Course Syllabus

MBNS 603 Neuropsychopharmacology

Academic year 2024

Course ID and Name: MBNS 603 Neuropsychopharmacology

Course Coordinator: Assoc. Prof. Sujira Mukda

Tel: 02-441-9003-7 ext. 1206

E-mail: sujira.muk@mahidol.edu

Instructors:

1. Prof. Dr. Piyarat Govitrapong
2. Prof. Dr. Banthit Chetsawang
3. Assoc. Prof. Dr. Vorasith Siripornpanich
4. Assoc. Prof. Dr. Sujira Mukda
5. Asst. Prof. Dr. Jiraporn Panmanee
6. Lect. Dr. Siraprapa Boobphahom
7. Lect. Dr. Ittipat Meewan

Supporting Staff:

1. Ms. Somsong Phengsukdaeng
2. Ms. Sasithorn Prommet

Credits: 2 (2-0-4)

Curriculum: Master of Science Program in Neuroscience (required course)

Doctor of Philosophy Program in Neuroscience (required course for student from B.Sc.)

Semester offering: Second semester

Pre-requisites: (none)

Course learning outcomes (CLOs):

1. Demonstrate learning and working integrity (including honesty, discipline, punctuality, and obedience) (Aligned with PLO1(R))
2. Explain the principal concept of pharmacology and pharmacology relation with psychiatric disorders in the nervous system (Aligned with PLO2(R))
3. Explain the possible causes of neurological disorders integrating with psychological effect and the treatment, and translate scientific evidence from clinical symptom and pathology of disease to mechanism of disease and drug approach (Aligned with PLO3(R))
4. Demonstrate proper interpersonal skills and responsibility. (Aligned with PLO4 (R))
5. Apply literacy and ICT skills to help accomplish the assigned tasks. (Aligned with PLO5 (R))

Alignment of teaching and assessment methods to course learning outcome:

Course learning outcome	Teaching method	Assessment method
1. Demonstrate learning and working integrity (including honesty, discipline, punctuality, and obedience)	1. Pre-session overview	1. Class Attendance (complete and punctual?) 2. Examination (cheating?) 3. Assignments (plagiarism?)
2. Explain the principal concept of pharmacology and pharmacology relation with psychiatric disorders in the nervous system	1. Lecture 2. In-class discussion 3. Assignments/ Exercises	1. Written examination 2. Assessment of assigned work/ exercises
3. Explain the possible causes of neurological disorders integrating with psychological effect and the treatment, and translate scientific evidence from clinical symptom and pathology of disease to mechanism of disease and drug approach	1. Lecture 2. In-class discussion 3. Assignments/ Exercises	1. Written examination 2. Assessment of assigned work/ exercises
4. Demonstrate proper interpersonal skills and responsibility	1. Assignments/ Exercises	1. Performance in social skills 2. Assignments (submitted on time?)
5. Apply literacy and ICT skills to help accomplish the assigned tasks.	1. Assignments/ Exercises	1. Assessment of assigned work

Course description:

Drug actions on the nervous system comprising areas of the investigation of critical importance to science and medicine; the mechanisms by which drugs alter brain functions; medications used to treat a wide range of neurological and psychiatric disorders as well as drugs of abuse.

Course schedule:

Date: Monday, Wednesday, and Friday

Time: 09:30 - 11:30 **(09:00 - 11:00 for L3, L7, and L9),** and 13:00- 15:00

Room: On-site at Room A107, Ground Floor, Institute of Molecular Biosciences

** This topic will be teaching online via Zoom:*

https://zoom.us/j/92100806321?pwd=0sOf6S57wseSpyxqcId4weqfrMQNzZ.1

Meeting ID: 921 0080 6321

Passcode: MBNS603

Teaching schedule

MBNS 603 Neuropsychopharmacology

Course duration: 13 January 2025 – 10 February 2025

Course Coordinator: Assoc. Prof. Sujira Mukda

Tel: 02-441-9003-7 ext. 1206, 1437

E-mail: sujira.muk@mahidol.edu

	Date	Time	Topic	Lecturer
0	13 Jan 2025	09.00-09.30	Orientation to neuropsychopharmacology	Sujira*
1		09.30-11.30	**L1:** Basic principles of neuropsychopharmacology	Piyarat*
2		13.00-15.00	**L2:** ANS: Cholinergic drugs	Piyarat*
3	15 Jan 2025	09.00-11.00	**L3:** Antidepressants and anxiolytics, sedative, hypnotics	Jiraporn*
4		13.00-15.00	**L4:** ANS: Adrenergic drugs	Piyarat*
5	17 Jan 2025	09.30-11.30	**L5:** Drugs for the treatment of movement disorders	Sujira
6		13.00-15.00	**L6:** Neuroleptics	Piyarat*
Exam I	20 Jan 2025	09.00-16.00	**Exam I: 5 topics (L1 – L5)**	Sujira/ Somsong
7	22 Jan 2025	09.00-11.00	**L7:** Drugs for cognitive disorders and Alzheimer's disease	Jiraporn*
8		13.00-15.00	**L8:** Drugs for the treatment of sleep disorders	Sujira
9	24 Jan 2025	09.00-11.00	**L9:** Narcotic & non-narcotic analgesics	Jiraporn*
10		13.00-15.00	**L10:** Drugs for the treatment of brain hyperexcitation: Epilepsy and migraine	Vorasith
Exam II	27 Jan 2025	09.00-16.00	**Exam II: 5 topics (L6 – L10)**	Sujira/ Somsong
11	29 Jan 2025	09.30-11.30	**L11:** Reinforcement and addictive disorders	Sujira
12		13.00-15.00	**L12:** Drugs for brain development disorders: ADHD and autism	Vorasith
13	31 Jan 2025	09.30-11.30	**L13:** Molecular strategies in neuropsychopharmacology, gene therapy and pharmacogenomics	Banthit
14		13.00-15.00	**L14:** Computer-aided drug design and discovery for CNS disorders	Ittipat
15	03 Feb 2025	09.30-11.30	**L15:** Drug delivery	Siraprapa

	Date	Time	Topic	Lecturer
Exam III	07 Feb 2025	09.00-16.00	**Exam III: 5 topics (L11 – L15)**	Sujira/ Somsong
	10 Feb 2025	13.00-16.00	**Student presentation:** Current understanding of CNS drugs	RCN Lecturers

Assessment Criteria:

Assessment criteria	Assessment method	Scoring rubrics
Written examination (50%)	(1) Multiple choices questions (2) Short essay questions	Scoring directly from true/false answer
Quiz (10%)	(1) Quiz after the class	Scoring directly from true/false answer
Oral comprehensive examination (5%)	(1) Answer questions provided by lecturers orally.	Scoring directly from true/false answer
Presentation of assigned topic (25%)	(1) Short presentation	(1) Information quality and organization of topic presented (2) Verbal and non-verbal communication and English proficiency (3) Critical thinking (4) Visual tools
Class attendance and participation in in-class discussion (10%)	(1) Numbers of classes signed-in (2) Direct observation	Scoring directly from times of signing in

Student's achievement will be graded using symbols: A, B+, B, C+, C, D+, D and F based on the criteria as follows:

Percentage	Grade	Description
85-100	A	Excellent
80-84	B+	Very good
70-79	B	Good
60-69	C+	Fairly good
50-59	C	Fair
45-49	D+	Poor
40-44	D	Very poor
< 40	F	Fall

Date revised: 13 December 2024