



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### History and Techniques of Contemporary Optometry

2425-1-F1702Q002

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#### Aims

- ? Provide knowledge and skills on the historical evolution and operating principles of contemporary optometric investigation techniques
- ? Develop skills in using advanced instruments and technologies in the field of optometry and develop the ability to critically analyze collected data
- ? Develop the ability to produce, collect, organize, analyze, and critically interpret scientific literature
- ? Develop the ability to employ a clinical optometric approach based on scientific evidence
- ? Develop the ability to communicate and actively participate in group work

#### Contents

The course will cover:

- ? The historical evolution, operating principles, and use of some contemporary and advanced optometric investigation techniques
  - ? The production and analysis of the scientific literature with specific activities concerning contemporary and advanced optometric investigation techniques
  - ? The planning and design of optometric clinical studies.
- Further details are provided in the extended program.

#### Detailed program

1. HISTORICAL EVOLUTION, OPERATING PRINCIPLES, AND USE OF THE FOLLOWING OPTOMETRIC INVESTIGATION TECHNIQUES
  - ? Optical coherence tomography

- ? Ocular biometry
- ? Ocular aberrometry
- ? Tear film analysis

## 2. SCIENTIFIC LITERATURE

- ? types of scientific articles
- ? search and retrieval of the current literature
- ? citations and plagiarism detection
- ? new approaches based on artificial intelligence
- ? how to read, to write, and to peer-review a scientific paper

## 3. REVIEW OF THE SCIENTIFIC LITERATURE ON SPECIFIC TOPICS

The students will be divided into groups and will be asked to write, based on the contents of point 2, a short scientific article on a topic assigned to them by the lecturers concerning specific applications of the optometric investigation techniques listed in point 1. Each group will receive written comments (review) on the paper from the lecturers. Based on these comments, each student will need to revise individually his/her own article and provide written responses to the review comments. The revised written article and the responses will be sent to the lecturers at least three weeks before the date of the exam and will be presented and discussed individually during the final exam.

## 4. CLINICAL STUDY

- ? Clinical study designs
- ? sources of bias in research designs
- ? evidence-based practice

## Prerequisites

Basic knowledge of software for writing (e.g., Microsoft Office, downloadable at this link: <https://en.unimib.it/services/utilities/service-desk/campus-software>) and browsers (e.g., Google Chrome).

## Teaching form

The lectures are delivered in English.

The course includes:

- ? 14 hours of in-person lectures (videorecorded and made available on the course's e-learning platform)
- ? 7 hours of asynchronous online lectures
- ? 14 hours of asynchronous interactive online activities
- ? 6 hours of asynchronous interactive online activities in preparation for laboratory activities
- ? 6 hours of interactive in-person laboratory activities

## Textbook and teaching resource

- notes on the e-learning page provided by the lecturers
- papers taken from the scientific literature
- slides of the lectures

- videorecordings of the lectures

## **Semester**

first semester

## **Assessment method**

? Submission, at least three weeks before the date of the exam, of both the revised scientific article (revised individually by each student taking into account the lecturer's comments) and the responses point-by-point to the comments of the lecturer (see the Section "Detailed Program" for further details)

? Oral discussion on the revised scientific article to verify the ability to produce, collect, organize, analyze, and critically interpret scientific literature

? Written questions (closed answers) on the course syllabus for an extensive verification of the preparation on the course syllabus.

## **Office hours**

by appointment arranged by email

## **Sustainable Development Goals**

GOOD HEALTH AND WELL-BEING

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