COURSE OUTLINE

(1) GENERAL

SCHOOL	**of MEDICINE**		
ACADEMIC UNIT			
LEVEL OF STUDIES	**POSTGRADUATE**		
COURSE CODE	**TAO - 205**	**SEMESTER**	**2**
COURSE TITLE	**VISUAL OPTICS**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g., lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures	4	6
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	special background
PREREQUISITE COURSES	None
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
IS THIS COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.
Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

After the successful completion of the course, students can understand :
The basic principles if physiological optics
Visual acuity, contrast sensitivity, refraction, types of ametropia binocurality , stereopsis and how to evaluate them.
Assessment of corneal curvature and wavefront aberrations and their contribution in vision.
Optical coherence tomography

Magnifying apparatus (slit -lamp, microscopy, direct and indirect ophthalmoscopy) and their role in visual assessment.
Visual Field tests
Visual Psychophysics
Electrophysiological examination of vison

The course according to the European Qualifications Framework for Lifelong Learning belongs to level 7.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations Decision-making	*Respect for difference and multiculturalism*
Working independently Teamwork	*Respect for the natural environment*
Working in an international environment	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Working in an interdisciplinary environment Production of new research ideas	*Criticism and self-criticism*
	Production of free, creative and inductive thinking .....
	Others...
	.....

(3) SYLLABUS

- Introduction in basic principles of Physiological optics
- Interference, Refraction, Diffraction
- Resolution of the human eye, Visual acuity
- Assessment of the visual acuity
- Contrast Sensitivity in visual function evaluation
- Binocularity, Stereopsis
- Corneal curvature, topography and tomography maps of the eye
- Wavefront analysis of the eye
- Visual function and wavefront aberrations
- Visual fields
- Optical Coherence Tomography
- Visual Psychophysics
- Electrophysiological examination of vison
- Magnifying apparatus (slit-lamp, microscopy, direct and indirect ophthalmoscopy) and their role in eye assessment)
- Fundus camera
- Tonometry

(4) TEACHING and LEARNING METHODS - EVALUATION

Delivery *Face-to-face, Distance learning, etc.*	Face-to-face

<table>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students</td><td>

Use of slides
Videos with demonstration/understanding experiments.
Use of Demonstration experiments
Use of an asynchronous e-learning platform (e-class) where the following are provided:
o Bibliography of the course
o Slides of the course
o Solved and unsolved exercises
o Self-study Exercise Set
o Lecture videos*
o Demonstration videos and simulations
o Communication through the e-class platform, use of the discussion area facility with topics, email as well as fixed office hours announced
Students' assignments are received and corrected via the platform (e-class)

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<tr><td>TEACHING METHODS
The manner and methods of teaching are described in detail.

Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.

The student's study hours for each learning activity are given as well as the hours of non- directed study according to the principles of the ECTS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures</td><td>44</td></tr>
<tr><td>Assignments/Projects</td><td>22</td></tr>
<tr><td>Directed learning activity (office hours)</td><td>22</td></tr>
<tr><td>Non-directed learning activity</td><td>90</td></tr>
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<tr><td>Course total</td><td>178</td></tr>
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<tr><td>STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

Language of evaluation, methods of evaluation, summative or conclusive, multiple-choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory</td><td>Language of Evaluation: English

The final grade is the sum of

Final written examination grade: 80%

Assignments grade : 20%</td></tr>
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work, clinical examination of patient, art interpretation, other *Specifically defined evaluation criteria are given, and if and where they are accessible to students.*	

(5) ATTACHED BIBLIOGRAPHY

Bibliography-

- R. Rabbett. Bennett and Rabbett's clinical visual optics. Butterworth Heinemann
- R. Gregory. Eye and Brain: The psychology of Seeing. Oxford University Press
- Physiological Optics Martin Juttner, Neuroscience Research Institute, School of Life & Health Sciences, Aston University.