UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

History and Techniques of Contemporary Optometry

2526-1-F1702Q002

Aims

The objectives fall within the area of "Technologies and Instrumentation" and refer to the following Dublin Descriptors:

1 – Knowledge and understanding

- Provide knowledge and skills on the historical development and operational principles of contemporary optometric assessment techniques

2 – Applying knowledge and understanding

- Develop skills in the use of advanced instrumentation and technologies in the field of optometry, as well as the ability to critically analyze the collected data
- Develop the ability to produce, collect, organize, analyze, and critically interpret scientific literature
- Develop the ability to adopt a clinical optometric approach based on scientific evidence

3 – Making judgements

- Develop the ability to reflect independently on the course content
- Develop independent judgement in the field of optometry and vision science

4 – Communication skills

- Develop the ability to communicate effectively and contribute proactively to group work
- Develop the ability to read, write, and present scientific work

5 – Learning skills

- Develop the ability to reflect independently on the course content in order to acquire learning skills with a

view to future developments in the field

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 asked to write a mini-review article based on the contents of point 2, focusing on a specific topic proposed by the lecturers related to the applications of the optometric investigation techniques listed in point 1. The assignment will follow the typical submission process of a scientific journal, including specific formatting requirements, a formal submission procedure, peer-style comments, and a revision phase.

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
? 3 hours of asynchronous online activities in preparation for laboratory activities
? 12 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

The assessment consists of the following **FIVE PARTS**.
Each part requires a minimum score to be achieved. If this threshold is not met, that specific part of the exam must be repeated. When the threshold has been reached in all five parts of the exam, the final grade will be the sum of the obtained scores divided by two.

The parts are:

1. SUBMISSION OF A WRITTEN ASSAY (individual preparation of the article and submission through the e-learning page)
   Lecturers responsible for this part: Erika Ponzini, Silvia Tavazzi
   Threshold for considering this part of the exam as passed: 10 points
   Max score in this part: 16 points
   Dates for taking this part of the exam and additional information: within the deadlines listed on the course's e-learning page, students must submit a scientific article. Each student can select the submission window in which to deliver his/her article. Instructions are provided on the e-learning page regarding the topics, how to write this article, when and how to submit it.
   SCORE DETAILS:
   ? Clarity and precision of the submitted article: 0 to 4 points for whether the scientific article is written clearly and understandably, with ideas expressed precisely and unambiguously.
   ? Structure and completeness of the submitted article: 0 to 4 points for whether the article is well-structured and includes all necessary sections (introduction, methodology, results, discussion, and conclusions).

? Conclusion validity of the submitted article: 0 to 4 points for whether the conclusions are justified without errors or biases.
? Figures and tables of the submitted article: 0 to 2 points for whether the figures and tables are clear and contribute to the understanding of the text.
? Style and formatting of the submitted article: 0 to 2 points for whether the style and formatting of the article are appropriate and in agreement with the “Guidelines to Authors” provided.

2. ORAL DISCUSSION ON THE CONTENT OF THE WRITTEN ASSAY (individual preparation of the presentation and online oral discussion)
   Lecturers responsible for this part: Erika Ponzini, Silvia Tavazzi
   Threshold for considering this part of the exam as passed: 3 points
   Max score in this part: 6 points
   Dates for taking this part of the exam and additional information: an oral discussion (based on a presentation prepared by the student) will verify the student's ability to produce, collect, organize, analyze, and critically interpret scientific literature concerning the topics of his/her written assay. This oral examination will take place at least three weeks after the student’s submission of the written article and may be taken only if the minimum threshold required for the written article has been achieved (as described above, see part 1). The possible dates for this oral examination and how to register will be available on the course’s e-learning page.
   SCORE DETAILS:
   ? Oral knowledge and clarity in presenting the content of the submitted article: 0 to 6 points for whether the candidate demonstrates knowledge of the topics covered during the oral discussion and for the clarity of the presentation.

3. WRITTEN TEST ON CLINICAL DATA (in person in the classroom designated for the official exam session. It will be held together with part 4 of the assessment)
   Lecturer responsible for this part: Antonio Calossi
   Threshold for considering this part of the exam as passed: 5 points
   Max score in this part: 8 points
   Dates for taking this part of the exam and additional information: The two parts of the written exam (activity 3 based on the lectures of Antonio Calossi and activity 4 based on the lectures of Silvia Tavazzi/Erika Ponzini) are independent. Both parts may be taken during the official exam sessions, but they will be evaluated separately.
   As previously stated, the two parts of the written exam will be evaluated separately. Therefore, on each official exam date, students will be free to choose whether to take both parts, only Activity 3, or only Activity 4, according to their own needs and exam progression.
   These additional 8 questions will cover Antonio Calossi’s lectures (available on the e-learning platform, section “Clinical Studies”), and they will be assessed with a score from 0 to 8 points.

SCORE DETAILS:
? The grade corresponds to the number of correct answers in the written test: 0 to 8 points.

4. WRITTEN TEST (In person in the classroom designated for the official exam session)
   Lecturers responsible for this part: Antonio Calossi, Erika Ponzini, Silvia Tavazzi
   Threshold for considering this part of the exam as passed: 12 points
   Max score in this part: 20 points
   Dates for taking this part of the exam and additional information: a set of 20 written questions (closed-ended answers or questions requiring a brief open-ended response) based on the course syllabus will comprehensively assess the student’s preparation on the course contents. It will be possible to take this examination on the official exam dates.
   SCORE DETAILS:
   ? The grade corresponds to the number of correct answers in the written test: 0 to 20 points.

5. LABORATORY (in the laboratory)

Lecturers responsible for this part: Andrea Rapino, Jessica Saccani
Threshold for considering this part of the exam as passed: 6 points
Max score in this part: 10 points
Dates for taking this part of the exam and additional information: at the end of the laboratory session (during the final hour scheduled in the calendar), each student will receive an assessment of the skills acquired in the laboratory and of the commitment demonstrated. If the score is below the passing threshold, it will be possible to retake the exam on a later date to be agreed with the lecturers.
SCORE DETAILS:
? The grade corresponds to the acquired skills and commitment demonstrated: 0 to 10 points.

Office hours

by appointment arranged by email

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING