Degree competences to which the subject contributes

Specific:
7. Knowing how to do clinical examinations and interpret the results
8. Do properly refractive vision exams
9. Do properly binocular and accommodative tests.
11. Know interpret functional and health test results of the visual system.
13. Interpret the registers obtained with different techniques. Determine the status of ocular structures.

General:
1. Extract the main points of a text or any source of information (oral or written)
2. Synthesize and organize information to convey it effectively orally and / or written
3. Display information orally and in writing of reasonably and coherent.
5. Encourage methodical work, rigorous, consistent and innovative

Teaching methodology
The subject consists of 1.5 hour per week of classroom lectures (large group) and 18 two-hour sessions in small groups in the laboratory (practical).
· The theory classes are kind of explanation combined with cooperative learning activities.
· The practices will be in couples in the optometry 1 lab.
· The independent learning include: the study by the student, open lab sessions, collect data from patients and complement clinical training.
To take advantage of the course, follow the directions and terms described in Atenea.
At the end of the course of clinical procedures in optometry, the student has to have achieved the following objectives:

- Acquire skills in the instrument testing for assessing visual function and eye health.
- Ability to measure and interpret the refractive defects.
- Understand the principles and have the ability to measure accommodative anomalies of binocular vision.
- To apply and interpret the evidence related to the instrumental visual health problems.
- Ability to measure and interpret the data obtained in psychophysical assessment of visual perception.
- Acquire the skills necessary for clinical examination and treatment of patients.

**Study load**

<table>
<thead>
<tr>
<th>Learning time</th>
<th>Total learning time: 144h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group:</td>
<td>0h</td>
</tr>
<tr>
<td>Hours medium group:</td>
<td>18h</td>
</tr>
<tr>
<td>Hours small group:</td>
<td>42h</td>
</tr>
<tr>
<td>Guided activities:</td>
<td>0h</td>
</tr>
<tr>
<td>Self study:</td>
<td>84h</td>
</tr>
</tbody>
</table>
# Content

<table>
<thead>
<tr>
<th>1. Introduction to Optometry</th>
<th>Learning time: 2h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Practical classes: 1h</td>
</tr>
<tr>
<td></td>
<td>Self study: 1h</td>
</tr>
</tbody>
</table>

**Description:**
- 1. 1. History of Optometry
- 1. 2. Visual examination scheme
- 1. 3. Preliminary
- 1. 3. 1. Interpupillary distance

**Related activities:**
- Labs: Practice. - The optometric office.

<table>
<thead>
<tr>
<th>2. Refractive Exams</th>
<th>Learning time: 16h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Practical classes: 6h</td>
</tr>
<tr>
<td></td>
<td>Self study: 10h</td>
</tr>
</tbody>
</table>

**Description:**
- 2. 3. Retinoscopy
- 2. 3. 1. Clinical usefulness of retinoscopy
- 2. 3. 2. Characteristics of reflection retinoscópico
- 2. 3. 3. Method of neutralizing ametropia
- 2. 4. Subjective examination of refraction in VL
- 2. 4. 1. Review monocular
- 2. 4. 2. Biocular and binocular balance
### 3. Binocular vision and accommodation tests

**Description:**

- **3. 1. Sensory aspects of binocular vision**
- **3. 2. Sensory examination**
  - **3. 2. 1. Simultaneous assessment of Perception**
  - **3. 2. 2. Assessment of Fusion**
- **3. 3. Motor aspects of binocular vision**
  - **3. 3. 1. Components of the convergence**
  - **3. 3. 2. Latent and manifest deviations**
- **3. 4. Motor examination. Description, normal values "and interpretation of results:**
  - **3. 4. 1. Lateral phoria and reservations**
  - **3. 4. 2. Vertical phoria and reservations**
  - **3. 4. 3. Graphing**
  - **3. 4. 4. Near point of convergence**
  - **3. 4. 5. Flexibility of convergence**
- **3. 5. Components of accommodation and proximal triad**
- **3. 6. Tests accommodative. Description, normal values "and interpretation of results:**
  - **3. 6. 1. Amplitude of accommodation**
  - **3. 6. 2. Relative amplitudes: RNA and ARP**
  - **3. 6. 3. accommodative lag**
  - **3. 6. 4. Flexible accommodation**

<table>
<thead>
<tr>
<th>Learning time:</th>
<th>26h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical classes:</td>
<td>8h</td>
</tr>
<tr>
<td>Self study:</td>
<td>18h</td>
</tr>
</tbody>
</table>
4. Eye Health Exams

Description:
4. 1. oculomotrices skills
   4. 1. 1. fixation
   4. 1. 2. saccadic
   4. 1. 3. monitoring
4. 2. Visual Field
4. 2. 1. Examination Techniques
4. 2. 2. Interpretation of automated perimetry results
4. 3. ophthalmoscopy
4. 3. 1. Techniques for observing the fundus
4. 3. 2. Exploration of the fundus
4. 4. Color Vision
4. 4. 1. Classification of abnormal color vision
4. 4. 2. Description of tests to evaluate color vision
4. 4. 3. Interpretation of results in each test
4. 5. pupillary function
4. 5. 1. Examination of pupillary function
4. 5. 2. Disorders of pupillary function
4. 6. tonometry
4. 6. 1. Factors that alter the intraocular pressure
4. 6. 2. Measurement techniques
4. 7. Biomicroscopy

Learning time: 25h
   Practical classes: 7h
   Self study: 18h
Planning of activities

<table>
<thead>
<tr>
<th>1. PRACTICES OF REFRACTIVE EXAM</th>
<th>Hours: 18h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Laboratory classes: 16h</td>
</tr>
<tr>
<td></td>
<td>Self study: 2h</td>
</tr>
</tbody>
</table>

**Description:**
Practices are made in the laboratory in sessions of two hours. They used artificial eyes and then the students will make the eye exams among themselves in pairs. The student must come to the lab with the corresponding contents of similar theory. The laboratory will have to carry out the experimental recording the results of the optometric tab.

**Support materials:**
All materials needed to perform visual examinations of the practice sessions will be available in the laboratory.

**Descriptions of the assignments due and their relation to the assessment:**
Registration attendance at practice. Retinoscopy test (15%).

**Specific objectives:**
- At the end of the block of refractive practice exam the student must be able to:
  - Get the objective and subjective refraction of a patient.

<table>
<thead>
<tr>
<th>2. BINOCULAR VISION AND ACCOMMODATION PRACTICE</th>
<th>Hours: 12h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Laboratory classes: 10h</td>
</tr>
<tr>
<td></td>
<td>Self study: 2h</td>
</tr>
</tbody>
</table>

**Description:**
Practices are made in the laboratory, in sessions of two hours. Students will make visual examinations among themselves in pairs. The student must come to the lab with the corresponding contents of similar theory. The laboratory will have to carry out the experimental recording the results of the optometric tab.

**Support materials:**
All materials needed to perform visual examinations of the practice sessions will be available in the laboratory. Educational videos available from Atenea.

**Specific objectives:**
- At the end of the block practice of binocular vision and accommodation, students must be able to:
  - Measure and interpret anomalies accommodative and binocular vision.

<table>
<thead>
<tr>
<th>3. EYE HEALTH PRACTICES</th>
<th>Hours: 6h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Laboratory classes: 4h</td>
</tr>
<tr>
<td></td>
<td>Self study: 2h</td>
</tr>
</tbody>
</table>

**Support materials:**
All materials needed to perform visual examinations of the practice sessions will be available in the laboratory.

**Descriptions of the assignments due and their relation to the assessment:**
Registration attendance at practice.
### Specific objectives:
At the end of the pad eye care practices the student must be able to:
- Perform and interpret the exhibits for the evaluation of visual function and eye health.

| 4. EXAM | Hours: 6h  
Self study: 6h |
|---------|---------------|

| 5. GLOBAL THEORY TEST | Hours: 13h  
Practical classes: 2h  
Self study: 11h |
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Specific objectives:</td>
<td></td>
</tr>
</tbody>
</table>
| The student must demonstrate that it has achieved the objectives of the course.  
The comprehensive test includes all course content and has a weight of 40%. |

| 6. GLOBAL PRACTICE TEST | Hours: 6h  
Laboratory classes: 4h  
Self study: 2h |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific objectives:</td>
<td></td>
</tr>
</tbody>
</table>
| The student must demonstrate that it has achieved the objectives and implementing clinical studies that are part of the course.  
The test includes all course content and has a weight of 25%. |

| 7. CLINICAL TRAINING SUPPLEMENT | Hours: 2h  
Self study: 2h |
|-------------------------------|---------------|

| 9. OPEN THE DOORS IN LAB | Hours: 8h  
Self study: 8h |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific objectives:</td>
<td></td>
</tr>
<tr>
<td>Students have at their disposal to improve their teaching laboratory clinical learning. ATHENA will be published in the days and times that you can access the facilities to the students can point to.</td>
<td></td>
</tr>
</tbody>
</table>
Regulations for carrying out activities

- If not done any of the laboratory activities and continuous assessment will be evaluated with a zero.
- Under no circumstances can have any formulary on the tests.
- In case of partial or total copy of any evaluations of the course will apply the provisions of General Academic Regulations of the UPC: "Les accions irregulares que poden conduir a una variació significativa de la qualificació d'un o més estudiants constitueixen una realització fraudulenta d'un acte d'avaluació. Aquesta acció comporta la qualificació descriptiva de suspens i numèrica de 0 de l'acte d'avaluació i de l'assignatura, sense perjudici del procés disciplinari que es pugui derivar com a conseqüència dels actes realitzats".
- La qualificació de no presentat, que significa que l'estudiant no ha estat avaluat, s'atorga quan no ha participat en cap dels actes d'avaluació previstos per a l'assignatura, excepte en el cas que la guia docent de l'assignatura publicada especifiqui alguna cosa diferent.

Bibliography

Basic:


Complementary:


Others resources: