UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

History and Techniques of Contemporary Optometry

2627-1-F1702Q002

Obiettivi

Gli obiettivi si inquadrano nell'area "Tecnologie e strumentazione" e fanno riferimento ai seguenti descrittori di Dublino:

1 – Conoscenza e capacità di comprensione (knowledge and understanding)

- Fornire conoscenze e competenze sull'evoluzione storica e i principi di funzionamento di tecniche contemporanee di indagine optometrica

2 – Capacità di applicare conoscenza e comprensione (applying knowledge and understanding)

- Sviluppare competenze nell'utilizzo di strumentazioni e tecnologie avanzate nell'ambito dell'optometria e sviluppare capacità di analisi critica dei dati raccolti
- Sviluppare la capacità di produrre, raccogliere, organizzare, analizzare, interpretare in modo critico la letteratura scientifica
- Sviluppare la capacità di impiegare un approccio clinico optometrico basato sull'evidenza scientifica

3 – Autonomia di giudizio (making judgements)

- sviluppare capacità di riflessione autonoma sui contenuti del programma
- sviluppare autonomia di giudizio nel settore dell'optometria e della scienza della visione

4 – abilità comunicative (communication skills)

- Sviluppare la capacità di comunicare e partecipare in modo propositivo al lavoro di gruppo
- svuiluppare la capacità di leggere, scrivere, presentare lavori di tipo scientifico

5 – Capacità di apprendimento (learning skills)

- sviluppare capacità di riflessione autonoma sui contenuti del programma con lo scopo di acquisire capacità di apprendimento in vista degli sviluppi futuri del settore

Contenuti sintetici

L'insegnamento riguarderà:
? l'evoluzione storica, i principi di funzionamento e l'utilizzo di alcune tecniche contemporanee e avanzate di indagine optometrica
? la produzione e l'analisi della letteratura scientifica con attività specifiche riguardanti le tecniche contemporanee e avanzate di indagine optometrica
? la progettazione e il design di studi clinici optometrici
Maggiori dettagli sono riportati nel programma esteso.

Programma esteso

1. EVOLUZIONE STORICA, PRINCIPI DI FUNZIONAMENTO E UTILIZZO DELLE TECNICHE CONTEMPORANEE DI INDAGINE OPTOMETRICA
   ? tomografia oculare
   ? biometria oculare
   ? aberrometria oculare

2. LETTERATURA SCIENTIFICA
   ? tipologie di articoli scientifici
   ? ricerca della letteratura
   ? citazioni e plagio
   ? nuovi approcci basati sull'intelligenza artificiale
   ? leggere, scrivere e revisionare un articolo scientifico

3. ATTIVITÀ SPECIFICHE RIGUARDANTI LA LETTERATURA SCIENTIFICA NEL CAMPO DELLE TECNICHE CONTEMPORANEE E AVANZATE DI INDAGINE OPTOMETRICA
   Agli studenti sarà richiesto di scrivere un breve articolo di revisione scientifica basato sui contenuti del punto 2, focalizzandosi su un argomento specifico proposto dai docenti e relativo alle applicazioni delle tecniche di indagine optometrica elencate al punto 1. L'elaborato seguirà il tipico processo di sottomissione di una rivista scientifica, includendo requisiti specifici di formattazione, una procedura formale di invio, commenti in stile peer-review e una fase di revisione.

4. STUDI CLINICI
   ? Design di studi clinici
   ? Sorgenti di bias negli studi clinici
   ? Pratica clinica optometrica basata sull'evidenza scientifica

Prerequisiti

Conoscenza di base dei software di scrittura (come Microsoft Office, scaricabile a questo link: https://www.unimib.it/servizi/studenti-e-laureati/service-desk/software-campus) e motori di ricerca (come Google

Chrome).

Modalità didattica

Le lezioni sono erogate in lingua inglese.
L'insegnamento prevede:
? 7 ore di lezioni in presenza di tipo erogativo (videoregistrate e rese disponibili sulla piattaforma e-learning dell'insegnamento)
? 12 ore di esercitazioni e-learning asincrone a distanza su casi clinici optometrici
? 21 ore di attività e-learning asincrone a distanza di tipo interattivo
? 12 ore di attività interattiva in presenza in laboratorio con frequenza obbligatoria

Materiale didattico

- appunti forniti dai docenti tramite la piattaforma e-learning
- articoli tratti dalla letteratura scientifica
- slides delle lezioni
- videoregistrazioni delle lezioni

Periodo di erogazione dell'insegnamento

primo semestre

Modalità di verifica del profitto e valutazione

This course consists of FIVE SECTIONS, which are listed below. Each section includes an assessment of learning outcomes, and the results of these assessments will contribute to the final overall grade.
These five sections are:

1- HISTORICAL EVOLUTION, OPERATING PRINCIPLES, AND USE OF SOME OPTOMETRIC TECHNIQUES (S. Tavazzi)
? Teaching form: in-person classroom lectures, recorded and subsequently made available for asynchronous access on the e-learning page of the course
? Topics: Scheimpflug, OCT, AS-OCT, OCTA, biometry, aberrometry
? Assessment method: written examination in person in the classroom designated for the officially scheduled examination sessions, for which the student must register. A set of 20 written questions (closed-ended answers or questions requiring a brief open-ended response) will assess the student's preparation on this part of the program. The grade corresponds to the number of correct answers in the written test. The threshold for considering this part of the exam as passed is 12 points (max score in this part is 20 points).

2- CLINICAL OPTOMETRIC CASES (A. Calossi)
? Teaching form: asynchronous lectures available on the e-learning page of the course
? Topics: discussions on clinical cases based on real examples, including interpretation of collected data,

discussion of possible artefacts, and related issues
? Assessment method: written examination in-person during the officially scheduled examination sessions, for which the student must register. A set of 8 written questions (closed-ended answers or questions requiring a brief open-ended response) will assess the student's preparation on this part of the program. The grade corresponds to the number of correct answers in the written test. The threshold for considering this part of the exam as passed is 5 points (max score in this part is 8 points). This part of the written examination may be taken on the same day as the written parts concerning points 1 (see above) and point 3 (see below) or, at the candidate's discretion, during a subsequent examination session, provided that the student registers for the new examination session.

3- EVIDENCE-BASED PRACTICE AND SCIENTIFIC LITERATURE (S. Tavazzi)
? Teaching form: asynchronous lectures available on the e-learning page of the course
? Topics: clinical study designs, sources of bias in research designs, evidence-based practice, 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
? Assessment method: written examination in-person during the officially scheduled examination sessions, for which the student must register. A set of 6 written questions (closed-ended answers or questions requiring a brief open-ended response) will assess the student's preparation on this part of the program. The grade corresponds to the number of correct answers in the written test. The threshold for considering this part of the exam as passed is 4 points (max score in this part is 6 points). This part of the written examination may be taken on the same day as the written parts concerning points 1 and 2 or, at the candidate's discretion, during a subsequent examination session, provided that the student registers for the new examination session.

4- SIMULATION OF THE PUBLICATION PROCESS OF A SCIENTIFIC REVIEW (S. Tavazzi)
? Teaching form: project work
? Topics: each student will be assigned a topic and asked to prepare a scientific review paper. The same assigned topic will also be discussed in a subsequent online oral interview. During the oral interview, the discussion will follow a predetermined structure or a presentation prepared in advance by the student; the lecturer will also ask a number of open questions on the assigned topic.
? Assessment method: evaluation of the scientific review paper and evaluation of the oral interview.
Once the topics are announced through the e-learning page of the course, it will be possible to submit the individual essay following the provided instructions. There is no specific deadline for submitting the paper; however, please note that the submission date will determine the date of the oral examination, due to technical scheduling reasons, as here described. Indeed, after submission, each student will receive written comments on his/her paper from the lecturers within three weeks. In this evaluation, the student can get three different possible comments from the reviewers:

- No revisions: the manuscript is excellent in terms of structure, content, and scientific quality. The student may proceed to the oral exam.
- Minor revisions: the manuscript is generally acceptable in terms of structure, content, and scientific quality, but requires limited corrections. If only minor revisions are required, the student is considered to have met the minimum threshold and may proceed to the oral exam.
- Major revisions: the manuscript requires substantial modifications before it can be considered acceptable. If major revisions are required, the student cannot take the oral exam until:
  ? The manuscript has been corrected according to the reviewers' comments.
  ? A reply letter addressing the revisions has been prepared.
  ? Both the corrected manuscript and the reply letter are submitted. The student will receive feedback about the revised manuscript within three weeks from the new submission. If the feedback changes to Minor revisions or to No revisions, the student may proceed to the oral exam.
  The threshold for considering the part of the exam as passed (written assay) is 6 points (max score is 10 points) based on clarity and precision of the submitted article, structure and completeness to evaluate whether the article is well-structured and includes all necessary sections (introduction, methodology, results, discussion, and conclusions), conclusion validity, quality and clarity of the figures and tables, style and formatting to evaluate whether the style and formatting of the article are appropriate and in agreement with the "Guidelines to Authors" provided.
  An oral discussion will verify the student's ability to critically interpret scientific literature concerning the

topics of his/her written essay. This oral examination will take place at least three weeks after the student's submission of the written article and only when the minimum threshold required for the written article has been achieved (as described above). The threshold for considering the part of the exam as passed (oral interview) is 6 points (max score is 10 points) for whether the candidate demonstrates knowledge of the topics covered during the oral discussion.

5- LABORATORY ACTIVITIES (E. Ponzini, J. Saccani)
? Teaching form: mandatory in-person activity (address: U9/A building, COMiB research center, Viale dell'Innovazione 10, Milan)
? Topics: hands-on activities using the instruments available in the laboratory. For further important information regarding the laboratory activities, please refer to the specific documentation available in the "LABORATORY SESSIONS" section of the e-learning page of the course.
? Assessment method: practical examination carried out directly in the laboratory. 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. The threshold for considering this part of the exam as passed is 7 points (max score in this part is 12 points).

FINAL MARK FOR THIS EXAM
As previously mentioned, the assessment consists of the FIVE PARTS outlined above. Each part requires a minimum score to be achieved (see above). 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 2.1. Since the total score may range from 38 to 66 points, the corresponding final mark will range from 18/30 to 30/30 cum laude. Th mark 30/30 cum laude will correspond to total scores equal to 65 and 66. Students who have not completed the mandatory laboratory hours will not be eligible to complete the examination, regardless of their performance in the other assessment components. In such cases, the required laboratory hours must be completed in a subsequent academic year.

Orario di ricevimento

su appuntamento concordato via email

Sustainable Development Goals

SALUTE E BENESSERE