UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Physical Techniques For General Optometry 2

2122-2-E3002Q010-E3002Q028M

Aims

The broad objectives of this course are the following:

- enable students to understand the theoretical concepts of the neurophysiological mechanisms which rule the binocular visual system and their investigation through the most widely shared optometric techniques.

- provide the tools for a global assessment of data obtained from the optometric examination in order to recognize the visual problem and adopt an adequate corrective strategy.

Contents

Basics of binocular vision;

Vergence and accomodation evaluation through optometric tests;

Non-strabismic anomalies of binocular vision;

Accomodative anomalies;

Optometric examination: case history, analysis and prescription.

Detailed program

- Basics of binocular vision: motor and sensory fusion mechanisms, retinal correspondence, stereopsis and related tests.

- Preliminary tests

- Accomodation, Vergence, Phorias and AC/A Ratio;
- Functional tests performed in free space and with the phoropter to assess accomodation (amplitude, lag/lead, flexibility, negative and positive relative accomodation);
- Functional tests performed in free space and with the phoropter to assess vergence (amplitude, fusional reserves, flexibility);
- Fixation disparity

- Optometric analysis methods: visual graphic analysis, OEP analytical method, Morgan normative analysis, Fixation disparity, and Integrative Analysis
- Functional accomodative anomalies: classification, investigation and treatment.
- Non-strabismic anomalies of binocular vision: classification, investigation and treatment.
- Case history;

- Prescription guidelines;
- Presbyopia: description and corrective solutions;

Prerequisites

- Basic knowledge of ocular anatomy and physiology

- Basic knowledge of ophthalmic optics.

- Knowledge from the course "Tecniche Fisiche per l'Optometria Generale - I modulo".

Teaching form

Frontal lectures (in italian).

Textbook and teaching resource

- Borish’s Clinical Refraction, W. J. Benjamin, 2nd Edition, Elsevier

- Clinical Procedures in Primary Eye Care, David. B. Elliott, 4th Edition Elsevier

- Clinical Management of Binocular Vision: Heterophoric, Accommodative, and Eye Movement Disorders. M. Scheiman, B. Wick, 5th Edition. Wolters Kluwer

Semester

II year, II semester

Assessment method

Oral exam:

- clinical case discussion to assess problem-solving skills;

- questions on topics covered in the lectures to assess knowledge acquisition.

There are no midterm tests.

The final grade is obtained by the grade point average of the two marks achieved in each module of the course.

Office hours

Appointment needed: federica.cozza@unimib.it