

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	Of Medicine		
<b>ACADEMIC UNIT</b>	University of Crete		
<b>LEVEL OF STUDIES</b>	Postgraduate		
<b>COURSE CODE</b>	<b>Neuro 206</b>	<b>SEMESTER</b>	<b>2nd</b>
<b>COURSE TITLE</b>	Molecular Basis of Neurological Disease		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>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</i>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
Lectures		2 (8 weeks)	5
Literature Review			
Students Presentations		6 hrs	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Special Background (Clinical Neuroscience)		
<b>PREREQUISITE COURSES:</b>			
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek/English		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>			
<b>COURSE WEBSITE (URL)</b>			

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b></p> <p><i>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.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>• <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>• <i>Guidelines for writing Learning Outcomes</i></li> </ul>
<ul style="list-style-type: none"> <li>• Study with experienced clinicians the phenotype of neurological diseases</li> <li>• Learn from experienced educators and researchers the cutting-edge research related to the etiology, clinical expression, diagnosis and treatment of common or previously fatal neurological diseases.</li> <li>• Understand the mechanisms that underlie the development of various diseases of the brain and nervous system.</li> <li>• Develop specific interests in areas of neurodegenerative diseases such as neuroimaging, neurophysiology, neurobiology, neurogenetics and clinical trial design.</li> <li>• Understand what precision medicine is in neurology</li> </ul>

- Get familiar with biomarkers research in neurodegenerative diseases.

### 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?*

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

Understanding both clinical and basis neuroscience literature.

Critical literature review

Presenting cutting-edge original research papers and understand methodology, data analysis and interpretation ( high IF journals (nature, science, brain etc) - appreciate their impact in everyday clinical practice

Presentation of high-quality review papers

Team work

Working Independently

### (3) SYLLABUS

1. Introduction to the objectives of Neuro206
2. Dementias (Alzheimer, FTD etc) -New advances in diagnosis and treatment
3. Prion Diseases
4. Parkinson's Disease and a-synucleopathies
5. Huntington Disease and other polyG diseases
6. Motor Neuron Disease
7. Familial Amyloid Polyneuropathy
8. Spinal Muscle Atrophy
9. Epilepsy
10. The Migrain brain
11. Friedreich Ataxias
12. Mitochondrial Diseases
13. Genetic Causes of Stroke
14. Neurophysiology of Sleep and Sleep Disorders
15. Students' Presentations I
16. Students' Presentations II

#### (4) TEACHING and LEARNING METHODS - EVALUATION

<p><b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i></p>	<p>Face-to-face mainly, occasionally zoom lectures and seminars from invited speakers and distant learning</p>	
<p><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i></p>		
<p><b>TEACHING METHODS</b> <i>The manner and methods of teaching are described in detail.</i> <i>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.</i></p> <p><i>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</i></p>	<p><b>Activity</b></p>	<p><b>Semester workload</b></p>
	<p>Lectures (including 1-2 seminars)</p>	<p>14hrs (2hrs for 7 weeks) of lectures 1 or seminars (of 2hrs) Total 16 hrs 6 hrs of workload for each hrs of lecturing = 96</p>
	<p>Supervised Bibliography Search/ Literature Review to select Subject of Presentation</p>	<p>30 hrs</p>
	<p>Preparation of Presentations</p>	<p>30 hrs</p>
	<p>1 or 2 presentations per student</p>	
	<p>Course total</p>	<p><b>156 hrs workload</b></p>
<p><b>STUDENT PERFORMANCE EVALUATION</b> <i>Description of the evaluation procedure</i></p> <p><i>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 work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>Oral Presentations (individually or as a team) Writing a Review on a topic of interest that is self-selected through literature search</p>	

#### (5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography: Up-to-date cutting edge research articles and Review in Highly Ranked Journal.
- Related academic journals: Neuron, Brain, Nature Neuroscience, Neuroscience Journal, Annals of Neurology, Neurology, PNAS, Lancet Neurology, NEJM, JAMA Neurology