

## MATHEMATICAL MODELING AS A TOOL FOR DEVELOPING PROFESSIONAL COMPETENCIES

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**Abstract.** *Mathematics is a fundamental element of human knowledge and an integral part of every educational system. In the context of vocational education, its purposeful application gains particular importance, as it provides a solid foundation for acquiring specialized knowledge and practical skills. Modern professional fields require not only technical competence but also the ability to think logically, perform quantitative analysis, and make rational decisions – skills that are developed precisely through mathematical literacy.*

*Modern trends in vocational training emphasize the need for integrating theory and practice, as well as applying mathematical models to real professional problems. Mathematics is not confined to learning formulas and algorithms alone – it serves as a means of developing cognitive, analytical, and creative abilities. In this way, it fosters a systematic and reasoned approach to professional challenges and contributes to successful professional realization in the labor market.*

*The article presents the implementation of an extracurricular activity – the “Mathematical Modeling” club – aimed at enhancing the mathematical literacy of students majoring in Interior Design. Through a series of applied mathematics topics, the initiative stimulates the development of in-depth professional competencies by solving practical problems related to real professional practice.*

**Key words:** Vocational Education, Mathematical Competence, Applied Mathematics, Mathematical Modeling.

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