SYLLABUS

1. General information on the course

Full course name	Integrated Course of Fundamental Subjects
Full official name of a higher education institution	Sumy State University
Full name of a structural unit	Academic and Research Medical Institute. Кафедра громадського здоров'я
Author(s)	Holubnycha Viktoriia Mykolaivna
Cycle/higher education level	The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle
Semester	20 weeks across 6 semester
Workload	3 ECTS, 90 hours, 20 contact hours with the lecturer (2 hours of lectures,18 hours of seminars) and 70 hours self-preparation
Language(s)	Ukrainian, English

2. Place in the study programme

Relation to curriculum	Compulsory course available for all students
Prerequisites	There are no specific pre-requisites
Additional requirements	There are no specific requirements
Restrictions	There are no specific restrictions

3. Aims of the course

The purpose of the discipline is the train of professionals capable of solving complex problems and solving problems in the field of health care with the formation and acquisition of fundamental skills and understanding disciplines, as well as capable of research and innovation.

4. Contents

Topic 1 Topic 1. Modern comprehensive ideas about human anatomy as a basis for diagnostic and therapeutic measures in the work of the doctor. Introduction. Topographic and anatomical features of the musculoskeletal system of the human body. Splanchnology. The structure of the nervous system. Vascular and lymphatic system.
Topic 2 Topic 2. Modern comprehensive ideas about human physiology as a basis for diagnostic and therapeutic measures in the work of the doctor Introduction. Basic human physiological process. Humoral and nervous regulation of body functions. Physiology of the blood system and cardiovascular system. Physiology of metabolism, respiratory systems, digestion. Physiology of the excretory system.

Topic 3 Topic 3. Modern comprehensive ideas about histology and human embryology as a basis for understanding the pathogenetic mechanisms of human diseases Introduction. Body tissues: epithelial, connective, muscle, nerve tissue, blood and lymph. Sense organs.
Topic 4 Topic 4. Modern complex ideas about human biochemistry as a basis for understanding the pathogenetic mechanisms of human diseases. Introduction. Physico-chemical properties of proteins, lipids, carbohydrates. Methods of research of biochemical composition of biological liquids. Pathological conditions are associated with metabolic disorders.
Topic 5 Topic 5. Modern comprehensive ideas about medical microbiology as a basis for understanding the pathogenetic mechanisms of human infectious diseases. Introduction. General structure of microorganisms. Immunology. Special bacteriology, virology and mycology. Methods of diagnosis of infectious diseases. Immunobiological drugs for the treatment and prevention of human diseases.
Topic 6 Topic 6. The use of modern complex ideas about the pathomorphological processes in the human body in the work of a physician. Pathogenesis and pathological anatomy of somatic and infectious diseases. Methods of diagnosis verification. Features of disorders in systemic and oncological diseases. Features of complex use of knowledge by the doctor about pathomorphology in carrying out diagnostic and therapeutic measures
Topic 7 Topic 7. Modern complex ideas about pathophysiological processes in the human body Pathogenesis and pathological physiology of somatic and infectious diseases. Methods verification of diagnoses. Features of disorders in systemic and oncological diseases. Features of complex use of knowledge by the doctor about pathophysiology in carrying out diagnostic and therapeutic measures.
Topic 8 Topic 8. Pharmacotherapy in the work of a doctor in modern conditions Introduction. General pharmacology. General principles of use of drugs that affect the function of the central nervous system, afferent and efferent innervation. Pharmacology of drugs that affect the function of the respiratory system, digestive organs, kidney function, cardiovascular system, blood system.
Topic 9 Topic 9. Final control. Final control. Discussion

5. Intended learning outcomes of the course

After successful study of the course, the student will be able to:

LO1	Be able to analyze clinical data and available medical information about patient and use the ability to think abstractly and synthesize to identify the leading clinical syndromes and symptoms.
LO2	Be able to learn, master modern knowledge and apply them in practical situations for the selection and identification of leading clinical syndromes and symptoms.

LO3	Have knowledge and understanding of the subject area and understanding of the professional activities to assess the psychomotor and physical development of the patient, condition of organs and systems of the body.
LO4	Acquire the ability to make informed decisions; work in a team; interpersonal skills for the possibility of conducting additional survey methods and their evaluation.
LO5	Have certainty and perseverance in relation to the tasks set and taken responsibilities
LO6	Be able to assess the impact of environmental, socio-economic and biological determinants on the health of the individual, family, population with using modern digital technologies.

6. Role of the course in the achievement of programme learning outcomes

Programme learning outcomes achieved by the course.

7. Teaching and learning activities

7.1 Types of training

Topic 1. Topic 1. Modern comprehensive ideas about human anatomy as a basis for diagnostic and therapeutic measures in the work of the doctor.
lect.1 "Modern ideas about human anatomy." (full-time course) The role of discipline in doctor training. Features of using complex system basic knowledge about a person in the diagnosis and treatment of diseases.
pr.tr.1 "Modern comprehensive ideas about human anatomy as a basis for diagnostic and therapeutic measures in the work of the doctor" (full-time course) Solving practical problems on the use of knowledge about human anatomy in the diagnosis and treatment of diseases
Topic 2. Topic 2. Modern comprehensive ideas about human physiology as a basis for diagnostic and therapeutic measures in the work of the doctor
pr.tr.2 "Modern comprehensive ideas about human physiology as a basis for diagnostic and therapeutic measures in the work of the docto" (full-time course) Solving practical problems on the use of knowledge about human physiology as a basis for diagnostic and therapeutic measures in the work of a doctor.
Topic 3. Topic 3. Modern comprehensive ideas about histology and human embryology as a basis for understanding the pathogenetic mechanisms of human diseases
pr.tr.3 "Modern comprehensive ideas about histology and human embryology as a basis for understanding the pathogenetic mechanisms of human diseases" (full-time course) Solving practical problems on the use of knowledge about human histology and embryology to understand the pathogenetic mechanisms of human diseases in the work of a doctor.
Topic 4. Topic 4. Modern complex ideas about human biochemistry as a basis for understanding the pathogenetic mechanisms of human diseases.

pr.tr.4 "Modern complex ideas about human biochemistry as a basis for understanding the pathogenetic mechanisms of human diseases." (full-time course) Solving practical problems on the use of knowledge about human biochemistry to understand the pathogenetic mechanisms of human diseases in the work of a doctor.
Topic 5. Topic 5. Modern comprehensive ideas about medical microbiology as a basis for understanding the pathogenetic mechanisms of human infectious diseases.
pr.tr.5 "Modern comprehensive ideas about medical microbiology as a basis for understanding the pathogenetic mechanisms of human infectious diseases." (full-time course) Solving practical problems on the use of knowledge about medical microbiology for the diagnosis, treatment and prevention of infectious human diseases.
Topic 6. Topic 6. The use of modern complex ideas about the pathomorphological processes in the human body in the work of a physician.
pr.tr.6 "The use of modern complex ideas about the pathomorphological processes in the human body in the work of a physician." (full-time course) PC.6 Solving practical problems on the use of knowledge about pathomorphological and pathophysiological processes in the human body
Topic 7. Topic 7. Modern complex ideas about pathophysiological processes in the human body
pr.tr.7 "Modern complex ideas about pathophysiological processes in the human body" (full-time course) Modern complex ideas about pathophysiological processes in the human body.
Topic 8. Topic 8. Pharmacotherapy in the work of a doctor in modern conditions
pr.tr.8 "Pharmacotherapy in the work of a doctor in modern conditions" (full-time course) Pharmacotherapy in the work of a doctor in modern conditions
Topic 9. Topic 9. Final control.
pr.tr.9 "Final control." (full-time course) Final control.

7.2 Learning activities

LA1	Solving situational problems
LA2	- E-learning in systems (the list of resorses is specified by the teacher)
LA3	Preparation for Step-1

8. Teaching methods

Course involves learning through:

TM1	Interactive lectures

TM2	Case-study
TM3	Educational discussion / debate
TM4	Brain storming

The lecture provides students with materials on the place of the discipline in the training of the doctor and the role comprehensive knowledge of the structure and functioning of the human body in the diagnosis and treatment of diseases, which is the basis for self-study of higher education (LO 1-3). The lecture is complemented by practical classes that give students the opportunity apply theoretical knowledge on practical examples (LO 3-6). Practically-oriented learning involves students identifying leading syndromes based on solutions clinically-oriented situational tasks (LO 1-4). Forming the ability to accept reasonable decisions; work in a team; interpersonal skills will promote discussion in the group of possible solutions to the problem situation and explanation possible erroneous decisions (LO 4). During the discussion, students will acquire skills critical attitude to available information, synthesis and analytical thinking (LO 1, LO 5, LO 6).

Participation in group discussion and case studies will facilitate the formation of soft -skills such as the ability to work in a team, search for the necessary information in various sources.

9. Methods and criteria for assessment

9.1. Assessment criteria

Definition	National scale	Rating scale
Outstanding performance without errors	5 (Excellent)	170 ≤ RD ≤ 200
Above the average standard but with minor errors	4 (Good)	140 ≤ RD < 169
Fair but with significant shortcomings	3 (Satisfactory)	120 ≤ RD < 139
Fail – some more work required before the credit can be awarded	2 (Fail)	0 ≤ RD < 119

9.2 Formative assessment

FA1	Survey and oral comments of the teacher on his results
FA2	Express testing
FA3	Teacher's instructions in the process of performing practical tasks

9.3 Summative assessment

SA1	Assesment and oral coment of the techer, express testing in practical class.
SA2	Final writing test

Form of assessment:

The semester of teaching		**200 scores**
SA1. Assesment and oral coment of the techer, express testing in practical class.		**120**
		120

SA2. Final writing test		**80**
		80

Form of assessment (special cases):

The semester of teaching		**200 scores**
SA1. Assesment and oral coment of the techer, express testing in practical class.		**120**
	In case of epidemiological restriction all classes are performed online via the MIX platform.	120
SA2. Final writing test		**80**
	In case of epidemiological restriction all classes are performed online via the MIX platform.	80

Current control is carried out at each practical lesson in accordance with the specific objectives of each topic. When mastering the module material, the student receives a maximum of 5 points for each practical lesson (the grade is set in the traditional 4-point grading system: "excellent", "good", "satisfactory" and "unsatisfactory"). All work must be performed independently. At the end of the course, the arithmetic mean of traditional grades is calculated and converted into a multi-point scale by multiplying on 24. The final control is carried out at the last practical lesson. Students who have not missed classes are admitted to the final control. The form of final control is a test that is conducted in writing form. The maximum number of points that a student can get during the final module control is 80. The minimum number of points is 48. Mark on discipline is an equal sum of practical classes points and final examination points, and it can not be more than 200 points. Those students who do have not 72 points in practical classes can get on discipline only 120 points.

10. Learning resources

10.1 Material and technical support

MTS1	Teaching aids
MTS2	Computers, computer systems and networks
MTS3	Library funds

10.2 Information and methodical support

Essential Reading	
1	USMLE Step 1: Physiology [Текст] : Lecture Notes / Editors L.B. Wilson, R. Dasgupta, F.P.Noto. — New York : Kaplan, 2019. — 425 p.
2	Advances in Microbiology, Infectious Diseases and Public Health [Електронний ресурс] : Volume 7 / edited by Gianfranco Donelli. — 1st ed. 2017.
3	3. USMLE Step 1: Biochemistry and Medical Genetics [Текст] : Lecture Notes / Editors S. Turco, R. Lane, R.M. Harden. — New York : Kaplan, 2019. — 409 p.
4	4. USMLE Step 1: Pharmacology [Текст] : Lecture Notes / Editors C. Davis, S.R. Harris. — New York : Kaplan, 2019. — 425 p.

Supplemental Reading	
1	Human anatomy [Текст] : texbook / V. G. Cherkasov, I. Ye. Herasymiuk, A. S. Holovatskyi etc. — Vinnytsia : Nova Knyha, 2018. — 464 p
2	2. Gartner, L.P. Textbook of Histology [Текст] / L. P. Gartner. — 4-th ed. — Philadelphia : Saunders Elsevier, 2017. — 656 p
3	Essentials of pathology [Текст] : textbook / Ya. Bodnar, A. Romanyuk, V. Vonoshyn, V. Gargin. — Kharkiv : Planeta-Print, 2020. — 219 p.