

COURSE OUTLINE
BIOPSYCHOLOGY OF MENTAL DISORDERS

1. GENERAL

SCHOOL	SOCIAL SCIENCES		
DEPARTMENT	PSYCHOLOGY		
LEVEL	UNDERGRADUATE		
COURSE CODE:	ΨΧ-3307	SEMESTER	6ο
COURSE TITLE:	BASIC TECHNIQUES AND METHODS FOR THE STUDY OF BRAIN AND BEHAVIOR		
INDEPENDENT TEACHING ACTIVITIES		WEEKLY HOURS	ECTS
Lectures, Student Presentations, Laboratory Exercises, Technical Skills Training		3	6
COURSE TYPE:	Skills Development (Laboratory)		
PREREQUISITES COURSES::	Research Methods in Social Sciences I, Statistics I, Biological Bases of Behavior I		
INSTRUCTION/EXAM LANGUAGE:	Greek		
OFFERED TO ERASMUS STUDENTS	No		
COURSE WEB PAGE (URL)	https://elearn.uoc.gr/course/view.php?id=143		

2. LEARNING OUTCOMES

Learning Outcomes
<p>The purpose of this laboratory course is to familiarize students with selected research techniques and methods used in the field of behavioral neuroscience. The course builds upon fundamental theoretical approaches introduced in core courses (e.g., Biological Bases of Behavior) as well as related elective courses (e.g., Psychopharmacology of Addiction and Addictive Substances). Emphasis is placed on the practical conduct of research in a Biopsychology/Behavioral Neuroscience laboratory setting.</p> <p>Upon successful completion of the course, students are expected to:</p> <ul style="list-style-type: none"> • Become familiar with classical and contemporary literature in behavioral neuroscience. • Receive training in specific experimental research techniques (e.g., experimental approaches to pain and analgesia research). • Acquire practical laboratory skills (e.g., care and handling of laboratory animals). • Develop the ability to critically evaluate empirical research studies and prepare laboratory reports in the form of empirical studies, as well as research proposals. • Reflect on the ethical implications and practical applications of research in behavioral neuroscience. • Acquire knowledge regarding the application of research methods in the field.
General Competences
<p>Upon completion of the course, students will have developed competencies in:</p> <ul style="list-style-type: none"> • Search for, analysis and synthesis of data and information, with the use of the necessary technologies

- Teamwork
- Independent work
- Project planning and management
- Critical thinking and self-reflection
- Production of new research ideas
- Decision-making
- Promotion of free, creative and inductive thinking

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: Introduction to the laboratory course; introductory information; formation of working groups. [1, 2, 3, 5]

2nd Week: Scientific literature: types of scientific publications and conference presentations; literature search using the PubMed database. [2, 5]

3rd Week: Scientific writing and preparation of research articles [2, 5]

4th Week: Overview of research methods in behavioral neuroscience [1, 2, 3]

5th Week: Student presentations of scientific articles [1, 2, 3, 4, 5]

6th Week: Student presentations of scientific articles [1, 2, 3, 4, 5]

7th Week: Theoretical and video-based presentation of basic laboratory techniques (care and handling of laboratory animals, methods of drug administration in laboratory animals, induction of general surgical anesthesia, stereotaxic surgery, basic neuroanatomical and histological techniques); ethical issues in behavioral neuroscience research [1, 2, 3]

8th Week: Handling of laboratory rats; parenteral administration of substances [1, 2, 3, 5]

9th Week: Demonstration of stereotaxic surgery. [1, 2, 3, 5]

10th Week: Laboratory exercise: Morphine-induced analgesia in rats and reversal by naloxone administration [1, 2, 3, 5]

11th Week: Laboratory exercise: Study of the effects of psychotropic drugs on the motor behavior of rats [1, 2, 3, 5]

12th Week: Laboratory exercise: Study of the reinforcing effects of substances using the intracranial self-stimulation paradigm [1, 2, 3, 5]

13th Week: Laboratory exercise: Study of cerebral hemispheric asymmetry through haptic recognition of letters and numbers [1, 2, 3, 5]

4. INSTRUCTIONAL and LEARNING METHODS - EVALUATION

INSTRUCTION METHOD.	In class (face-to-face).
INFORMATION AND COMMUNICATION TECHNOLOGIES USED	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)		
	Laboratory training (maximum of 10 students)		
TEACHING ORGANIZATION	Activity	Semester Workload (hours)	ECTS
	Lectures	39	1,56
	Written laboratory reports	40	1,60
	Presentations of scientific articles	6	0,24
	Critical analysis of a scientific article and preparation of a research proposal	70	2,80
	Course total	155	6,2
STUDENT EVALUATION	<p>The language of evaluation is Greek.</p> <p>Student evaluation is based on:</p> <ol style="list-style-type: none"> 1. Written laboratory reports following each laboratory exercise (30%) 2. Presentation of a scientific paper (20%) 3. Critical analysis of the structure of a scientific paper and preparation of a literature-based research proposal (50%) <p>Evaluation criteria are presented during the first laboratory session and are also available on the course website via the UoC e-learn platform.</p>		

5. BIBLIOGRAPHY

Basic bibliography:

Panagis, G. (2002). Behavioral Neuroscience. Broken Hill Publishers Ltd.

Scientific Journals:

Behavioural Brain Research

Behavioral Neuroscience

Pharmacology Biochemistry and Behavior

Psychopharmacology