoma transitiocellulare papillare vesicae urinariae invasivum*   1. Pathophysiological basis of functional testing of the cardiovascular system (invasive and non-invasive diagnostic methods) 2. Pathophysiological basis of functional testing of the respiratory system (assessment of lung ventilation, gas distribution, gas diffusion, pulmonary perfusion, and gas analysis) 3. Pathophysiological basis of functional tests in the examination of the digestive system (evaluation of digestive tract motility, functional assessment of the stomach, functional assessment of the exocrine pancreas, and interpretation of results) 4. Pathophysiological basis of haemostasis disorders (functional assessment of the vascular, platelet, and coagulation phases, and interpretation of results) 5. Haematology (disorders of the erythroid and leukocyte lineages) 6. Pathophysiological basis of functional tests in liver examination (evaluation of bilirubin metabolism, the liver's role in protein, fat, and carbohydrate metabolism, assessment of liver enzymes in serum, evaluation of the liver's detoxification function, and assessment of liver blood flow) 7. Pathophysiological basis of functional tests in the examination of the endocrine system (functional assessment of endocrine glands and interpretation of results 8. Pathophysiological basis of functional tests in the examination of the urinary system (disorders of diuresis and saluresis, proteinuria, analysis of pathological sediment, clearance tests in the evaluation of urinary system function, and interpretation of results) | | | | | | | | | | | | | | | |
| **Compulsory literature** | | | | | | | | | | | | | | | | | |
| **Author/s** | | | | **Publication title/Publisher** | | | | | | | | | **Year** | | **Pages (from-to)** | | |
| Budakov P, Eri Ž. | | | | Pathology, Novi Sad: Faculty of Medicine | | | | | | | | | 2012 | |  | | |
| Gajanin R, Klem I. | | | | Manual for Pathohistological Exercises Banja Luka, Faculty of Medicine | | | | | | | | | 2012 | |  | | |
| Mitić N, Radić I, Milićević N. | | | | " Practicum of Pathological Physiology | | | | | | | | | 2014. | |  | | |
| **Additional literature** | | | | | | | | | | | | | | | | | |
| **Author/s** | | | | **Publication title/Publisher** | | | | | | | | | **Year** | | **Pages (from-to)** | | |
| Gajanin R, Tatić V, Budakov P. First Edition | | | | PATOLOGIJA ZA STUDENTE ZDRAVSTVENE NJEGE. Banja Luka: BLC grafički atelje za grafički dizajn i digitalnu štampu, 2010. | | | | | | | | | 2010 | |  | | |
|  | | | |  | | | | | | | | |  | |  | | |
| **Student responsibilities, types of student assessment and grading** | | **Grading policy** | | | | | | | | | | | **Points** | | | | **Percentage** |
| Pre-exam activities | | | | | | | | | | | | | | | |
| lecture/exercise attendance | | | | | | | | | | | 5 | | | 5% | |
| Seminar paper | | | | | | | | | | | 25 | | | 25% | |
| practical work | | | | | | | | | | | 20 | | | 20% | |
| Final exam | | | | | | | | | | | | | | | |
| Written and oral | | | | | | | | | | | 50 | | | 50% | |
| TOTAL | | | | | | | | | | | 100 | | | 100 % | |
| **Certification date** | | December 2024. | | | | | | | | | | | | | | | |

1. The coefficient of student workload So is calculated as it follows:

   а) for the study programs not going through the licensing process: So = (total workload in semester for all of the subjects 900 hrs – total teaching workload L+E in semester for all of the subjects 870 hrs)/ total teaching workload L+E in semester for all of the subjects \_\_\_\_\_ hrs = \_\_\_\_. Consult form content and its explanation.

   b) for the study programs going through the licensing process, it is necessary to use form content and its explanation. [↑](#footnote-ref-1)