COURSE OUTLINE

BIOPSYCHOLOGY OF MENTAL DISORDERS

1. GENERAL

SCHOOL	SOCIAL SCIENCES		
DEPARTMENT	PSYCHOLOGY		
LEVEL	UNDERGRADUATE		
COURSE CODE:	**ΨΧ-2302**	**SEMESTER**	4ο
COURSE TITLE:	**BIOPSYCHOLOGY OF MENTAL DISORDERS**		
INDEPENDENT TEACHING ACTIVITIES		**WEEKLY HOURS**	**ECTS**
	Lectures	3	4
COURSE TYPE:	Specialized general knowledge (Elective)		
PREREQUISITES COURSES::	None		
INSTRUCTION/EXAM LANGUAGE:	Greek		
OFFERED TO ERASMUS STUDENTS	YES. Independent study of English literature and a final exam in English		
COURSE WEB PAGE (URL)	https://elearn.uoc.gr/course/view.php?id=142		

2. LEARNING OUTCOMES

Learning Outcomes

This course focuses on the biological basis of psychological disorders. The course starts with basic theoretical approaches within the field of biopsychology and then delves into the fields of biopsychology and psychopharmacology that deal with severe conditions namely schizophrenia and mood and anxiety disorders. The aim of this course is to present research data and theories from the field of behavioral neuroscience that contribute to understanding the causes, pathophysiology, and treatment of mental disorders. In the context of the course, the main biological treatments for severe psychological disorders will be presented and discussion will include how the treatment results can be used to understand their etiology and pathophysiology

During the lectures, students are expected to:

• Familiarize themselves with the foundational and recent literature on the biological basis and treatment of severe psychological disorders.

• Develop understanding the biological changes that lead to thought and emotional problems.

• Acquire a sold knowledge base on the classes of psychotropic drugs and other biological treatments used to treat mental disorders.

• Think critically about moral and ethical issues and practical applications arising from the empirical research that is outlined in the course.

• Acquire knowledge regarding the application of theoretical knowledge in biopsychology.

General Competences

- Search for, analyze and synthesize data and information, with the use of the necessary technology.
- Working independently.

- Respect for diversity and multiculturalism.
- Production of free, creative and inductive thinking.
- Criticism and self-criticism

3. COURSE CONTENT

The course's content is linked to the 5 main axes of the curriculum:

Scientific Foundations [1], Scientific Research and Critical Thinking [2], Ethical and Social Responsibility [3], Communication Ability [4], Basic Preparation for Career Decisions and Vocational Rehabilitation [5].

1st Week: Presentation of the course, Historical overview in the study of brain and behavior, The origins of biological psychiatry, The development of psychopharmacology. [1, 2, 3, 4, 5]

2nd Week: Brain basics: Neurons, neural transmission and behavior. [1, 2, 4]

3rd Week: An introduction to schizophrenia, Diagnostic criteria, Epidemiological data, Heritability-Vulnerability/Predisposition [1, 2, 3, 4]

4th Week: Genetics and genes related to schizophrenia [1, 2, 4]

5th Week: Neuroanatomy of schizophrenia, Possible causes of brain abnormalities in schizophrenia, Schizophrenia as a neurodevelopmental disorder [1, 2, 4]

6th Week: Drug-induced psychosis, Pharmacology of schizophrenia-Neurochemical substrate [1, 2, 3, 4]

7th Week: Types of antipsychotic drugs [1, 2, 3, 4, 5]

8th Week: An introduction to affective disorders, Diagnostic criteria, Epidemiological data, Heritability-Vulnerability/Predisposition, Biological causes [1, 2, 3, 4]

9th Week: Neuroanatomical abnormalities in affective disorders, Neuroplasticity and depression, [1, 2, 4]

10th Week: Biological therapies for affective disorders [1, 2, 3, 4, 5]

11th Week: Neurochemistry of affective disorders, The role of circadian rhythms in depression, Seasonal affective disorder [1, 2, 4]

12th Week: Biopsychology of panic disorder [1, 2, 3, 4]

13th Week: Biopsychology of obsessive-compulsive disorder [1, 2, 3, 4]

4. INSTRUCTIONAL and LEARNING METHODS - EVALUATION

<table>
<tr><td>INSTRUCTION METHOD.</td><td>In class (face-to-face).</td></tr>
<tr><td>INFORMATION AND COMMUNICATION TECHNOLOGIES USED</td><td>Use of ICT in teaching
Support for learning (communication with students and delivery of all course material) via the UoC e-learn online platform (moodle)</td></tr>
<tr><td>TEACHING ORGANIZATION</td><td>
<table>
<tr><th>Activity</th><th>Semester Workload (hours)</th><th>ECTS</th></tr>
<tr><td>Lectures</td><td>39</td><td>1,56</td></tr>
<tr><td>Independent study</td><td>60</td><td>2,40</td></tr>
<tr><td>Final exam</td><td>2</td><td>0,08</td></tr>
<tr><td>Course total</td><td>101</td><td>4,04</td></tr>
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STUDENT EVALUATION	The evaluation (written exam with multiple choice questions and/or true false questions and/or open-ended questions) is in Greek for the students of UoC and in English for the Erasmus students. The evaluation criteria are presented during the 1st lecture of the semester. Moreover, all criteria are available to the students via the web-site of course on UoC e-learn platform.

5. BIBLIOGRAPHY

Basic bibliography:

1. Advocat, C. D., Comaty, J. E., & Julien, R. M. (2018). *Julien's Primer of Drug Action:* A comprehensive guide to the actions, uses, and side effects of psychoactive drugs. New York: Worth Publishers.

2. Barondes, S. (1993). *Molecules and Mental Illness (Scientific American Library)*. New York: Freeman.

3. Carlson, N. R., & Birkett, M. A. (2021). Physiology of Behavior (13th ed.). New York: Pearson.

3. Kandel, E. R., Schwartz, J. H., & Jessell, T. M. (2012). *Principles of Neural Science.* New York: McGraw-Hill.

4. Sinacola, R. S., & Peters-Strickland, T. S. (2005). *Basic Psychopharmacology for Mental Health Professionals.* Allyn & Bacon.

Scientific Journals:

Biological Psychiatry

Neuropsychopharmcology

Psychopharmacology