UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Optometry and Low Vision

2526-1-F1702Q008

Aims

General aims of the module
To develop a student's theoretical understanding of aging of eye and visual system, and the conditions of visual impairments. To extend the range of competencies of the student in geriatric optometry and low vision. To improve clinical decision-making in selecting the optical and non-optical aids for low vision people. To allow students to interact with other professionals in management of advanced clinical cases in geriatric optometry and low vision.

Specific learning outcomes (LO)
By the end of the module, a successful student will gain:
-LO1: theoretical knowledge about the aging of the human body, eye, and visual system
-LO2: practical skills to perform a comprehensive visual assessment and refractive techniques in geriatric people
-LO3: theoretical knowledge about the principle of low vision correction by optical and non-optical aids and practical skills to select for the individual needs these kinds of solutions

Contents

The module will cover principles of geriatric optometry and low vision

Detailed program

1. Principles of aging of the human body and geriatrics. Patient in advanced age: psychological, physiological (general health features, illness, and disabilities), and social profile. Basics of age-related physiological and pathological changes in the visual system.
2. Age-related optical and perceptual changes in the eye and the visual system.

3. Accommodation/pupil mechanisms: effects of ageing
4. Presbyopia: demographics, theories, management in the clinical practice, and future perspectives
5. Optometric techniques to assess the quality of vision across the elderly, from psychophysics to electrophysiology
6. Visual impairment and Low vision: definitions, epidemiology, and regulations
7. Optical and digital (non-optical) low vision aids (Basic optics of magnifiers and prescription rationale, aids for peripheral visual field loss)
8. Evaluation of visual impairment in elderly people (clinical cases)
9. Visual impairment in sports

Prerequisites

See curricular prerequisites for the admission Master's Degree Program

Teaching form

Learning objectives will be pursued through different teaching methods:

• Frontal Lecture (7 hours on topic n.1)
• Online non-interactive asynchronous lectures (11 hours on all topics: 2-9)
• Online interactive synchronous lectures (10 hours on topics n. 2, 3, 5 and 7)
• In person Labs/clinics's topics (12 hours on topics n. 3, 4, 5, 7 and 8)
• In person Online tutoring
• Student-managed learning

Textbook and teaching resource

Lecturers' handouts
Slides of the lectures
Scientific papers suggested by the lecturers

Semester

Second Semester

Assessment method

Student Assessment is based on three tasks:
• **Group work**
• **Final written assessment**

• Final oral assessment

The **Group Work (GW)** is a cooperative group activity of a few students (2 or 3) carried out during the semester to arrange a group presentation. This summative activity requires the preparation of 9-min presentation of a scientific paper (within the topics of the syllabus) assigned by the lecturers. Group work assessment aims to verify the student's achievement of LO1.

Group task:
Each group must present the assigned paper in four sections:
1 Introduction
2 Method
3 Results
4 Discussion

Partecipant's task:
Each student must arrange and present just one part of the presentation own part. (see below for 2-person and 3-person groups). The parts can be assigned in agreement among the participants. In case of the agreement is not reached, the lectures will assign the parts.
For groups with 3 students:
The first student will present Introduction and Discussion (3 min)
The second student will present the Method (3 min)
The third student will present the Results (3 min)
For groups with 2 students:
The first student will present Introduction and Method sections (4.30 min)
The second student will present the Results and Discussion sections (4.30 min)

Delivery
The presentation will be delivered during the scheduled time and day communicated at the beginning of the semester.
Each student will receive a mark for own part, according to the marking scheme provided, and worth 20% of the unit mark maximum (6 out of 30)

The **Final written examination** is based on 20 Multiple choice questions and one or two open question which investigates the theoretical knowledge learning that concerns LO1, LO2, LO3.
This assessment is delivered at the end of the module and is worth 80% of the unit mark maximum (24 out of 30).

The **Final oral examination** is not compulsory but can be required either by the lecturer or by the student to refine or confirm the mark obtained with the written exam. It consists of open oral questions designed to assess the ability to describe practical procedures related to LO1, LO2, and LO3.

The final grade will be represented by the sum of the marks achieved in the single 2 tasks. The minimum mark to pass is 18 out of 30.

Office hours

Appointment needed

Sustainable Development Goals