


<p>             ОҢТҮСТІК ҚАЗАҚСТАН  <b>MEDISINA</b>  <b>AKADEMIASY</b>              «Оңтүстік Қазақстан медицина академиясы» АҚ           </p>		<p>              SOUTH KAZAKHSTAN  <b>MEDICAL</b>  <b>ACADEMY</b>              АО «Южно-Казахстанская медицинская академия»           </p>
Department of "Topographic anatomy and histology"		52-11
Methodological guidelines for independent work of students "The normal nervous system and sense organs and vision"		Page.1 of 20

## METHODOLOGICAL GUIDELINES FOR INDEPENDENT WORK OF STUDENTS

Discipline: "The normal nervous system and sense organs and vision"

Discipline code: NNSSOV 2206


Name and code of the OP: 6B10115 – "Medicine"

Amount of study hours/credits: 30/1

Course and semester of study: 2/3

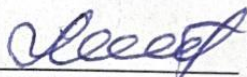
The amount of independent work: 3/17 hours


Shymkent, 2024

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Methodological guidelines for independent work of students were developed in accordance with the working curriculum of the discipline (syllabus) "The normal nervous system and sense organs and vision" and discussed at a meeting of the department of "Topographic anatomy and histology"

Protocol No. 1 from "03" 09 2024

Head of the department, c.m.s., acting professor  Murzanova D.A.

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## Lesson No. 1

### 1. Topic: Vegetative ganglia.

### 2. Purpose:

- \* To understand the structural features of the vegetative ganglia..
- Have an understanding of nerve cells and autonomic ganglia

### 3. Tasks

- Features of the structure of the autonomic nervous system
- Concepts of the sympathetic and parasympathetic parts


### 4. Form of execution/evaluation: checklist for SIW assessment

### 5. Performance criteria: work in small groups, protection of the presentation of micro-products, microphotographs, compilation of a glossary.

Form of control	Evaluation	Evaluation criteria
Completing test tasks	Perfectly Matches the scores: 95-100; 90-94	90-100% correct answers
Completing test tasks	Well Corresponds to the points: 85-89; 80-84; 75-79; 70-74	75-89% correct answers
	Satisfactory Corresponds to the points: 65-69; 60-64; 50-54	50-74% correct answers
	Unsatisfactorily Corresponds to scores 0-49	Less than 50% correct answers

Preparation of the presentation


Form of control	Evaluation	Evaluation criteria
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Preparation and protection of the presentation	Great Corresponds to the points:95-100; 90-94	The presentation was made independently, at the appointed time, with a volume of at least 15-20 slides. At least 5 literary sources have been used. The slides are informative and concise. During the defense, the author demonstrates in-depth knowledge of the topic. Does not make mistakes when answering questions during the discussion.
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Compiling a glossary

Form of control	Evaluation	Evaluation criteria

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Compiling a glossary	<p style="text-align: center;">Great</p> <p style="text-align: center;">Corresponds to the points:95-100; 90-94</p>	The student compiled a glossary on the topic at the appointed time, independently, accurately, without errors, with a volume of at least 20 words, correctly formulated the concepts.
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	<p style="text-align: center;">Unsatisfactorily</p> <p style="text-align: center;">Corresponds to scores 0-49</p>	The student did not compile a glossary on the topic at the appointed time, or left it at the appointed time, but not thoroughly, carelessly, with a volume of less than 20 words on the topic, made gross mistakes when compiling the glossary.

### Solving situational problems

Form of control	Evaluation	Evaluation criteria
Solving situational problems	<p style="text-align: center;">Great</p> <p style="text-align: center;">Corresponds to the points:95-100; 90-94</p>	He actively participated in the work, showed original thinking, showed deep knowledge of the material, and used scientific achievements of other disciplines in the discussion.
	<p style="text-align: center;">Well</p> <p style="text-align: center;">Corresponds to the points: 85-89; 80-84; 75-</p>	He actively participated in the work, showed knowledge of the material, admitted unprincipled inaccuracies or errors corrected by the student himself.

	79; 70-74	
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**6. Deadlines:** according to the schedule of the schedule

## **7. Literature:**

### **Main literature**


1. Inderbir Singh. Textbook of Human Histology. With Color Atlas and Practical Guide/8 th Edition. Jaypee Brothers Medical Publishers .2016.-302 p. Перевод Гистология человека
2. Dudek Ronald W. Embryology / Ronald W. Dudek. - 5th ed. - [s. l.] : Wolters Kluwer, 2014. - 158 p. Перевод заглавия: Эмбриология
3. Gartner Leslie P. Cell Biology and Histology / Leslie P. Gartner. - 8th ed. - [s. l.] : Wolters Kluwer, 2019. - 436 p. - (BRS. Board Review Series) Перевод заглавия: Клеточная биология и гистология

### **Additional literature**

Textbook of Human Histology. Inderbir Singh /Sixth Edition/Inderbir Singh 2010.- 386 p.  
Перевод Учебник по гистологии человека

### **Electronic publications**

1. ATLAS OF HISTOLOGY with Functional Correlations. Thirteenth Edition, Wolters Kluwer. 2017.- 1102 p.
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3. Textbook of Human Histology. With Color Atlas and Practical Guide/8th Edition. Jaypee Brothers Medical Publishers .2011.-386 p.

4. USMLE Step 1. Lecture Notes 2018. by Kaplan. 2018.-425 p/

5. Zhumabayeva, S.E., Boken, T.S.

Cytology and histology : Educational-methodical complex. . - Kokshetau: KGU, 2017. - 101 p. <http://rmebrk.kz/>

6. Бородулина, О.В. Цитология и гистология – Cytology and histology : Практикум. / Костанайский гос. педагогический университет им. У. Султангазина. - Костанай: КГПУ им. У. Султангазина, 2020. - 100 с. - <http://rmebrk.kz/>

## 8. Control:

Where are the parasympathetic and sympathetic nuclei?


1. The main difference in the structure of the vegetative and somatic systems.
2. Which vegetative fibers are called preganglionic and postganglionic?
3. What are the centers of the sympathetic system represented by
4. Preganglionic sympathetic fibers: where do they come from, where do they go?
5. Where are the sympathetic nodes?
6. Sympathetic trunk: where is the trunk located, what does it consist of?
7. Postganglionic sympathetic fibers: where do they come from, what do they form near the vessels?

## Lesson No. 2

**1. Topic: Features of the organization of somatic and vegetative reflex arcs.**

**2. Purpose:**

- To understand the peculiarities of the organization of the somatic reflex arc.

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- To understand the peculiarities of the organization of the autonomic reflex arc.
- Simple and complex reflex arc.

### 3. Tasks

- principles of the multifunctional organization of the autonomous nervous system, histological and functional features of its departments, the relationship with the organization of somatic and autonomic reflex arcs.

#### 4. Form of execution/evaluation: checklist for SIW assessment

**5. Performance criteria:** work in small groups, protection of the presentation of micro-products, microphotographs, compilation of a glossary.

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Preparation of the presentation


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### Compiling a glossary

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### Solving situational problems

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**6. Deadlines:** according to the schedule of the schedule

## **7. Literature:**

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6. Бородулина, О.В. Цитология и гистология – Cytology and histology :  
Практикум. / Костанайский гос. педагогический университет им. У.  
Султангазина. - Костанай: КГПУ им.У.Султангазина, 2020. - 100 с. -  
<http://rmebrk.kz/>

## 8. Control:

1. What does the nervous system include?
2. What applies to the central and peripheral nervous system?
3. What is the gray and white brain matter?
4. Basic data on the structure of the nerve.
5. What are the functions of nerve fibers distinguished?
6. What are the functions of the three types of nerves?
7. What is included in the three-neuron reflex arc?
8. Where are the neurons of the three-neuron arc of the somatic reflex?
9. Where are the neurons of the three-neuron arch of the autonomic reflex located?

## Lesson No. 3


**1. Topic: Receptor cells of the visual organ and mechanisms of photoreception.**

### 2. Purpose:

- To understand the features of the receptor cells of the organ of vision
- Have an idea of the mechanism of photoreception.

### 3. Tasks

1. The components of the organ of vision

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2.The shells of the eye

3. The inner core of the eyeball

4.Functional devices of the eyeball

5.Viewing the drug

6. Eye development

**4.Form of execution/evaluation:** checklist for SIW assessment

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### Compiling a glossary

Form of control	Evaluation	Evaluation criteria
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### Solving situational problems

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<p>             ОҢТҮСТІК ҚАЗАҚСТАН  <b>MEDISINA</b>  <b>AKADEMIASY</b>              «Оңтүстік Қазақстан медицина академиясы» АҚ           </p>		<p>              SOUTH KAZAKHSTAN  <b>MEDICAL</b>  <b>ACADEMY</b>              АО «Южно-Казахстанская медицинская академия»           </p>
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## 8. Control:

1. What are the main properties of the cornea?
2. What is the histological structure of the cornea?
3. What is the peculiarity of corneal nutrition?
4. What structures form the anterior chamber of the eyeball?
5. What is the role of the front camera angle?
6. Where is the lens located?