

## **PSYC 360 Psychopharmacology**

### **Course description:**

This course provides an overview on neurobiology of behaviors and psychological disorders, and the mechanisms of treatments used in the mental health with a focus on medications.

This course content will be broken in 3 essential parts:

-The first part will be an overview on the brain's structural and functional anatomy: How does the static brain look like? How does the brain function?

-The second part will be a deeper look into the neuroscience of normal behaviors, and the pathophysiology of common psychological illnesses: Which area of the brain is responsible for normal behaviors, and what are the underlying biological changes in brain in presence of disorders?

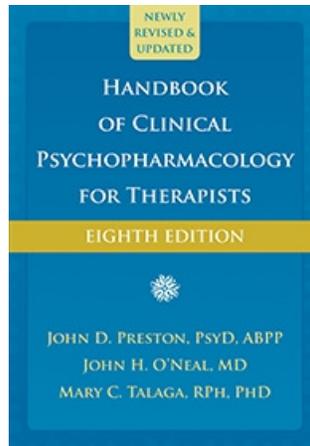
-The third part covers treatments. How treatment affect the brain: We will cover an overview of the pharmacological mechanisms behind the most commonly used medications in mental health. We will emphasize on practical lessons from pharmacological studies: What should I know about major drug classes? what are the positive and negative effects? How can I educate the patients about their medications? How to collaborate with prescribers?

### **Course Format:**

Instructional materials will include lectures, audiovisuals, reading, class discussions. Every topic will be introduced by a case discussion in order to illustrate the practical part behind every topic.

### **Reading material:**

Specific chapters from the textbook: Handbook of Clinical Psychopharmacology for therapists, and selected articles.



**Course content:**

**Part 1: the Brain** (2 sessions)

- Structural neuroanatomy
- Neurons and synapses
- Neurotransmitters
- Brain circuitry

**Part 2: Neural basis of behaviors and psychological disorders** (4 sessions)

<p><b><u>A-Behaviors:</u></b></p> <ul style="list-style-type: none"><li>• Social attachment</li><li>• Pleasure</li><li>• Fear</li><li>• Memory and Attention</li></ul>	<p><b><u>B-Disorders:</u></b></p> <ul style="list-style-type: none"><li>• Mood disorders</li><li>• Anxiety disorders</li><li>• Obsessive compulsive and related disorders</li><li>• Trauma related disorders</li><li>• Psychotic disorders</li><li>• Dependence and addiction.</li></ul>
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**Part 3: Mental health treatments -focus on Psychopharmacology** (6 sessions)

**1-Psychopharmacology:** Indications-Mechanisms of action- Efficacy-Tolerability- Side effect.

- Antidepressants
- Anxiolytics
- mood stabilizers
- antipsychotics
- Other selected drugs

## 2-Pharmacology of drugs of abuse

**3-Peace treaty:** Neuroscience: the common ground for psychopharmacology, psychotherapy and brain stimulation:

- Lessons learned from **imaging studies**: how treatments affect the brain?
- **Psychology and biology: a two way streets**
- **the psychodynamics of medications**
- Collaborative work between therapists and psychopharmacologists: **take home messages** from the class to the clinic.

### Evaluation:

A-In class participation

B-Group presentations:

- 1-Beyond DSM5: From syndrome to symptom based research in mental health.
- 2-Neuroscience of psychotherapy.

C-Quizzes and exams:

Quiz (part 1)

Midterm ( part 2)

Final (part 3)

D-Reflection notes: Write 1 or 2 pages, font size 12, double space. This exercise is intended to stimulate you to think about these two topics. You can write *whatever you want*. You will not be graded on your opinion.

- 1- Opinion on advantages and limitations of medications in treating mental illnesses.
- 2-How advances in neuroscience can affect the future of traditional psychotherapeutic practices?

### Final Grade (/100):

- In class participation (7.5%)
- presentations (7.5%)
- Reflections (10%)
- Quiz (15%)
- Midterm (25%)
- Final exam (35%)