

NAME	<b>ZOOPSYCHOLOGY</b>	COD:
------	----------------------	------

MASTER DEGREE	YEAR OF STUDY <b>1</b>	SEMESTER <b>1</b>	STATUS OF THE DISCIPLINE (F-fundamental / S-specialization / C-complementary) <b>S</b>	TYPE OF THE DISCIPLINE (OB-obligatory / opt-optional / fac-facultative) <b>OB</b>
---------------	---------------------------	----------------------	---	--

TOTAL HOURS/WEEK				TOTAL HOURS /SEMESTER	TOTAL HOURS INDIVIDUAL ACTIVITY*	NUMBER OF CREDITS	TYPE OF EVALUATION (P-on going, C-coloquy, E-exam, M-mixt)	LANGUAGE
C	S	L	Pr.					
2		2		56	80		M	Romanian

TEACHER	TEACHING AND SCIENTIFIC DEGREE, SURNAME, NAME	DEPARTMENT
	<b>ASSOC.PROF. CARMEN STRUNGARU</b>	<b>DAFAB</b>

BACKGROUND	Biology, Master in Functional Explorations, PhD in Comparative Ethology
------------	---

OBJECTIVES	<ul style="list-style-type: none"> <li>• Acquaintance of master students with general and specific methods of investigation in animal behavior, in experimental settings.</li> <li>• Introduction in ethology and zoo-psychology as main sources of documentation</li> <li>• Acquaintance with concepts and modern methods of approaching animal behavior.</li> <li>• Acquiring the ability to observe, record, codify and analyze animal behavior.</li> </ul>
SUBJECTS	<p>1. Short incursion into the history of human concern, preoccupation and study of animal behavior – <b>3 hours</b> Adaptive value of acquiring knowledge on the animal behavior for hunting, defending, domestication and selection, deities figuring, symbol construction, etc. in the pre-history of humans. Anthropomorphism. Development of scientific concepts, methods and systematic approaches for study of animal behavior in captivity and in the wild. Necessity of developing the animal behavioral studies for applying results in medicine, pharmacology, psychology, etc. Ethic cod of using animals in scientific research.</p> <p>2. Questioning in animal behavior research – <b>3 hours</b> Compatibility of the scientific questions with the general and specie-specific characteristics of the animal. Limits of extrapolation of findings from animal behavior to human normal and pathologic behavior, from animal reactivity, metabolism, behavioral expression and sensitivity to pharmaceutical products to humans. Animal models of human pathology – types of intervention (surgical, biochemical, radiation, genetic) and their degree of success.</p> <p>3 Selecting the suitable species for a given research topic – <b>6 hours</b> Traditional and non-traditional animals used in behavioral investigation. Criteria for selection and specie-specific general problems. The alteration of natural, normal behavior of animals as a consequence of captivity. Laboratory condition of rearing experimental animals. Advantages, for the uniformity of experimental settings and disadvantages for the behavioral expression. Role of housing enclosures – restrained personal space, monotony and under-stimulation, un-natural absolute constancy of temperature, humidity, noise, light/dark cycle, etc. Role of social impairment – individual caging, group caging of animals of the same sex, occasional mixing of animals from different cage groups, vicinity of animals of different sexes, animals exposed to different physical, biochemical, genetic interventions. Neglect of animals' ability of communication and reciprocal cognitive and emotional influencing via pheromones, sound/ultrasounds, etc. Role of monotonous even if complete food formula. Cancellation of appetitive drive. Role of human presence and animal manipulation by humans. Modalities of improving some of the rearing conditions without breaking too much the standards.</p> <p>4. Selecting the suitable testing methods for a given research topic – <b>6 hours</b> Types of behaviors, reasons to explore them and limits of methods. Examples of testing devices and techniques usually used in evaluating animal behavior. Effect of age, sex and life history on animals' behavior. Necessity to be very familiar with the spontaneous specie-specific behavior in laboratory cage/enclosure. Necessity to be well informed about various aspects of specie's behavior in the wild. Complementary tests. Longitudinal versus transversal behavioral investigation.</p> <p>5. Experimental design and management – <b>6 hours</b> Hypothesis formulation and ways to test it.</p>

	<p>Animals selected by age (mostly neglected), sex, life history (mostly neglected). Number of animals planned to be used for a given test. Necessity of a balance between the required number of subjects for a valid statistical analysis and quality and quantity of parameters taken into account. Necessity of global and individual analysis of behavioral performance. Importance of individuality and temperamental type in behavioral performance. Role of behavioral individual types for selection of animals, suitable for special investigations as psychotropic drugs testing.</p> <p>Pilot testing of the methods selected – on small number of animals in such a way that the experimenter gets familiar with the method, the rhythm of testing and cleaning/reorganizing the enclosure for the next animal, the recording procedures, etc. During the pilot testing modification of different settings can be done in order to improve data collection. Analysis of data gives the routine of observing, recognizing different behavioral aspect, coding parameters. The data will have only general informative value, not being used in the real experiment</p> <p>Experimental testing – adapted to the observation resulting from prior pilot investigation has to be rigorous and with as little variation in technic of data collection as possible. Animals used in the pilot testing will not be part of the experimental investigation but can be used in other pilot methods.</p> <p>6. Behavioral performances of different animal species in learning, memory, tool manufacturing and using, communication and symbol manipulation, social cooperation, etc. Animal psychopathologies – causes and effects. Animal mediated therapy. <b>4 hours</b></p>
<p>SEMINARS AND EXPERIMENTS</p>	<p>Acquaintance with various species of lab animals, technics of manipulating them, individual marking and recognizing, feeding and cleaning. <b>4 hours</b></p> <p>Observation of spontaneous behavior and manual/video recording of data. Discussion of observed behaviors, ways of manual / automatic coding. Data collection, analysis and interpretation. <b>4 hours</b></p> <p>Observation on the psychomotor development in newborn mice/rats. Recording coding, data analysis and interpretation. <b>4 hours</b></p> <p>Observation of exploratory behavior (Open Field test, elevated maze, hole test) coding and analysis of data recorded previously <b>4 hours</b></p> <p>Learning performance in a visual discrimination test. Hot/cold plate test, Porsolt test. – <b>4 hours</b></p> <p>Paper presentation on different experiments from the literature. Critical analysis. - <b>8 hours</b></p>
<p>TEACHING METHODS</p>	<p>Oral presentation plus audio-video exemplification. Discussion on the topics presented.</p> <p>Seminars and experiments: papers' presentations, free discussions and experiments.</p>

REFERENCES	<p>Skinner, B. F. <i>About Behaviorism</i> 1976</p> <p>Tolman, E. C. (1948) <i>Cognitive maps in rats and men</i> Psychological Review, 55, 189-208</p> <p>Griffin, D.(1985) "Animal Thinking"</p> <p>N. J. Mackintosh (1983) <i>Conditioning and Associative Learning</i>" New York: Oxford</p> <p>Mackintosh, N. J. (1994) "Animal Learning and Cognition" San Diego: Academic Press</p> <p>Kamil, A.C. &amp; Bond, A. B. (2006) Selective attention, priming, and foraging behavior. In E. A. Wasserman and T. R. Zentall(eds) "Comparative Cognition: Experimental Exploration of Animal Intelligence" New York: Oxford</p> <p>R. S. Bhatt, E. A. Wasserman, W.F.J. Reynolds, &amp; K. S.. Knauss (1988) "Conceptual behavior in pigeons: Categorization of both familiar and novel examples from four classes of natural and artificial stimuli." J. of Experimental Psychology: Animal Behavior Processes, 14, 219-234</p> <p>D'Amato, M., &amp; M. Columbo (1988). <i>Representation of serial order in monkeys ("Cebus apella")</i>. "Journal of Experimental Psychology: Animal Behavior Processes," 14, 11-139</p> <p>Reznikova, Zh. I. (2007). <i>Animal Intelligence: From Individual to Social Cognition</i>. Cambridge University Press</p> <p>Boysen S.T., Berntson G.G., Mukobi K.L. (2001) <i>Size matters: impact of item size and quantity on array choice by chimpanzees (Pan troglodytes)</i> J. Comp. Psychol, 115, 106–110.</p> <p>Pepperberg I. (2006) <i>Grey parrot numerical competence: a review</i>. Anim Cogn, 9, 377–391.</p> <p>Campbell, C.B.G., &amp; Hodos, W. (1991). <i>The Scala Naturae revisited: Evolutionary scales and anagenesis in comparative psychology</i>. J. Comp. Psychol. 105:211-221</p> <p>Brown, M.F., &amp; Cook, R.G. (Eds.). (2006). <i>Animal Spatial Cognition: Comparative, Neural, and Computational Approaches</i>. [On-line]. Available: <a href="http://www.pigeon.psy.tufts.edu/asc/">www.pigeon.psy.tufts.edu/asc/</a></p> <p>Narby, Jeremy. (2005) <i>Intelligence In Nature</i>. New York: Penguin.</p> <p>Spruijt, B.M. (2011). <i>Automated recognition of ten specific rat behaviors from overhead video</i>. Neuroscience 2011, Washington, DC, USA, 12-16 November 2011.</p> <p>Langford, D.J. et al., (2010). <i>Coding of facial expressions of pain in the laboratory mouse</i>. Nature Methods, May 9th. pp. 1-3.</p> <p>Bickerton, Derek. <i>Adam's Tongue: How Humans Made Language, How Language Made Humans</i>. New York, NY: Hill and Wang, 2009.</p> <p>Hill, P.S.M., (2008). <i>Vibrational Communication in Animals</i>. Harvard, Cambridge, London</p> <p>Hare, B., Call, J. &amp; Tomasello, M.: "Communication of food location between human and dog (<i>Canis familiaris</i>).", Evolution of Communication, 2, 137–159, 1998.</p>
------------	--

EVALUATION	conditions	The answers to the final evaluation (50%) Activity during the lectures and seminars (50%)
	criteria	1. Precise knowledge on the principles and methods presented, including the use of international terminology. 2. Capacity to summarize the taught information and to elaborate concise answers 3. Article presentation with personal critical evaluation
	forms	Written evaluation – final exam
	formula of the final grade	Experimental testing and analysing - 30% Paper presentation - 20% Written exam: 50%.

<b>Specific competences *</b>	
<b>1. Competences about learning and understanding</b>	- knowing and correctly using specific terms for this subject - identification of terms, relationships, processes based on the knowledge acquired - acquire basic and specific knowledge
<b>2. Competences about explanation and interpretation</b>	- explaining and interpreting processes and theoretical ideas specific to the subject - generalizing, particularization, integration of the information - making connections between results - ability to analyze and synthesize information
<b>3. Instrumental competences</b>	- ability to put into practice the theoretical knowledge - ability to observe and analyze behavioral manifestation - research abilities
<b>4. Competences about attitude</b>	- developing positive attitudes and responsibility towards science - getting involved in its own personal development - implication in scientific activities related to the subject - ability to collaborate

