

Level: Undergraduate Vocational Studies in Optometry				
Course title: Materials in optics and lenses				
Status: obligatory				
ECTS: 4				
Requirements: none				
Learning objectives During the course, students should acquire knowledge of contemporary materials used for manufacturing glasses, contact lenses, frames and the knowledge of their characteristics. Another aspect of the course is to introduce the existing technology of manufacturing glasses and lenses.				
Learning outcomes After completing the course, students should have developed: - General skills: understanding the general aspects of materials science. - Course-specific skills: expert analysis of quality and application of material; distinguishing of products offered on the market based on acquired knowledge of their physical properties, understanding and following contemporary trends and new developments in technology of obtaining optical materials; broader understanding of the particular fields of science materials in optics and application of acquired knowledge for optimal choice of materials in optics, according to the needs and abilities of the patient.				
Syllabus <i>Theoretical instruction</i> Physical characteristics of materials with special reference to ophthalmic materials. Types of materials for spectacle lenses and manufacturing (glasses and plastics materials). Coatings for spectacle lenses: types, application, properties. Polymers and applications in optics. Filters. Types of spectacle lenses. Materials for spectacle frames. Materials for contact lenses: terms and their physical and physiological properties. <i>Practical instruction</i> Laboratory exercises aimed at investigating the optical and thermal properties of different ophthalmic materials.				
Weekly teaching load				Other:-
Lectures: 2	Exercises: 0	Other forms of teaching: 2	Student research: -	