

**Ministry of Health of Ukraine**  
**Bogomolets National Medical University**  
**DEPARTMENT OF OPHTHALMOLOGY**

**“Approved”**  
at the meeting of  
the Department of Ophthalmology  
protocol No.1  
from “01” September 2025

Head of the Department,  
Doctor of Medicine, Professor  
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**GUIDELINES**  
**for independent work of students**  
**For the lesson "Refraction and accommodation"**

Academic discipline "Ophthalmology"  
**Educational level** second "Master"  
**Field of knowledge** 22 "Healthcare"  
**Specialty** 222 "Medicine"

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**Kyiv – 2025**

2. The subject of the lesson "**Refraction and accommodation**".

3. Competencies .

After studying the topic, students should **know:** types of clinical refraction; methods of determining clinical refraction; methods of correction of refraction anomalies; clinic and complications of myopia and hypermetropia ; astigmatism, its types; accommodation, its age-related changes; **to be able to:** determine the type of eye lens of the patient; provide sanitary and hygienic recommendations for the prevention of myopia.

4. Didactic goal - expansion, deepening and detailing of scientific knowledge obtained by students at lectures and in the process of independent work and aimed at increasing the level of assimilation of educational material, instilling skills and abilities, development of scientific thinking and oral speech of students.

5. Number of classroom hours: 1.25 hours.

6. Equipment: tables, drawings, video, Golovin'-Sivtsev' table, Roth' apparatus, set of optical lenses, set of skiascopic rulers, table lamp, mirror ophthalmoscope, disinfecting means for treating hands.

### Lesson plan:

No	The name of the stage	Description of the stage	Levels of learning	Time
1.	<b>Preparatory (15%).</b> Methodological support materials: questions, problems of the II level, written theoretical tasks, tests of the II level.	1) Organization of the lesson. 2) Setting educational goals, motivation of the topic. 3) Control of the initial level of knowledge, skills, abilities: 1) features of the optical system of the eye; 2) clinical refraction, its types; 3) clinical refraction research methods; 4) clinic and complications of myopia and hypermetropia ; 6) methods of correction of refraction anomalies; 7) astigmatism, its types, correction; 8) accommodation, its age-related changes, correction of presbyopia .	II	8 min.

2.	<b>Basic (65%).</b> Methodological support materials: atypical tasks in the forms: patients, case histories, textual situational tasks, business game; algorithms of formation of professional skills.	1. Formation of professional skills and abilities: 1) master the skills of objective examination ; 2) justify the diagnosis based on the results of the study; 3) conduct the patient's treatment, substantiate and make a clinical diagnosis, prescribe treatment.	III	37 min.
3.	<b>Final (20%).</b> Methodological support materials: textual situational problems, level III tests, results of examination of patients (medical histories); indicative map of independent work with literature.	1. Control and correction of the level of professional skills and abilities. 2. Discussion of the results of the curation of patients. 3. Summary of the lesson (theoretical, practical, organizational). 4. Homework: educational literature on the topic (main, additional).	III	11 min.

## 7. Recommended literature:

### Basic

1. Zhaboyedov G.D., Kireev V.V. Ophthalmology: practicum: educational guide. - K.: VSV "Medicine", 2013. - 280 p.
2. "Ophthalmology" textbook /OP Vitovska et al.; K.: " Medicine ", 2017. - 648 c.

### Auxiliary

1. Wills Clinic. Diagnosis and treatment of eye diseases / Ed. Douglas Cullom and Benjamin Chang - Lviv: Medicine of the World, 2019. - 504 p.
2. Augusta Azuara-Blanco and others. Glaucoma terminology and guidelines. 5th edition. – 2021, 170 p.
3. Wenger G.Yu., Soldatova A.M., Wenger L.V. Ophthalmology. Course of lectures. – 2010., 180 p.
4. Zavhorodnia N.G., Sarzhevska L.E., Ivakhnenko O.M. etc. Anatomy of the eye. Research methods in ophthalmology: teaching. manual for medical students. facts. - Zaporizhzhia, 2017. - 76 p.