

MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION

**Federal State Autonomous Educational Institution of Higher Education
«National Research Lobachevsky State University of Nizhny Novgorod»**

Институт клинической медицины

УТВЕРЖДЕНО

решением Ученого совета ННГУ

протокол № 10 от 02.12.2024 г.

Working programme of the discipline

Normal anatomy

Higher education level

Specialist degree

Area of study / speciality

31.05.01 - General Medicine

Focus /specialization of the study programme

General Medicine

Mode of study

full-time

Nizhny Novgorod

Year of commencement of studies 2025

1. Место дисциплины в структуре ОПОП

Дисциплина Б1.О.17 Нормальная анатомия относится к обязательной части образовательной программы.

2. Планируемые результаты обучения по дисциплине, соотнесенные с планируемыми результатами освоения образовательной программы (компетенциями и индикаторами достижения компетенций)

Формируемые компетенции (код, содержание компетенции)	Планируемые результаты обучения по дисциплине (модулю), в соответствии с индикатором достижения компетенции		Наименование оценочного средства	
	Индикатор достижения компетенции (код, содержание индикатора)	Результаты обучения по дисциплине	Для текущего контроля успеваемости	Для промежуточной аттестации
ОПК-10: Способен понимать принципы работы современных информационных технологий и использовать их для решения задач профессиональной деятельности	ОПК-10.1: составляет и планирует решение стандартных профессиональных задач ОПК-10.2: использует информационные, библиографические ресурсы, медико-биологическую терминологию, информационно-коммуникационные технологии ОПК-10.3: знает и учитывает основные требования информационной безопасности	ОПК-10.1: He is proficient in drawing up and planning in solving standard professional tasks ОПК-10.2: Knows how to use information, bibliographic resources, medical and biological terminology, information and communication technologies ОПК-10.3: Able to recognize and take into account the basic requirements of information security	Кolloквиум Контрольная работа	Зачёт: Контрольные вопросы Экзамен: Контрольные вопросы
ОПК-5: Способен оценивать морфофункциональные, физиологические состояния и патологические процессы в организме человека для решения профессиональных задач	ОПК-5.1: Готов применить алгоритм клинико-лабораторной, инструментальной и функциональной диагностики при решении профессиональных задач ОПК-5.2: Оценивает морфофункциональные, физиологические состояния и патологические процессы в организме человека для интерпретации результатов клинико-лабораторной, инструментальной и функциональной	ОПК-5.1: Applies the algorithm of clinical laboratory, instrumental and functional diagnostics in solving professional tasks ОПК-5.2: He is able to evaluate morphofunctional, physiological conditions and pathological processes in the human body to interpret the results of clinical, laboratory, instrumental and functional diagnostics in solving	Кolloквиум Контрольная работа	Зачёт: Контрольные вопросы Экзамен: Контрольные вопросы

	диагностики при решении профессиональных задач ОПК-5.3: Знает принципы функционирования систем органов.	professional tasks. ОПК-5.3: Knows the principles of functioning of organ systems		
--	--	---	--	--

3. Структура и содержание дисциплины

3.1 Трудоемкость дисциплины

	очная
Общая трудоемкость, з.е.	11
Часов по учебному плану	396
в том числе	
аудиторные занятия (контактная работа):	
- занятия лекционного типа	92
- занятия семинарского типа (практические занятия / лабораторные работы)	92
- КСР	4
самостоятельная работа	172
Промежуточная аттестация	36 Экзамен, Зачёт

3.2. Содержание дисциплины

(структурированное по темам (разделам) с указанием отведенного на них количества академических часов и виды учебных занятий)

Наименование разделов и тем дисциплины	Всего (часы)	в том числе			
		Контактная работа (работа во взаимодействии с преподавателем), часы из них			Самостоятельная работа обучающегося, часы
		Занятия лекционного типа	Занятия семинарского типа (практические занятия/лабораторные работы), часы	Всего	
	0 Ф 0	0 Ф 0	0 Ф 0	0 Ф 0	0 Ф 0
Introduction	8	2	2	4	4
Osteology	60	16	12	28	32
Syndesmology	32	10	6	16	16
Colloquium Osteology, Syndesmology	2		2	2	
Myology	50	10	12	22	28

Colloquium Myology	2		2	2	
Splanchnology	76	18	16	34	42
Colloquium Splanchnology	2		2	2	
Cardioangiology	50	18	12	30	20
Colloquium Cardioangiology	6		6	6	
Neurology	62	18	14	32	30
Colloquium Neurology	6		6	6	
Аттестация	36				
КСР	4			4	
Итого	396	92	92	188	172

Contents of sections and topics of the discipline

Laboratory work is organized, including in the form of practical training, which involves the participation of students in the performance of certain elements of work related to future professional activities.

Practical training includes: working with anatomical preparations, including plates and dummies.

Laboratory work in the form of practical training takes 32 hours.

Practical training is aimed at the formation and development of:

- Practical skills in accordance with the profile of the OP: in conducting and presenting the results of fundamental and practical scientific research on topical issues in the field of human anatomy.

- OPK-2 competencies. It is able to identify and evaluate morphofunctional, physiological conditions and pathological processes in the human body, simulate pathological conditions in vivo and in vitro during biomedical research.

Current academic performance monitoring is implemented through laboratory-type classes, group and individual consultations.

4. Учебно-методическое обеспечение самостоятельной работы обучающихся

Самостоятельная работа обучающихся включает в себя подготовку к контрольным вопросам и заданиям для текущего контроля и промежуточной аттестации по итогам освоения дисциплины приведенным в п. 5.

Для обеспечения самостоятельной работы обучающихся используются:

Открытые онлайн-курсы МООС:

Рабочая тетрадь к семинарским и практическим занятиям по предмету "Нормальная анатомия" раздел "Нейрология" : учебно-методическое пособие / Е. В. Крылова, С. В. Копылова, Д. А. Данилова ; ННГУ им. Н. И. Лобачевского, Институт биологии и биомедицины, Кафедра физиологии и анатомии. - Нижний Новгород : Изд-во ННГУ, 2022. - 65 с. - Текст : электронный, Постоянная ссылка на документ: <http://e-lib.unn.ru/MegaPro/UserEntry?>

Action=FindDocs&ids=823931&idb=0.

Иные учебно-методические материалы:

Иные учебно-методические материалы: 1. Хомутов А.Е. Морфология внутренних органов человека. Методическое пособие. – Н. Новгород: ННГУ, 2002. Зарегистрировано в ФЭОР ННГУ 01.04.15. http://www.unn.ru/books/met_files/Splanch.doc.

Руководство к практическим занятиям по анатомии человека / Крылова Е. В., Копылова С. В., Николаев И. И., Данилова Д. А. - Нижний Новгород : ННГУ им. Н. И. Лобачевского, 2020. - 83 с. - Рекомендовано методической комиссией Института биологии и биомедицины для студентов ННГУ, обучающихся по направлению подготовки 06.03.01 Биология. - Библиогр.: доступна в карточке книги, на сайте ЭБС Лань. - Книга из коллекции ННГУ им. Н. И. Лобачевского - Медицина. Постоянная ссылка на документ:

<http://e-lib.unn.ru/MegaPro/UserEntry?Action=FindDocs&ids=709244&idb=0>

2. Хомутов А.Е., Крылова Е.В., Копылова С.В. Анатомия человека. Миология с основами биомеханики. Учебное пособие. Часть II. Зарегистрировано в ФЭОР ННГУ 01.04.15. Режим доступа: http://www.unn.ru/books/met_files/Miolog.doc.

3. Хомутов А.Е., Крылова Е.В., Копылова С.В. Анатомия человека. Нейрология. Учебное пособие. Часть V. Зарегистрировано в ФЭОР ННГУ 01.04.15. Режим доступа: http://www.unn.ru/books/met_files/Neuron.doc.

4. Руководство к практическим занятиям по анатомии человека / Крылова Е. В., Копылова С. В., Николаев И. И., Данилова Д. А. - Нижний Новгород : ННГУ им. Н. И. Лобачевского, 2020. - 83 с. - Рекомендовано методической комиссией Института биологии и биомедицины для студентов ННГУ, обучающихся по направлению подготовки 06.03.01 Биология. - Библиогр.: доступна в карточке книги, на сайте ЭБС Лань. - Книга из коллекции ННГУ им. Н. И. Лобачевского - Медицина. Постоянная ссылка на документ:

<http://e-lib.unn.ru/MegaPro/UserEntry?Action=FindDocs&ids=709244&idb=0>

5. Рабочая тетрадь к семинарским и практическим занятиям по предмету "Нормальная анатомия" раздел "Нейрология" : учебно-методическое пособие / Е. В. Крылова, С. В. Копылова, Д. А. Данилова ; ННГУ им. Н. И. Лобачевского, Институт биологии и биомедицины, Кафедра физиологии и анатомии. - Нижний Новгород : Изд-во ННГУ, 2022. - 65 с. - Текст : электронный. Постоянная ссылка на документ: <http://e-lib.unn.ru/MegaPro/UserEntry?Action=FindDocs&ids=823931&idb=0>

5. Assessment tools for ongoing monitoring of learning progress and interim certification in the discipline (module)

5.1 Model assignments required for assessment of learning outcomes during the ongoing monitoring of learning progress with the criteria for their assessment:

5.1.1 Model assignments (assessment tool - Colloquium) to assess the development of the competency ОПК-10:

Colloquium "Osteology"

1. Bone as an organ.*

2. External structure and shape of bones. Classification of bones.**

3. The spinal column as a whole.*

4. The structure of the vertebrae. Neck department. Thoracic department. Lumbar. Sacrum. Coccyx. The chest as a whole.**

5. The structure of the ribs. Rib classification. True ribs. False ribs. Fluctuating edges.*

6. Sternum.*

7. Bones of the brain skull.**

8. Bones of the facial skull. Upper jaw.*

9. Topography of the bones of the skull.**

10. Continuous connections of bones*

11. Discontinuous connections of bones*

12. Classification of joints*

Colloquium "Miology"*

1. The structure of striated muscle fibers.**

2. Classification of muscles.*

3. Auxiliary apparatus of muscles.*

4. Abdominal muscles.*

5. Muscles of the back.*

6. Muscles of the chest.*

7. Muscles of the head.*

8. Muscles of the neck.**

9. Muscles of the upper limbs.*

10. Muscles of the lower extremities.*

11. Functional groups of muscles.*

Colloquium "Angiology"

1. General characteristics of the cardiovascular system. arteries. Veins. capillaries. Anastomoses.**

2. Heart. Topography of the heart. The structure of the wall of the heart.**

3. Conducting system of the heart.*
4. Small circle of blood circulation.*
5. Arteries of the great circle. Aorta. coronary arteries.*
6. Arteries of the aortic arch.*
7. Arteries of the internal carotid artery*
8. Arteries of the external carotid artery.*
9. Arteries of the abdominal aorta.*
10. Veins of the systemic circulation.*
11. Inferior vena cava.*
12. Portal vein.*
13. Superficial veins of the lower limb.*
14. Deep veins of the lower limb.*

Colloquium "Splanchnology"*

1. Oral cavity.**
2. Throat. Esophagus.*
3. Abdominal cavity. Stomach. Topography of the stomach. The structure of the wall of the stomach.**
4. Small intestine. Topography of the small intestine.*
5. Duodenum.**
6. The jejunum.*
7. Ileum.*
8. Liver. Topography of the liver. Gallbladder. Bile ducts.**
9. Pancreas. Topography of the pancreas. ducts.**
10. Large intestine. Features of the structure of the muscular membrane. Topography of the large intestine.*
11. Cecum. Appendix. Colon. Sigmoid colon. Rectum. Sphincters of the rectum.***
12. General characteristics of the respiratory system. Departments of the respiratory system.*
13. External nose. nasal cavity.*

14. Larynx. Topography of the larynx. Cartilages of the larynx.*
15. Trachea. main bronchi.*
16. Bronchial tree.*
17. Lung lobes. Lung segments. Pleura. Pleural cavity.*
18. General characteristics of the excretory system. urinary system. urinary organs.*
19. Kidney. Topography of the kidney. External building. Internal structure.***
20. Ureter. Bladder. Urethra.*
21. Male reproductive system. Testicular topography, epididymis, vas deferens, spermatic cord, seminal gland, prostate, bulbourethral gland. Penis, scrotum.***
22. Female reproductive system. Topography of the uterus, fallopian tubes, ovaries, vagina. Large and small labia, clitoris.*

Colloquium "Neurology"

1. General characteristics of the nervous system.*
2. Types of the nervous system.*
3. Neuron. Classification of neurons.*
4. Synapse. Synapse classification.
5. Spinal cord. Topography of the spinal cord.*
6. White matter. Gray matter. Roots of the spinal cord.*
7. Pathways of the spinal cord.*
8. General characteristics of the brain.*
9. Medulla oblongata. Pons.*
10. Cerebellum. fourth ventricle.*
11. Midbrain.*
12. Forebrain. Diencephalon.**
14. Thalamus. thalamus nuclei.*
15. Metathalamus. Epithalamus. Hypothalamus. gray mound*
16. Pituitary. The hypothalamic-pituitary system. Third ventricle.**

17. telencephalon. Olfactory brain.**
19. The cerebral cortex. Cytoarchitectonics of the cortex. Lateral ventricles.*
20. Cranial nerves. General characteristics.*
21. Spinal segment. The structure of the reflex arc.**
22. Specific nuclei of the thalamus. nonspecific nuclei.*
23. Pathways of the brain*
24. Autonomic (vegetative) nervous system.*

5.1.2 Model assignments (assessment tool - Colloquium) to assess the development of the competency OPIK-5:

Colloquium Splanchnology

Anatomy*

1. Digestive system, pharynx
2. Respiratory system, acinus, alveoli
3. Urinary system, right kidney
4. Reproductive system, uterus

Colloquium Splanchnology*

Anatomy

1. Digestive system, jejunum
2. Respiratory system, right lung
3. Urinary system, nephron
4. Reproductive system, epididymis

Colloquium cardiovascular system

Anatomy**

1. Anatomy of the heart, systemic circulation
2. Anatomy of the descending aorta in the thoracic region, its branches
3. Vessels of the abdominal cavity, branches of the inferior mesenteric artery

Colloquium cardiovascular system

Anatomy**

1. Anatomy of the heart, the structure of the right atrium
2. Anatomy of the internal carotid artery, its branches
3. Vessels of the abdominal cavity, branches of the external iliac artery

Colloquium cardiovascular system*

Anatomy

1. Anatomy of the heart, the structure of the left atrium
2. Vessels of the neck, subclavian artery, its branches
3. Vessels of the abdominal region, arteries of the abdominal wall of the abdomen

Assessment criteria (assessment tool — Colloquium)

Grade	Assessment criteria
outstanding	All competencies (parts of competencies) aimed at the formation of which the discipline is aimed at are formed at a level not lower than "excellent", knowledge, skills, and proficiency in relevant competencies are demonstrated at a level higher than stipulated by the program.
excellent	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "excellent", while at least one competence is formed at the "excellent" level
very good	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "very good", while at least one competence is formed at the "very good" level
good	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "good", while at least one competence is formed at the "good" level
satisfactory	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "satisfactory", while at least one competence is formed at the

Grade	Assessment criteria
	"satisfactory" level
unsatisfactory	At least one competence has been formed at the "unsatisfactory" level, none of the competencies has been formed at the "poor" level
poor	At least one competence is formed at the level of "poorly", does not speak, does not know how, does not know the topic of the conducted colloquium

5.1.3 Model assignments (assessment tool - Control work) to assess the development of the competency ОПК-10:

Test 1*

1. What is the general structural plan of the digestive tract wall? Describe its layers.
2. How do the serosa and adventitia differ?
3. What is the function of the esophagus?

Test2 **

1. Which vessels in the intestinal mucosa are responsible for absorption and transport of proteins, carbohydrates, and lipids?
2. How does the jejunum differ from the ileum? Is there a border between these parts of the small intestine?
3. What is the Meckle's diverticulum?

Test3*

1. What is the length of the large intestine?
2. Name the parts of the large intestine and specify the regions of the abdomen, which these parts correspond to.
3. What features help to distinguish the colon from the small intestine by its appearance?

Test4**

1. Name the parts of the gallbladder, specify its volume.
2. Specify the projection of the gallbladder on the abdominal wall.
3. Describe the tunics of the gallbladder wall

Test5**

1. What do the terms —anteflexio and —retroflexio mean? How does the position of the uterus change with filling of the bladder?
2. The woman was delivered to the emergency room with the internal bleeding and suspected ectopic pregnancy. In which part of the peritoneal cavity would blood accumulate? Through which part of the vagina could the diagnostic puncture be performed?
3. During hysterectomy for the uterine cervix cancer the surgeon first ligated and then cut the uterine artery. What organ could be damaged during these manipulations?

5.1.4 Model assignments (assessment tool - Control work) to assess the development of the competency ОПК-5:

Test1 *

1. List the internal female genitalia and outline their functions.
2. Describe the topography of the ovary and relationships with the peritoneum.
3. Name the borders, surfaces, extremities of the ovary, and ovarian ligaments

Test2**

1. What is the vaginal fornix, where is it the deepest?
2. What are the boundaries of the pudendal cleft, vestibule?
3. What is the erectile tissue of female vulva?

Test3**

1. Pharynx: structure of the wall. Pharyngeal lymphoid ring.
2. Esophagus: topography, structure, constrictions, functions.
3. Stomach: topography, parts, functions.

Test4 **

1. Kidneys: topography, fixation, external structure/
2. Urinary bladder: topography, structure, sex differences.
3. Male urethra: topography, parts, structure. Female urethra.

Test5**

1. Describe the skeleton of the right and left kidneys.
2. What is the direction of the kidneys longitudinal axes in norm?
3. Describe the position of the right and left kidneys

Assessment criteria (assessment tool — Control work)

Grade	Assessment criteria
outstanding	All competencies (parts of competencies) aimed at the formation of which the discipline is aimed at are formed at a level not lower than "excellent", knowledge, skills, and proficiency in relevant competencies are demonstrated at a level higher than stipulated by the program.
excellent	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "excellent", while at least one competence is formed at the "excellent" level
very good	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "very good", while at least one competence is formed at the "very good"

Grade	Assessment criteria
	level
good	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "good", while at least one competence is formed at the "good" level
satisfactory	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "satisfactory", while at least one competence is formed at the "satisfactory" level
unsatisfactory	At least one competence has been formed at the "unsatisfactory" level, none of the competencies has been formed at the "poor" level
poor	At least one competence is formed at the level of "poorly", does not speak, does not know how, does not know the topic of the conducted colloquium

5.2. Description of scales for assessing learning outcomes in the discipline during interim certification

Шкала оценивания сформированности компетенций

Уровень сформированности компетенций (индикатор достижения компетенций)	плохо	неудовлетворительно	удовлетворительно	хорошо	очень хорошо	отлично	превосходно
	не зачтено			зачтено			
<u>Знания</u>	Отсутствие знаний теоретического материала. Невозможность оценить полноту знаний вследствие отказа обучающегося от ответа	Уровень знаний ниже минимальных требований. Имели место грубые ошибки	Минимально допустимый уровень знаний. Допущено много негрубых ошибок	Уровень знаний в объеме, соответствующем программе подготовки. Допущено несколько негрубых ошибок	Уровень знаний в объеме, соответствующем программе подготовки. Допущено несколько несущественных ошибок	Уровень знаний в объеме, соответствующем программе подготовки. Ошибок нет.	Уровень знаний в объеме, превышающем программу подготовки.
<u>Умения</u>	Отсутствие минимальных умений. Невозможность оценить наличие умений вследствие отказа обучающегося от ответа	При решении стандартных задач не продемонстрированы основные умения. Имели место грубые ошибки	Продemonстрированы основные умения. Решены типовые задачи с негрубыми ошибками. Выполнены все задания, но не в	Продemonстрированы все основные умения. Решены все основные задачи с негрубыми ошибками. Выполнены все задания в полном	Продemonстрированы все основные умения. Решены все основные задачи. Выполнены все задания в полном объеме, но некоторые	Продemonстрированы все основные умения. Решены все основные задачи с отдельными несущественными	Продemonстрированы все основные умения. Решены все основные задачи. Выполнены все задания, в полном объеме без недочетов

			полном объеме	объеме, но некоторые с недочетами	с недочетами	недочетам и, выполнены все задания в полном объеме	
<u>Навыки</u>	Отсутствие базовых навыков. Невозможность оценить наличие навыков вследствие отказа обучающегося от ответа	При решении стандартных задач не продемонстрированы базовые навыки. Имели место грубые ошибки	Имеется минимальный набор навыков для решения стандартных задач с некоторым и недочетами	Продемонстрированы базовые навыки при решении стандартных задач с некоторым и недочетами	Продемонстрированы базовые навыки при решении стандартных задач без ошибок и недочетов	Продемонстрированы навыки при решении нестандартных задач без ошибок и недочетов	Продемонстрирован творческий подход к решению нестандартных задач

Scale of assessment for interim certification

Grade		Assessment criteria
pass	outstanding	All the competencies (parts of competencies) to be developed within the discipline have been developed at a level no lower than "outstanding", the knowledge and skills for the relevant competencies have been demonstrated at a level higher than the one set out in the programme.
	excellent	All the competencies (parts of competencies) to be developed within the discipline have been developed at a level no lower than "excellent",
	very good	All the competencies (parts of competencies) to be developed within the discipline have been developed at a level no lower than "very good",
	good	All the competencies (parts of competencies) to be developed within the discipline have been developed at a level no lower than "good",
	satisfactory	All the competencies (parts of competencies) to be developed within the discipline have been developed at a level no lower than "satisfactory", with at least one competency developed at the "satisfactory" level.
fail	unsatisfactory	At least one competency has been developed at the "unsatisfactory" level.
	poor	At least one competency has been developed at the "poor" level.

5.3 Model control assignments or other materials required to assess learning outcomes during the interim certification with the criteria for their assessment:

5.3.1 Model assignments (assessment tool - Control questions) to assess the development of the competency ОПК-10

Test 1*

1. Bone as an organ. Structural and functional connective tissue unit. Cervical vertebra anatomy.
2. Superficial back muscles.

Test 2**

1. Bone as an organ. Structural Functional Unit of the bone. Anatomy of the thoracic vertebrae.
2. Deep back muscles/

Test 3***

1. The external structure and shape of the bones. Anatomy of the lumbar vertebrae.
2. Superficial chest muscles/

Test 4*

1. Bone as an organ. Bones classification. Scapular anatomy.
2. Mimic muscles.

Test 5*

1. Bones of the free upper limb. Humerus anatomy.
2. Medial back muscle group.

5.3.2 Model assignments (assessment tool - Control questions) to assess the development of the competency ОПК-5

Test 1 *

1. Bone as an organ. bone tissue. Clavicle and Sternum Anatomy.
2. The second layer of back muscles.

Test 2 **

1. Bones of the free upper limb. Humerus anatomy.
2. Superficial muscles of the back.

Test 3 **

1. Bones of the free lower limb. Anatomy of the foot bones.
2. Deep group of back muscles/

Test 4 *

1. The bones of the brain skull (neurocranium). Basis cranii externa - fossa, foramen, canalis.
2. Muscles of the anterior abdominal wall.

Test 5 **

1. Bone as an organ. Bones classification. Anatomy of the bones of the face.
2. The second layer of back muscles.

Assessment criteria (assessment tool — Control questions)

Grade	Assessment criteria
pass	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "excellent", knowledge, skills, and proficiency in relevant competencies are

Grade	Assessment criteria
	demonstrated at a level higher than stipulated by the program. All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "excellent". All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "very good". All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "good". All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "satisfactory", while at least one competence is formed at the level of "satisfactory".
fail	At least one competence has been formed at the "unsatisfactory" level. At least one competence is formed at the "bad" level

5.3.3 Model assignments (assessment tool - Control questions) to assess the development of the competency ОПК-10

Test 1*

1. Osteology. Functions of the skeletal system. Structure and function of bone. classification of bones.
2. Angiology. Anatomy of the heart.
3. Peripheral nervous system. The spinal nerves.

TEST 2*

1. Osteology. Structure and function of bone.). Characteristics of thoracic, lumbar, sacral, coccygeal regions.
2. Angiology. Anatomy of the pericardium.
3. Central nervous system. Functions of the nervous system. Anatomy of the brain, cortex cerebrum, lobes frontalis.

TEST 3*

1. The skeletal system: the axial skeleton. The vertebral column, cervical vertebrae, the atlas (C1), the axis (C2), vertebra prominence (C7).
2. Splanchnology. Anatomy of the Digestive system, Anatomy of the pharynx.
3. Central nervous system. Functions of the nervous system. Anatomy of the brain, cortex cerebrum, lobes occipitalis.

TEST 4*

1. Introduction to anatomy. specific terms of anatomy. The thoracic cage, anatomy of the ribs.
2. Splanchnology. Anatomy of the Digestive system, anatomy of the esophagus.
3. Features of the structure of the nervous tissue. Anatomy of the brain, cortex cerebrum.

TEST 5*

1. Gross anatomy, microscopic anatomy, other anatomical specialties. Regions of the vertebral column. spinal curves. Anatomy of the sternum.
2. Splanchnology. Anatomy of the Digestive system, anatomy of the stomach.
3. A neuron is a structural and functional unit of the nervous system. Central and peripheral parts of the nervous system.

5.3.4 Model assignments (assessment tool - Control questions) to assess the development of the competency ОПК-5

Card 1**

1. An introduction to anatomy, Sectional planes and axes of the body. Anatomy of the shoulder girdle (the scapula, the clavicle).
2. Digestive system, anatomy of the peritoneum.
3. Anatomy of the brain, the cerebrum.

Card 2**

1. Osteology. Anatomy of the bones of the hand.
2. Digestive system. Anatomy of the large intestine.
3. A neuron is a structural and functional unit of the nervous system. Central nervous system. Anatomy of the midbrain.

Card 3**

1. Osteology. Functions of the skeletal system. Anatomy of the pelvic girdle.
2. Digestive system. Anatomy of the liver, structural and functional unit of the liver.
3. Central nervous system. Anatomy of the spinal cord.

Card 4**

1. The skeleton of the free lower limb. Anatomy of the femur.
2. Digestive system. Anatomy of the gallbladder and biliary ducts.
3. Central nervous system. Anatomy of the white and gray matter of the spinal cord.

Card5**

1. The skeleton of the free lower limb. Anatomy of the bones of foot.
2. Anatomy Respiratory system. Anatomy of the larynx.
3. Anatomy of the peripheral nervous system. Anatomy of the cranial nerves.

Assessment criteria (assessment tool — Control questions)

Grade	Assessment criteria
outstanding	All competencies (parts of competencies) aimed at the formation of which the discipline is aimed at are formed at a level not lower than "excellent", knowledge, skills, and proficiency in relevant competencies are demonstrated at a level higher than stipulated by the program.
excellent	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "excellent", while at least one competence is formed at the "excellent" level
very good	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "very good", while at least one competence is formed at the "very good"

Grade	Assessment criteria
	level
good	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "good", while at least one competence is formed at the "good" level
satisfactory	All competencies (parts of competencies) that the discipline is aimed at forming are formed at a level not lower than "satisfactory", while at least one competence is formed at the "satisfactory" level
unsatisfactory	At least one competence has been formed at the "unsatisfactory" level, none of the competencies has been formed at the "poor" level
poor	At least one competence is formed at the level of "poorly", does not speak, does not know how, does not know the topic

6. Учебно-методическое и информационное обеспечение дисциплины (модуля)

Основная литература:

1. Анатомия человека. Т. II. : учебник / Сапин М.Р.; Никитюк Д.Б.; Николенко В.Н.; Чава С.В. - Москва : ГЭОТАР-Медиа, 2012. - 456 с. - ISBN 978-5-9704-2239-7., <https://e-lib.unn.ru/MegaPro/UserEntry?Action=FindDocs&ids=838597&idb=0>.
2. Amit Gupta. The Grasping Hand : Structural and Functional Anatomy of the Hand and Upper Extremity. - Thieme Medical Publishing Inc., 2021. - 1 online resource. - ISBN 9781604068177. - ISBN 9781604068160. - Текст : электронный., <https://e-lib.unn.ru/MegaPro/UserEntry?Action=FindDocs&ids=856348&idb=0>.
3. Artifexova A. A. Pathological anatomy: clinical cases: study guide / Artifexova A. A., Tsybusov S. N. - Нижний Новгород : ННГУ им. Н. И. Лобачевского, 2022. - 81 с. - Книга из коллекции ННГУ им. Н. И. Лобачевского - Медицина., <https://e-lib.unn.ru/MegaPro/UserEntry?Action=FindDocs&ids=868016&idb=0>.
4. Textbook of Human Anatomy : монография / Kolesnikov L.L.; Nikitiuk D.B.; Klochkova S.V.; Stelnikova I.G. - Москва : ГЭОТАР-Медиа, 2019. - 288 с. - ISBN 978-5-9704-4986-8., <https://e-lib.unn.ru/MegaPro/UserEntry?Action=FindDocs&ids=735421&idb=0>.

Дополнительная литература:

1. Гайворонский И. В. Анатомия центральной нервной системы и органов чувств : учебник / И. В. Гайворонский, Г. И. Ничипорук, А. И. Гайворонский. - Москва : Юрайт, 2023. - 293 с. - (Высшее образование). - ISBN 978-5-534-00325-3. - Текст : электронный // ЭБС "Юрайт"., <https://e-lib.unn.ru/MegaPro/UserEntry?Action=FindDocs&ids=840631&idb=0>.
2. Filippova E. O. Anatomy and physiology of the eye (with clinical correlation): a textbook / Filippova E. O., Gorbunova E. A., Krivosheina O. I. - Томск : СибГМУ, 2023. - 78 с. - Книга из коллекции

Программное обеспечение и Интернет-ресурсы (в соответствии с содержанием дисциплины):

1. Электронные библиотеки (Znaniium.com, «ЭБС Консультант студента», «Лань»)
2. Научная российская электронная библиотека elibrary.ru
3. Научноёмкие базы данных Scopus, Web of Science, BioMed Central
4. Периодика онлайн (Elsevier, Springer)
5. DOAJ-Direktory of Open Access Journals
6. HighWirePress
7. PLOS-Publik Library of Science

7. Материально-техническое обеспечение дисциплины (модуля)

Учебные аудитории для проведения учебных занятий, предусмотренных образовательной программой, оснащены мультимедийным оборудованием (проектор, экран), техническими средствами обучения.

Помещения для самостоятельной работы обучающихся оснащены компьютерной техникой с возможностью подключения к сети "Интернет" и обеспечены доступом в электронную информационно-образовательную среду.

Программа составлена в соответствии с требованиями ФГОС ВО по направлению подготовки/специальности 31.05.01 - General Medicine.

Авторы: Николаев Илья Иванович, кандидат медицинских наук.

Заведующий кафедрой: Дерюгина Анна Вячеславовна, доктор биологических наук.

Программа одобрена на заседании методической комиссии от 28 ноября 2024, протокол № №9.