

COURSE OUTLINE

(1) GENERAL

SCHOOL	HEALTH & CARE SCIENCES		
ACADEMIC UNIT	BIOMEDICAL SCIENCES		
DIVISION	OPTICS & OPTOMETRY		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	4031-4032	SEMESTER	4 th
COURSE TITLE	OPHTHALMIC LENSES DISPENSING I		
INDEPENDENT TEACHING ACTIVITIES		WEEKLY TEACHING HOURS	CREDITS
<i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>			
LECTURES & LABORATORY EXERCISES		4 (THEORY) + 3 (LAB)	7
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE	CSC - Compulsory Specialization Courses		
<i>general background, special background, specialised general knowledge, skills development</i>			
PREREQUISITE COURSES:	3062 OPTICAL MATERIALS OF OPHTHALMIC LENSES & HISTORY OF GLASS		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)			

(2) LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described. Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i>
<p>The aim of the course is the student's understanding of the basic concepts of Ophthalmic Lens Technology and techniques and methods of their application in the spectacle frames in daily practices in his professional career. Upon successful completion of the course the student will be able to: to understand basic concepts of Ophthalmic Lens Technology. Be familiar with problem solving and the application of Ophthalmic Lenses in a spectacle frame. To know ways of dealing with problems and exercises of understanding technological and scientific research methods in the subject of Ophthalmic Lens Technology. Understand the execution of corrective prescriptions.</p>

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information,
with the use of the necessary technology
Adapting to new situations
Decision-making
Working independently
Team work
Working in an international environment
Working in an interdisciplinary environment
Production of new research ideas

Project planning and management
Respect for difference and multiculturalism
Respect for the natural environment
Showing social, professional and ethical responsibility and sensitivity to gender issues
Criticism and self-criticism
Production of free, creative and inductive thinking
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Others...
.....

Working independently
Team work

(3) SYLLABUS

Introduction to the theory of ophthalmic lenses
Spherical lenses,
Lens Properties,
Spherical and astigmatic lenses,
Neutralization,
Measurement of power and curvature,
Refractive index,
Abbe number ratio and refractive index,
Conversions: spherical and toric, execution of spherical and spherical cylindrical recipe. Curvature - lens thickness
Optical laboratory equipment
Conversion applications: spherical and toric formulas,
Toric formulas conversion
Aspherical surface, aspherical lenses,
Anti-reflective-anti-scratch coatings.
Ophthalmic lens dyes,
Dispensing of refractive prescriptions.
Spectacles and ophthalmic lens materials
Pupillary Distance

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face In classroom	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Learning process support through the electronic platform e-class	
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i> <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	Activity	Semester workload
	Lectures,	52
	Laboratory practice	39
	Study and analysis of bibliography	89
	Course total	180
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i> <i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i>	I. Written final exam (50%) II. Laboratory work (50%)	

(5) ATTACHED BIBLIOGRAPHY

<p>- Suggested bibliography:</p> <p>Greek</p> <p>“Ophthalmic lens I”, Pateras Evangelos – Ion Publications, 2010, ISBN 978-960-697-039-9</p> <p>English</p> <ol style="list-style-type: none"> 1. Handbook of optics - sponsored by the Optical Society of America. - New York : McGraw-Hill, 1995-2001 2. Optics - M.H. Freeman. - Oxford: Butterworth-Heinemann, 1990 3. Schaum's outline of theory and problems of optics - by Eugene Hecht. - New York : McGraw-Hill, 1975 4. Fundamentals of optics - Francis A. Jenkins, Harvey E. White. - New York : McGraw-Hill, 1976 5. Modern optics - Robert D. Guenther. - New York ; Chichester : Wiley, 1990 6. Introduction to modern optics - by Grant R. Fowles. - New York : Dover Publications, 1989, 1975 7. Applied optics and optical design - A.E. Conrady ; [edited and completed by Rudolf Kingslake]. - New York : Dover, 1992
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8. Introduction to classical and modern optics - Jurgen R. Meyer-Arendt. - Englewood Cliffs, N.J. : Prentice Hall, 1995
9. Contemporary optics for scientists and engineers - Allen Nussbaum and Richard A. Phillips. - Englewood Cliffs, N.J.: Prentice-Hall, 1976
10. Introductory university optics - J. Beynon. - London ; New York : Prentice Hall, 1996
11. Introduction to optics - Frank L. Pedrotti, Leno S. Pedrotti. - Englewood Cliffs, N.J. : Prentice-Hall International, 1993
12. System for ophthalmic dispensing - Brooks, Clifford W. - Boston : Butterworth-Heinemann, 1979
13. The principles of ophthalmic lenses - Jalie, M. - London : The Association of British Dispensing Opticians, 1994