Abstract
to the article "Educational and methodical complex on optics"

The educational and methodological complex on General Physics Course – Part IV Optics (EMCO) has been developed. The structure of EMCO was formed in accordance with the requirements of the credit-modular system of organization of the educational process, and so that it can change on demand.

EMCO consists of 27 chapters, which include all the components of the educational and methodological support for the study of this discipline.

Chapter 1 of EMCO contains a general description of discipline (optics): the number of credits, content theoretical and practical modules, the name of the department for which discipline is assigned; last name, first name and patronymic of the lecturer who teaches this discipline, his/her academic degree, academic title, position, honorary titles, contact phone number, email address or personal website, scientific interests, etc. Chapter 2 provides a brief description (abstract) of optics, based on which the student will be able to imagine what kind of science he/she will study and what it will give him/her in terms of a future specialty. Chapter 3 (prerequisites) lists the disciplines that precede the study of optics and contains the knowledge, skills and abilities that are necessary for its successful study, and Chapter 4 (postrequisites) lists those disciplines for which knowledge, skills and abilities acquired in the study of optics are necessary. Chapter 5 sets out the purpose and objectives of the study of optics based on the content of the syllabus and educational program. The results of the study of optics (Chapter 6) are formulated as a list of specific knowledge, abilities and skills that a student will acquire after mastering optics, which is nothing more than the main subject competencies, which is the result of the study of this discipline. The definition of competence is also given here. Chapter 7 contains the syllabus on optics – the main scientific and theoretical document that determines the place and importance of optics in the implementation of educational and professional training of a student-physicist. Chapter 8 of EMCO is devoted to the subject of the course, which contains topics and main points of lectures, practical classes and seminars, topics of laboratory work and types of independent work of students. The number of hours for each form of work is also mentioned, and methodological instructions for the implementation of practical and laboratory work are given. Chapter 9 (academic calendar) lists all types of work that a student has to complete during the semester with specific deadlines for the assignment and submitting of projects and indicates the report form.

According to the syllabus, during the semester students studying optics have to complete two homework and two classroom tests, the tasks of which are given in Chapters 11-12 and 13-14 of EMCO, respectively. Methodological recommendations for independent homework are given in Chapter 10.

In Chapters 15 and 16, there are questions for conducting two theoretical content modules, which form tasks for the midterm control of students' knowledge, and in Chapter 20 there are questions for preparing the final control of knowledge (exam).

Chapter 17 is devoted to the materials of test control of students' knowledge of optics, which can be found in the electronic educational-methodical manual in Chapter 27. Chapter 18 of EMCO was called “rating tasks”, which are recommended to students (optional) to solve, in order to increase the rating throughout the semester. The list of abstract topics is in Chapter 19. Chapter 21 of EMCO contains lecture material, and Chapter 22 contains materials for practical classes that students are free to use. These chapters are the largest. Chapter 23 reflects the student knowledge assessment system, and Chapters 24 and 25, respectively, give the rules of the policy (rules of the game) of the course and the rules of academic behavior and ethics of participants in the educational process. Chapters 26 and 27 provide lists of recommended sources to assist the student in studying optics and electronic textbooks and manuals on optics, including the test book on optics, respectively.

“Glossary” of 124 terms and phrases is added to EMCO.