Course guide
370030 - OGERIAT - Geriatric Optometry and Low Vision

Last modified: 13/06/2025

Unit in charge: Terrassa School of Optics and Optometry
Teaching unit: 731 - OO - Department of Optics and Optometry.

Degree: BACHELOR'S DEGREE IN OPTICS AND OPTOMETRY (Syllabus 2020). (Compulsory subject).

Academic year: 2025 **ECTS Credits:** 3.0 **Languages:** Catalan

LECTURER

Coordinating lecturer: Bernat Sunyer Grau: (https://futur.upc.edu/BernatSunyerGrau)
Pérez Mañà, Luis: (https://futur.upc.edu/LuisPerezMana)

Others: Sunyer Grau, Bernat.
Pérez Mañà, Luis.

REQUIREMENTS

Having completed Binocular Vision Disfunctions.

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
CE20. Measure, interpret and treat refractive errors. Describe the sensory and oculomotor mechanisms of binocular vision. Identify the principles of and measure, interpret and treat accommodative and binocular vision anomalies. Demonstrate skills in communication, recording data and writing clinical histories. Demonstrate skills in the interpretation and clinical judgement of results of vision tests, to establish the most suitable diagnosis and treatment. Demonstrate skills in instrumental assessment tests of visual function and eye health. Carry out a complete medical history. Identify, apply and interpret instrumental tests relating to visual health problems. Demonstrate the clinical skills required for the examination and treatment of patients. Examine, diagnose and treat visual anomalies with an emphasis on differential diagnosis. Describe the nature and organisation of types of clinical care. Describe the protocols that are applied to patients.
CE22. (ENG) Conèxier i aplicar ajudes òptiques i no òptiques per a la baixa visió.

CE24. Identify and apply vision screening techniques to various populations.

Generical:
CG1. Demonstrate knowledge of, design and apply prevention and maintenance programmes relating to the population's visual health.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.
CG3. Advise and guide patients and relatives during the entire treatment.
CG5. Give opinions and produce reports and expert reports when necessary.
CG6. Assess and incorporate the technological improvements necessary to properly carry out professional activities.

CG7. (ENG) Ser capaç de dur a terme activitats de planificació i gestió en un servei o una petita empresa en el camp de l'òptica-optometria

CG8. Plan and carry out research projects that contribute to the production of knowledge in the field of optometry and disseminate this scientific knowledge via the typical communication channels.
CG9. Expand and update one's professional abilities through continuing education.
CG11. Locate new information and interpret it in context.

CG14. Demonstrate knowledge, skills and abilities in patient healthcare.
CG15. (ENG) Demostrar capacitat per actuar com a agent d'atenció primària visual.

Transversal:
CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.

TEACHING METHODOLOGY

The methodologies used in the directed learning hours (theory and practice) are:
MD1. Participatory expository class of theoretical and practical content.
MD3. Practical class of resolution, with the participation of the students, of practical cases and/or exercises related to the contents of the subject.
MD4. Laboratory practices.
MD5. Reading of teaching material, texts and articles related to the contents of the subject.
MD6. Development of problems, exercises, works and resolution of doubts through the virtual field Atenea.
MD7. Tutorials.
The subject consists of two hours a week of face-to-face class in the classroom (medium group) and five sessions of 2 hours (small group) in the laboratory (practices).
- The theory classes are of an expository type combined with cooperative learning activities.
- The practices are carried out in pairs in the laboratory.
- Autonomous learning includes: the study and mandatory reading by the students of a series of articles.
To successfully complete the course, it is necessary to follow the instructions and deadlines described in Atenea.

LEARNING OBJECTIVES OF THE SUBJECT

At the end of the course of geriatric optometry and low vision, the student will have obtained the following objectives:
1. knowledge of the modifications linked to aging of the perceptual processes.
2. Competence to identify and manage situations requiring interprofessional referral/collaboration.
3. Competence to evaluate and treat patients affected by low vision.

STUDY LOAD

Type	Hours	Percentage
Hours medium group	40,0	44.44
Hours small group	20,0	22.22
Self study	30,0	33.33

Total learning time: 90 h

CONTENTS

1. GERIATRIC OPTOMETRY

Description:
1. Geriatrics
2. Age-related normal structural changes
3. Age-related normal functional changes
4. Differential evaluation

Related activities:
Face-to-face classes
Reading of documentation:
- "Effects of aging in multisensory integration: A systematic review" (1)
- "Geriatric vision care: New look at the old" (2)
- "Clinical pearls in optometric management of the geriatric patient" (3).

Related skills:
CG11. Place new information and the interpretation made in its context.
CT2. Sustainability and social commitment: know and understand the complexity of the economic and social phenomena typical of the welfare society;
have the ability to relate well-being to globalization and sustainability; acquire skills to use technique, technology, economics and sustainability in a balanced and compatible way.

Related competencies :
CG11. Locate new information and interpret it in context.

CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.

Full-or-part-time: 7h
Theory classes: 2h
Self study : 5h

3. PRELIMINARY ASPECTS IN LOW VISION.

Description:
- 1. Labels for visual impairment.
- 2. Etiology and prevalence.
- 3. Visual impairment and the scheme of functional limitations based on the pathology.

Related activities:
Reading documentation:
- 1. "Causes of low vision" (4)
- 2. "Causes and symptoms of low vision" (5). Practice with glasses simulating pathologies.

Related skills:
CG11. Place new information and the interpretation made in its context.
CT2. Sustainability and social commitment: know and understand the complexity of the economic and social phenomena typical of the welfare society;
have the ability to relate well-being with globalization and sustainability;
achieve skills to use technique, technology, economics and sustainability in a balanced and compatible way.

Related competencies :
CG11. Locate new information and interpret it in context.

CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.

Full-or-part-time: 6h
Theory classes: 2h
Self study : 4h

3. EVALUATION PROTOCOL

Description:
1. Examination protocols according to the objectives
1.1. Vision health assessment
1.2. Functional evaluation of residual vision
2. Differential aspects of optometric examination in low vision
2.1. Accessibilty
2.2. Accompanying techniques
2.3. History and symptoms
2.3.1. Ocular history
2.3.2. Medical history
2.3.3. Visual function
2.3.4. Specific needs and goals
2.3.5. Social history
2.4. Identification of habitual contidions
2.5. Refraction
2.5.1. Visual acuity
2.5.2. Retinoscopy
2.5.3. Subjective
2.5.4. Kerqtometry/autorefractometer
2.5.5. Analysis of the need for refraction change
2.6. Evaluation of other aspects of visual function
2.6.1. Binocular vision
2.6.2. Visual field
2.6.3. Contrast sensitivity
2.6.4. Glare
2.6.5. Darkness adaptation

2.6.6. Color vision
2.7. Quality of life questionnaires
2.8. Magnification

Related activities:
Face-to-face classes
Reading of documentation:
- 1 "Low vision rehabilitation program" (6)
Laboratory practice:
- Evaluation test at the beginning of the internship (practice 1)
- Evaluation test at the beginning of the internship (practice 2)

Related skills:
CG3. Advise and guide the patient and family members throughout the treatment.
CG5. Issue opinions, reports and expert opinions when necessary.
CG2. Perform visual examinations effectively in each of the phases: anamnesis, choice and execution of diagnostic tests, establishment of prognosis, choice and execution of treatment, and writing, when necessary, referral reports that establish the degree of collaboration with other professionals, in order to guarantee the best possible care for the patient.
CG1. Know, design and apply prevention and maintenance programs related to the visual health of the population.
CG11. Place the new information and the interpretation that is made in its context.
CE20. Ability to measure, interpret and treat refractive defects.
Know the sensory and oculomotor mechanisms of binocular vision.
Know the mechanisms and have the ability to measure, interpret and treat accommodative and binocular vision anomalies.
Develop communication skills, data recording and clinical history preparation.
Acquire the skill to interpret and make clinical judgments on the results of visual tests, to establish the most appropriate diagnosis and treatment.
Acquire the skill to perform instrumental tests to assess visual functions and ocular health.
Know how to perform a complete anamnesis.
Know, apply and interpret instrumental tests related to visual health problems.
Acquire the clinical skills necessary to examine and treat patients.
Acquire the ability to examine, diagnose and treat visual anomalies, placing special emphasis on differential diagnosis.
Know the nature and organization of the different types of clinical care. Know the different protocols applied to patients.
CE24. Know and apply visual screening techniques applied to different populations.

Related competencies :
CE24. Identify and apply vision screening techniques to various populations.
CE20. Measure, interpret and treat refractive errors. Describe the sensory and oculomotor mechanisms of binocular vision. Identify the principles of and measure, interpret and treat accommodative and binocular vision anomalies. Demonstrate skills in communication, recording data and writing clinical histories. Demonstrate skills in the interpretation and clinical judgement of results of vision tests, to establish the most suitable diagnosis and treatment. Demonstrate skills in instrumental assessment tests of visual function and eye health. Carry out a complete medical history. Identify, apply and interpret instrumental tests relating to visual health problems. Demonstrate the clinical skills required for the examination and treatment of patients. Examine, diagnose and treat visual anomalies with an emphasis on differential diagnosis. Describe the nature and organisation of types of clinical care. Describe the protocols that are applied to patients.
CG3. Advise and guide patients and relatives during the entire treatment.
CG1. Demonstrate knowledge of, design and apply prevention and maintenance programmes relating to the population's visual health.
CG5. Give opinions and produce reports and expert reports when necessary.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.
CG11. Locate new information and interpret it in context.

Full-or-part-time: 19h
Theory classes: 5h
Self study : 14h

4. MULTIDICIPLINARY MANAGEMENT IN VISUAL IMPAIRMENT

Description:
1. Ophthalmological care
2. Optical aids and visual rehabilitation
3. Socioeconomic support
4. Psychosocial support
5. Rehabilitation in daily life activities
6. Rehabilitation in orientation

Related activities:
Face-to-face classes
Reading documentation
- Models of low vision care: Past, present and future(7)
Related skills:
CG3. (CAST) Advise and guide the patient and family members throughout the treatment.
CG7. (CAST) Be able to carry out planning and management activities in a service or small company in the field of optics-optometry.
CG5. (CAST) Issue opinions, reports and expert opinions when necessary.
CG11. (CAST) Place new information and its interpretation in context.
CG2. (CAST) Perform effective visual examinations in each of its phases: anamnesis, choice and performance of diagnostic tests, establishment of prognosis, choice and execution of treatment, and writing, if necessary, referral reports that establish the levels of collaboration with other professionals, in order to guarantee the best possible care for the patient.
CE24. (CAST) Know and apply visual screening techniques applied to different populations.

Related competencies :
CE24. Identify and apply vision screening techniques to various populations.
CG3. Advise and guide patients and relatives during the entire treatment.
CG5. Give opinions and produce reports and expert reports when necessary.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.
CG11. Locate new information and interpret it in context.

CG7. (ENG) Ser capaç de dur a terme activitats de planificació i gestió en un servei o una petita empresa en el camp de l'òptica-optometria

Full-or-part-time: 4h
Theory classes: 1h
Self study : 3h

5. OPTIC AND ELECTRONIC AIDS

Description:
5.1. Microscopes (MS)
5.1.1. Definition
5.1.2. Classification
5.1.3. Commercial notation
5.1.4. Determination of MS based on needs
5.1.5. Handling qualification
5.1.6. Examples
5.2. Magnifying glasses (L)
5.2.1. Definition
5.2.2. Classification
5.2.3. Commercial notation
5.2.4. Determination of L based on needs
5.2.5. Handling qualification
5.2.6. Examples
5.3. Illumination control and therapeutic filters
5.3.1. Illumination
5.3.1.1. Types of illumination and emission spectra
5.3.1.2. Colour temperature
5.3.1.3. Determination of the type of illumination
5.3.1.4. Ergonomics
5.3.2. Therapeutic filters
5.3.2.1. Function and action of therapeutic filters
5.3.2.2. Characteristics and identification
5.3.2.3. Prescription protocol
5.3.3.4. Examples

Related activities:
Face-to-face classes
Laboratory practices
Evaluation test at the beginning of the practices (Practice 3)
Evaluation test at the beginning of the practices (Practice 4)
Evaluation test at the beginning of the practices (Practice 5)
Related competencies:
CG3. (CAST) Advise and guide the patient and family members throughout the treatment.
CG5. (CAST) Issue opinions, reports and expert opinions when necessary.
CE22. (CAST) Know and apply optical and non-optical aids for low vision.

Related competencies :
CE22. (ENG) Conèxier i aplicar ajudes òptiques i no òptiques per a la baixa visió.

CG3. Advise and guide patients and relatives during the entire treatment.
CG5. Give opinions and produce reports and expert reports when necessary.

Full-or-part-time: 17h 30m
Theory classes: 6h 30m
Self study : 11h

6. VISUAL REHABILITATION

Description:
Visual rehabilitation in low vision and blindness.
Introduction to visual rehabilitation, rehabilitation in daily living activities and mobility and orientation.

Full-or-part-time: 1h 30m
Theory classes: 1h 30m

7. CLINICAL CASES

Description:
Clinical cases regarding the materials taught in previous lessons will be developed.

Related activities:
Face-to-face classes
Simulation-based laboratory practices
Related competencies:
CG2. Effectively perform visual examinations at each of the phases:
anamnesis, choice and execution of diagnostic tests, establishment of prognosis, choice and execution of treatment, and writing, when necessary,
referral reports that establish the degree of collaboration with other professionals, in order to guarantee the best possible care for the patient.
CG14. Demonstrate that you have knowledge, skills and abilities in patient health care.
CG3. Advise and guide the patient and family members throughout the treatment.
CG15. Demonstrate the ability to act as a primary visual care agent.
CE22. Know and apply optical and non-optical aids for people with low vision.

Related competencies :
CE22. (ENG) Conèxier i aplicar ajudes òptiques i no òptiques per a la baixa visió.

CG3. Advise and guide patients and relatives during the entire treatment.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.
CG14. Demonstrate knowledge, skills and abilities in patient healthcare.
CG15. (ENG) Demostrar capacitat per actuar com a agent d'atenció primària visual.

Full-or-part-time: 4h
Theory classes: 2h
Self study : 2h

ACTIVITIES

Practice session 1. Evaluation of remaining vision (part I). Refractive evaluation and classification of deficiency.

Description:
The practice is carried out in the laboratory in a 2-hour session.
At the beginning of the practice, students must answer an evaluation test.
Students, in pairs, and using glasses simulating visual pathologies:
5. Will check the different functional limitations caused by the various pathologies.
6. Will carry out the refractive evaluation applying the specific techniques (variation of distances, nomenclatures and tests, as well as the determination and application of the MDA).
Students must come to the laboratory with the corresponding theoretical contents assimilated. In the laboratory, the experimental part must be carried out and the results obtained must be recorded on the optometric form.

Specific objectives:
At the end of the practice, the student must be able to perform and interpret the results obtained from the application of refractive techniques in low vision.
Likewise, the student must know how to classify, according to the WHO parameters and, based on the patient's visual acuity.

Material:
Gafas de simulación, cajas de pruebas, optotipos de agudeza visual (decimal, en metros, en pies y logMar), metros y retinoscopios.

Delivery:
Initial practice test result.
The records made in each practice will be reviewed.

Related competencies :
CE20. Measure, interpret and treat refractive errors. Describe the sensory and oculomotor mechanisms of binocular vision. Identify the principles of and measure, interpret and treat accommodative and binocular vision anomalies. Demonstrate skills in communication, recording data and writing clinical histories. Demonstrate skills in the interpretation and clinical judgement of results of vision tests, to establish the most suitable diagnosis and treatment. Demonstrate skills in instrumental assessment tests of visual function and eye health. Carry out a complete medical history. Identify, apply and interpret instrumental tests relating to visual health problems. Demonstrate the clinical skills required for the examination and treatment of patients. Examine, diagnose and treat visual anomalies with an emphasis on differential diagnosis. Describe the nature and organisation of types of clinical care. Describe the protocols that are applied to patients.
CG5. Give opinions and produce reports and expert reports when necessary.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.

Full-or-part-time: 1h 30m
Laboratory classes: 1h 30m

Practice session 2. Evaluation of the remaining vision (part II)

Description:
The practice is carried out in the laboratory in a 2-hour session.
At the beginning of the practice, the student must answer an evaluation test.
The students, in pairs, and using glasses simulating visual pathologies,
evaluate areas of the remaining vision such as the visual field, color vision, glare and contrast sensitivity.
7. They will check the different functional limitations caused by the different pathologies.
8. They will carry out the refractive evaluation applying the specific techniques (variation of distances, nomenclatures and tests, as well as the determination and application of the MDA).
The students must come to the laboratory with the corresponding theoretical contents assimilated.
In the laboratory, the experimental part must be carried out and the results obtained must be recorded on the optometric form.

Specific objectives:
At the end of the practice, the student must be able to carry out and interpret the results obtained
from the application of the various perimetry/visual field, color vision, glare and contrast sensitivity techniques.

Material:
Simulation glasses, test boxes, glare meter, colour and contrast sensitivity tests and CV assessment methods.

Delivery:
Initial practice test result.
The records made in each practice will be reviewed.

Related competencies :
CE20. Measure, interpret and treat refractive errors. Describe the sensory and oculomotor mechanisms of binocular vision. Identify the principles of and measure, interpret and treat accommodative and binocular vision anomalies. Demonstrate skills in communication, recording data and writing clinical histories. Demonstrate skills in the interpretation and clinical judgement of results of vision tests, to establish the most suitable diagnosis and treatment. Demonstrate skills in instrumental assessment tests of visual function and eye health. Carry out a complete medical history. Identify, apply and interpret instrumental tests relating to visual health problems. Demonstrate the clinical skills required for the examination and treatment of patients. Examine, diagnose and treat visual anomalies with an emphasis on differential diagnosis. Describe the nature and organisation of types of clinical care. Describe the protocols that are applied to patients.
CG5. Give opinions and produce reports and expert reports when necessary.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.

Full-or-part-time: 1h 30m
Laboratory classes: 1h 30m

Practice session 3. Determination of magnifications in close vision and determination of the types of microscopes.

Description:
The practice is carried out in the laboratory in a 2-hour session.
At the beginning of the practice, students must answer an evaluation test.
The students, in pairs, and using glasses simulating visual pathologies,
determine the magnifications, check whether or not the expected result is obtained and analyse and justify the most appropriate type of microscope in each case.
Students must come to the laboratory with the corresponding theoretical content assimilated.
The experimental part must be carried out in the laboratory and the results obtained must be recorded on the optometric form.

Specific objectives:
At the end of the practice, students must be able to carry out and interpret
the results obtained from the application of the magnification determination method, as well as the most appropriate type of microscope.

Material:
Simulation glasses, Halberg clips, test boxes, meters, lighting systems and microscope box.

Delivery:
Initial practice test result.
The records made in each practice will be reviewed.

Related competencies :
CE20. Measure, interpret and treat refractive errors. Describe the sensory and oculomotor mechanisms of binocular vision. Identify the principles of and measure, interpret and treat accommodative and binocular vision anomalies. Demonstrate skills in communication, recording data and writing clinical histories. Demonstrate skills in the interpretation and clinical judgement of results of vision tests, to establish the most suitable diagnosis and treatment. Demonstrate skills in instrumental assessment tests of visual function and eye health. Carry out a complete medical history. Identify, apply and interpret instrumental tests relating to visual health problems. Demonstrate the clinical skills required for the examination and treatment of patients. Examine, diagnose and treat visual anomalies with an emphasis on differential diagnosis. Describe the nature and organisation of types of clinical care. Describe the protocols that are applied to patients.
CG5. Give opinions and produce reports and expert reports when necessary.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.

Full-or-part-time: 1h 30m
Laboratory classes: 1h 30m

Practical session 4. Determination of the type of magnifying glass and evaluation of the lighting control.

Description:
The practice is carried out in the laboratory in a 2-hour session.
At the beginning of the practice, the student must answer an evaluation test.
The students, in pairs, and using glasses simulating visual pathologies,
determine the magnifications, check whether or not the expected result is obtained and analyse and justify the most appropriate type of magnifying glass in each case.
The students must analyse, for each case, the indications for a magnifying glass or microscope, and must also analyse the type of light and the effect of using therapeutic filters.
The students must come to the laboratory with the corresponding theoretical content assimilated.
The experimental part must be carried out in the laboratory and the results obtained must be recorded on the optometric form.

Specific objectives:
At the end of the practice, the student must be able to see and interpret the results obtained from the application of the augmentation determination method,
thus determining whether the best option is the prescription of a microscope or a magnifying glass.
The column will have to have criteria in selecting the type of light and the type of filter that can be recommended.

Material:
Simulation glasses, halberg clips, test boxes, meters, lighting systems
(LED with various color temperatures and fluorescent), magnifying glass box and filter sample book.

Delivery:
Initial practice test result
The records made in each practice will be reviewed

Related competencies :
CE22. (ENG) Conèxier i aplicar ajudes òptiques i no òptiques per a la baixa visió.

CE20. Measure, interpret and treat refractive errors. Describe the sensory and oculomotor mechanisms of binocular vision. Identify the principles of and measure, interpret and treat accommodative and binocular vision anomalies. Demonstrate skills in communication, recording data and writing clinical histories. Demonstrate skills in the interpretation and clinical judgement of results of vision tests, to establish the most suitable diagnosis and treatment. Demonstrate skills in instrumental assessment tests of visual function and eye health. Carry out a complete medical history. Identify, apply and interpret instrumental tests relating to visual health problems. Demonstrate the clinical skills required for the examination and treatment of patients. Examine, diagnose and treat visual anomalies with an emphasis on differential diagnosis. Describe the nature and organisation of types of clinical care. Describe the protocols that are applied to patients.
CG5. Give opinions and produce reports and expert reports when necessary.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.

Full-or-part-time: 1h 30m
Practical classes: 1h 30m

Practical session 5. Practical exam.

Related competencies :
CE20. Measure, interpret and treat refractive errors. Describe the sensory and oculomotor mechanisms of binocular vision. Identify the principles of and measure, interpret and treat accommodative and binocular vision anomalies. Demonstrate skills in communication, recording data and writing clinical histories. Demonstrate skills in the interpretation and clinical judgement of results of vision tests, to establish the most suitable diagnosis and treatment. Demonstrate skills in instrumental assessment tests of visual function and eye health. Carry out a complete medical history. Identify, apply and interpret instrumental tests relating to visual health problems. Demonstrate the clinical skills required for the examination and treatment of patients. Examine, diagnose and treat visual anomalies with an emphasis on differential diagnosis. Describe the nature and organisation of types of clinical care. Describe the protocols that are applied to patients.
CE22. (ENG) Conèxier i aplicar ajudes òptiques i no òptiques per a la baixa visió.

CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.
CG5. Give opinions and produce reports and expert reports when necessary.

Full-or-part-time: 1h 30m
Laboratory classes: 1h 30m

Test 1. Geriatric optometry and evaluation of remaining vision.

Description:
Theoretical test on the content related to geriatric optometry
and the evaluation of remaining vision and functional implications, including the corresponding articles.
The weight of the test represents 25% of the total subject.

Related competencies :
CE24. Identify and apply vision screening techniques to various populations.
CE20. Measure, interpret and treat refractive errors. Describe the sensory and oculomotor mechanisms of binocular vision. Identify the principles of and measure, interpret and treat accommodative and binocular vision anomalies. Demonstrate skills in communication, recording data and writing clinical histories. Demonstrate skills in the interpretation and clinical judgement of results of vision tests, to establish the most suitable diagnosis and treatment. Demonstrate skills in instrumental assessment tests of visual function and eye health. Carry out a complete medical history. Identify, apply and interpret instrumental tests relating to visual health problems. Demonstrate the clinical skills required for the examination and treatment of patients. Examine, diagnose and treat visual anomalies with an emphasis on differential diagnosis. Describe the nature and organisation of types of clinical care. Describe the protocols that are applied to patients.
CG1. Demonstrate knowledge of, design and apply prevention and maintenance programmes relating to the population’s visual health.
CG11. Locate new information and interpret it in context.

CG3. Advise and guide patients and relatives during the entire treatment.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.
CG5. Give opinions and produce reports and expert reports when necessary.
CT2. SUSTAINABILITY AND SOCIAL COMMITMENT: Being aware of and understanding the complexity of the economic and social phenomena typical of a welfare society, and being able to relate social welfare to globalisation and sustainability and to use technique, technology, economics and sustainability in a balanced and compatible manner.

Full-or-part-time: 1h 30m
Theory classes: 1h 30m

Test 2. Overall assessment of theory.

Description:
Completion of a theoretical test with short questions on the general contents of the subject, that is, geriatric optometry, assessment of remaining vision, determination of magnifications in near vision and selection of the microscope/magnifying glass/type of lighting and therapeutic filter.
This test includes all the contents of the subject.
The weight of the test represents 45% of the total of the subject.

Specific objectives:
Students must demonstrate that they have achieved the objectives of the subject.

Related competencies :
CE22. (ENG) Conèxier i aplicar ajudes òptiques i no òptiques per a la baixa visió.

CE20. Measure, interpret and treat refractive errors. Describe the sensory and oculomotor mechanisms of binocular vision. Identify the principles of and measure, interpret and treat accommodative and binocular vision anomalies. Demonstrate skills in communication, recording data and writing clinical histories. Demonstrate skills in the interpretation and clinical judgement of results of vision tests, to establish the most suitable diagnosis and treatment. Demonstrate skills in instrumental assessment tests of visual function and eye health. Carry out a complete medical history. Identify, apply and interpret instrumental tests relating to visual health problems. Demonstrate the clinical skills required for the examination and treatment of patients. Examine, diagnose and treat visual anomalies with an emphasis on differential diagnosis. Describe the nature and organisation of types of clinical care. Describe the protocols that are applied to patients.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.
CG5. Give opinions and produce reports and expert reports when necessary.

Full-or-part-time: 2h
Practical classes: 2h

Test 3. Assessment of practices.

Description:
The internship will be assessed in a final internship exam that will be held at the beginning of the 5th internship session. Punctuality and attitude during the internship will also be assessed.

Specific objectives:
Students must demonstrate that they have completed prior work on the concepts that will be applied in each practical session.

Delivery:
The test is performed within the practice session during the first 30 minutes.

Related competencies :
CE20. Measure, interpret and treat refractive errors. Describe the sensory and oculomotor mechanisms of binocular vision. Identify the principles of and measure, interpret and treat accommodative and binocular vision anomalies. Demonstrate skills in communication, recording data and writing clinical histories. Demonstrate skills in the interpretation and clinical judgement of results of vision tests, to establish the most suitable diagnosis and treatment. Demonstrate skills in instrumental assessment tests of visual function and eye health. Carry out a complete medical history. Identify, apply and interpret instrumental tests relating to visual health problems. Demonstrate the clinical skills required for the examination and treatment of patients. Examine, diagnose and treat visual anomalies with an emphasis on differential diagnosis. Describe the nature and organisation of types of clinical care. Describe the protocols that are applied to patients.
CE22. (ENG) Conèxier i aplicar ajudes òptiques i no òptiques per a la baixa visió.

CG5. Give opinions and produce reports and expert reports when necessary.
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.

Full-or-part-time: 8h 39m
Practical classes: 2h 30m
Self study: 6h 09m

Diploma in Optometry Competencies

Description:
This module contributes to the European Diploma in Optometry competencies indicated in the following link:

https://drive.google.com/drive/folders/1bwmHBsvkrGnY63DfXAnWZB_i0I2pXa-I?usp=drive_link

Full-or-part-time: 1h
Theory classes: 1h

GRADING SYSTEM

The grade for the course is obtained in the following way:

1.- In-person theoretical test on the knowledge in the areas and techniques that determine the patient's remaining vision, as well as the functional implications. In-person exam 25%.
2.- In-person global theoretical test 45%.
3.- Practical test of the concepts and skills worked on in practice. To be carried out in the last practice session. 30%.
Attendance at practice sessions is mandatory, non-attendance and/or lack of punctuality will be taken into account in the practice grade.

After the date of the final grades, within a maximum period of 15 days, a re-evaluation process will be carried out.
Evaluation of transversal competence 2: This competence will be evaluated with the average grade of the knowledge between theoretical test 1 and 2.
Evaluation of the competences of the European diploma: These competences will be evaluated with the overall grade for the course.
An unjustified absence from the practice sessions may be grounds for a penalty.

EXAMINATION RULES.

In case of partial or total copying in any of the assessments of the subject, the provisions of the Academic Regulations of the UPC bachelor's and master's degree studies will be applied:
"Irregular actions that may lead to a significant variation in the grade of one or more students constitute a fraudulent performance of an act of evaluation. This action entails the descriptive grade of failure and numerical grade of 0 of the evaluation act and the subject, without prejudice to the disciplinary process that may be derived as a result of the acts performed.
If the student considers the decision to be incorrect, he/she may file a complaint with the director or the dean of the educational center and, if the response does not satisfy him/her, he/she may file an appeal with the rector.
The total or partial reproduction of academic or research works, or their use for any other purpose, must have the explicit authorization of the authors.
It is up to the director or the dean of the educational center to resolve the allegations on the aspects not included in the regulations."

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Basic:
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Complementary:
- Randall, T. José. Visión subnormal. Madrid: ONCE, 1988.