

NAME	PSYCHOPHARMACOLOGY AND NEUROCHEMISTRY
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MASTER DEGREE	YEAR OF STUDY 1	SEMESTER 2	STATUS OF THE DISCIPLINE (F-fundamental / S-specialisation / C-complementary) S	TYPE OF THE DISCIPLINE (OB-obligatory / opt-optional / fac-facultative) OB
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TOTAL HOURS/WEEK	TOTAL HOURS /SEMESTER	TOTAL HOURS INDIVIDUAL ACTIVITY*	NUMBER OF CREDITS	TYPE OF EVALUATION (P-on going, C-colloquy, E-exam, M mixt)	LANGUAGE
C/2; L/2	42	28	6	M	Romanian

TEACHER	TEACHING AND SCIENTIFIC DEGREE, SURNAME, NAME  Speranta Avram	DEPARTMENT DAFAB
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Objectives	High knowledge in field of central nervous system pathologies, advanced treatment and <i>in silico</i> methods. Stimulating research in a top field of current neuropsychology.
GENERAL THEMATICS	<ol style="list-style-type: none"> <li>1. General principles in pharmacology.</li> <li>2. Prediction of pharmacokinetic parameters by computational chemistry techniques</li> <li>3. Membrane receptors.</li> <li>4. Proteins and genes with role in cell division and potential risk factors for genetic diseases.  MAD1, MAD2 CSGP - Neurocan, aggrecan versican</li> <li>5. Neurotransmitters - Synthesis, mechanisms of action and degradation.</li> <li>6. The role of neurotransmitters in cognitive and behavioural processes.</li> <li>7. Behavioural disorders.</li> <li>8. Psychological and pharmacological approaches to behavioural disorders.</li> <li>9. ADHD -pharmacological approaches.</li> <li>10. ADHD -cognitive-behavioural psychotherapeutic approaches.</li> <li>11. Autism - production mechanisms and pharmacological approaches.</li> <li>12. Autism - cognitive-behavioural psychotherapeutic approaches.</li> <li>13. Depression- mechanisms, pharmacological approaches.</li> <li>14. Depression- cognitive-behavioural psychotherapeutic approaches</li> <li>15. Pharmacology of mood disorders.</li> <li>16. Psychoses - pharmaceutical and psychological approaches.</li> <li>17. Bipolar Syndrome - pharmacological and psychological approaches.</li> <li>18. Alzheimer Pathology - pharmacological and psychological approaches.</li> </ol>
PRACTICAL SESSIONS	<ol style="list-style-type: none"> <li>1. Molecular modeling of pharmacological structures</li> <li>2. Energy minimization of pharmacological structures</li> <li>3. Calculation of pharmacological descriptors</li> <li>4. QSAR models</li> <li>5. Visualization of 3D structures of membrane receptors</li> <li>6. Visualization of 3D structures of enzymes</li> <li>7. Receptor-antagonist interactions</li> </ol>

TEACHING METHODS	lecture, discussing problems, conversation, used PC and specific molecular software
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BIBLIOGRAPHY	<ol style="list-style-type: none"> <li>1. Tamminga, C.A. J. Clin. Psychiatry., 2006, 67, 9-13.</li> <li>2. Kienast, T.; Heinz, A. CNS Neurol. Disord. Drug. Targets, 2006, 5, 109-131.</li> <li>3. Werkman, T.R.; Glennon, J.C.; Wadman, W.J.; McCreary, A.C.; CNS Neurol. Disord. Drug. Targets, 2006, 5, 3-23.</li> <li>4. Haleem, D.J. J. Col.l Physicians. Surg. Pak., 2006, 16, 556-562.</li> <li>5. Deltheil, T.; Guiard, B.P.; Guilloux, J.P.; Nicolas, L.; Deloménie, C.; Repérant, C.; Maitre, E.L.; Leroux-Nicollet, I.; Benmansour, S.; Coudoré, F.; David, D.J.; Gardier, A.M. Pharmacol. Biochem. Behav., 2007 Oct 3.</li> <li>6. Schou, M.; Pike, V.W.; Halldin, C. Curr. Top. Med. Chem., 2007, 18, 1806-1816.</li> <li>7. Tareke, E.; Bowyer, J.F.; Doerge, D.R. Rapid. Commun. Mass. Spectrom. 2007, 2, 3898-3904.</li> <li>8. Hamel, E. Cephalalgia. 2007, 27, 1293-1300.</li> <li>9. Dronjak, S.; Spasojevic, N.; Gavrilovic, L.; Varagic, V. Neuro. Endocrinol. Lett., 2007, 28, [Epub ahead of print].</li> <li>10. Speranta Avram, Dan Mihailescu and Adina-Luminita Milac, Molecular Biosystems, 2012, 8 (5), 1418 – 1425.</li> <li>12. Speranta Avram, Catalin Buiu, Daniel Duda-Seiman, Florin Borcan, Corina Duda-Seiman and Dan Mihailescu, Mini Reviews in Medicinal Chemistry</li> </ol>
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EVALUATION	Conditions	Oral presentation Ability to use PC and molecular simulation software
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Specific competences *	
1. Competences about learning and understanding	- knowing and correctly using specific terms for this subject - understanding fundamental processes in pharmacology and neurochemistry – based on the knowledge acquired - acquire basic and specific knowledge
2. Competences about explanation and interpretation	- explaining and interpreting processes and theoretical ideas
3. Instrumental competences	Used PC, molecular software and cheminformatics database
4. Competences about attitude	- developing positive attitudes and responsibility towards science - getting involved in its own personal development

Prof. Dr. Speranta Avram