Indian Institute of Technology Kanpur

New Course Proposal

Course Code: CGS611
Course Name: Basics of Psychophysics
Proposing Department: Department of Cognitive Science
Duration: Modular
Credits: 3L-1L-0D-0T (5)
Pre-requisites: None
Who can take this course: PG students from department of Cognitive Science
Proposer: Devpriya Kumar
Other instructors interested in taking the course: Narayanan Srinivasan

Course Description

Course Outcome: By the end of the course student should be able to design, understand and implement psychophysical experiments using classical and adaptive procedures using python/R. The student should be able to generate the controlled stimuli and analyse psychophysical data properly.

S.No.	Topic	Lecture Hours
1	What is psychophysics?	2
2	Laws of psychophysics: Original Methods of Psychometric Function	2
3	Response Measures: Types of Psychophysical Experiments and Procedures	3
4	Stimuli Design: Considerations, Choosing and Presenting stimuli	2
5	Data Analysis, Psychometric Functions, Goodness of fit	3
6	Adaptive Methods, Staircase, Pest and Quest	3
7	SDT: sensitivity, criterion, ROC curve	3
8	Scaling Methods	2
	Total hours	20

Reference Material

- Kingdom, F.A.A, & Prins, N. (2016). Psychophysics. A Practical Introduction (2nd ed). London: Academic Press. Chapters 1-6. (189 pages)
- Knoblauch, K., & Maloney, L.T. (2012). Modeling Psychophysical Data in R. Berlin: Springer. Chapters 3-5. (100 pages)
- Cunningham and WallRave, Experimental Design From User studies to Psychophysics