**The name of the academic discipline:**

**“Special Methods of Teaching Mathematics”**

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| **Specialty code and name** | 6-05-0113-04 Physical and Mathematical Education (Mathematics and Informatics) |
| **Year of study** | 2, 3, 4 |
| **Semester of study** | 4, 5, 6, 7 |
| **Number of in-class academic hours:** | 222 |
| **Lectures**  **Seminar classes**  **Practical classes**  **Laboratory classes** | 84 |
| - |
| 138 |
| - |
| **Form of the current assessment (*credit/ graded credit /exam*)** | exam / credit / exam / exam |
| **Number of credit points** | 12 |
| **Competences** | 1. Design the educational process, select methods, forms, technologies that correspond to educational goals and objectives, taking into account the student's personality orientation and the priority of educational work. Possess scientifically based methods for the formation of mathematical concepts, teaching the proof of mathematical statements and solving mathematical problems. |
| **Summary of the academic discipline:**  **Section 1.** Methods of Teaching Algebra at the 2nd Stage of General Secondary Education (4 semesters/2nd year). Characteristics of the content of the algebra course of the 2nd stage of general secondary education. Methods of studying numbers. Methods of studying identical transformations in grades 7-9. Methods of studying equations and inequalities in grades 7-9. Methods of studying functions in grades 7-9. Methods of teaching solving algebraic text problems in grades 7-9. Algebra lesson in grades 7-9.  **Section 2.** Methods of Teaching Geometry at the 2nd stage of general secondary education (5 semesters/3rd year). Characteristics of the content of the geometry course in grades 7-9. Methods of studying basic geometric concepts. Methods of studying triangles in grade 7. Methods of studying parallel lines. Methods of studying basic constructions with a compass and ruler. Methods of studying quadrilaterals. Methods of studying areas of figures. Methods of studying the similarity of figures. Methods of studying inscribed and circumscribed polygons. Methods of studying the relationships between the sides and angles of a triangle. Methods of studying regular polygons, the length of a circumference and the area of ​​a circle. Geometry lesson in grades VII-IX.  **Section 3.** Methods of teaching algebra and the basics of analysis at the III stage of general secondary education (6 semesters/3rd year). Characteristics of the content of the algebra course of the III stage of general secondary education. Methods of studying identical transformations in grades X-XI. Methods of studying equations and inequalities in grades X-XI. Methods of studying functions in grades X-XI. Methods of studying the derivative of a function in grades X-XI. Methods of studying the elements of combinatorics and probability theory. Methods of teaching problem solving in grades X-XI. Algebra lesson in grades X-XI.  **Section 4.** Methods of Teaching Geometry at the 3rd Stage of General Secondary Education (7 semesters/4th year). Characteristics of the Contents of the Geometry Course at the 3rd Stage of General Secondary Education. Methods of Studying the Axioms of Stereometry. Methods of Studying the Relative Position of Lines and Planes in Space. Methods of Studying Geometric Constructions in Space. Methods of Studying Coordinates and Vectors in Stereometry. Methods of Studying Polyhedra and Solids of Revolution. Methods of Studying Surface Areas and Volumes of Solids. Methods of Teaching Solving Stereometric Problems. Stereometry Lesson in Grades 10–11. | |