

<b>Program</b>	BS (4 Years)	<b>Course Code</b>	APSY-474	<b>Credit Hours</b>	1
<b>Course Title</b>	<b>Lab Experiments</b>				
<b>Course Introduction</b>					
A laboratory-based introduction to experimental methods used in psychological research, upon successful completion of this course, students will know how to formulate a hypothesis, design and conduct an experiment, analyze data using statistical methods, communicate the results of a scientific study through oral presentation and written manuscript, and carry out research studies under ethical guidelines. Students will be prepared to engage in advance research in fields including, but not limited to cognition, learning, perception and memory.					
<b>Learning Outcomes</b>					
On the completion of the course, the students will be able to:					
<ol style="list-style-type: none"> <li>1. Understand and implement principles of psychophysics, and different human processes including sensation, perception, learning etc for understanding of human behavior</li> <li>2. Design and conduct experiments to test the laws and relationships related to the above areas</li> </ol>					
<b>Course Contents</b>					
The students would be required to do at least 10 experiments. New experiments can be designed as new evidence from research comes in. Classical experiments can be replicated.					
<b>Conditioning Experiments with Pigeons</b>					
Shaping, Discrimination, Schedules of reinforcement, Extinction and spontaneous recovery Rate of responding as a function of motivation					
<b>Human learning, memory and Cognition</b>					
Learned helplessness; encoding techniques/Mnemonics; Emotional conditioning Problem solving; Hearing/auditory threshold; Reaction time; Taste and smell (experiments should be designed by the instructor); Cutaneous senses (two-point touch threshold) Weber's Law; Auditory memory span for digits; Level of aspiration as a result of achievement Zeigarnik effect (with non-sense syllables); Incidental learning versus intentional learning (with non-sense syllables)					
<b>Teaching Learning Strategies</b>					
<ul style="list-style-type: none"> <li>• Assigned supervisor will meet the groups of students and explain them the method to conduct practical and to write report on it according to APA format.</li> </ul>					
<b>Textbooks and Reading Material</b>					
<b>2.1 Books</b>					
<ul style="list-style-type: none"> <li>• Boring, E. (2007). <i>History of experimental psychology</i>. India: Cosmo Publications</li> <li>• Broadbent, D. E (1998). <i>Perception and communication</i>. (2<sup>nd</sup> ed.). London: Pergamon press.</li> <li>• Carter, P. &amp; Russell, K. (2012). <i>Ultimate IQ tests</i> (2<sup>nd</sup> ed.).USA: Viva Books</li> <li>• <i>Chance, P. (2003). Learning and behavior</i> (5<sup>th</sup> ed.). Belmont, CA: Thomson Wadsworth.</li> <li>• Goldstein, F. (1995). <i>Sensation and perception</i>. NY: McGraw Hill..</li> <li>• Kimble, G. (1994). A new formula for behaviorism. <i>Psychological Review</i>, 1994, 101, 254-258.</li> <li>• Leahay, J. (1998). <i>Learning and cognition</i>. New York: Willey series in psychology.</li> <li>• Matlin, P. (1998). <i>Cognition</i>.UK: Routledge and Kagan Paul.</li> </ul>					

- Osgood, C. F. (1995). *Methods and theory in experimental psychology*. New York: Oxford University Press.
- Postman, L. & Egan, J.P. (2007). *Experimental psychology: An introduction*. India: CBS Publishers & Distributors.
- Stevens, S. S. (1998). *Handbook of experimental psychology*. London: John Wiley.
- Watson, J. B. (1994). Reprint of psychology as behaviorist views it. *Psychological Review*, 101, 248-253.

**2.2 Journal Articles/ Reports**

- Altmejd, A., Dreber, A., Forsell, E., Huber, J., Imai, T., Johannesson, M., ... & Camerer, C. (2019). Predicting the replicability of social science lab experiments. *PloS one*, 14(12), e0225826.
- Brenninkmeijer, J., Derksen, M., Rietzschel, E., Vazire, S., & Nuijten, M. (2019). Informal laboratory practices in psychology. *Collabra: Psychology*, 5(1).
- Honig, W. K. (2018). Studies of working memory in the pigeon. *Cognitive processes in animal behavior*, 211-248.
- Igaki, T., Romanowich, P., & Sakagami, T. (2019). Experiments in psychology: Current issues in irrational choice behavior. In *Diversity of Experimental Methods in Economics* (pp. 79-115). Springer, Singapore.
- Morehead, K., Dunlosky, J., Rawson, K. A., Blasiman, R., & Hollis, R. B. (2019). Note-taking habits of 21st century college students: implications for student learning, memory, and achievement. *Memory*, 27(6), 807-819.

**Note:-** It is preferable to use latest available editions of books.

**Assignments: Types and Number with Calendar**

- Submission of test reports and class presentations

**Assessment**

- Each student will prepare a report and assessment and evaluation will be carried out by an external examiner on the basis of report and viva voce.