Psychology 3BL3
Laboratory in Human Electrophysiology
Course Outline

Dr. Dan Bosnyak                                   September 2007

Scheduled Hours     Guest Lecturer             Course Assistant
Tuesday 11:30-12:20    Dr. L.E. Roberts            Phil Gander
Thursday 11:30-13:20

Room 311 Psychology Building

Course Content and Objective

The objective of the course is to give students experience at posing questions about auditory perception and answering them through laboratory experiments. This year we will focus on the question of plasticity in the auditory system. However, many aspects of the problem solving experience gained in the course will be transferable to other domains of investigation.

We will conduct an experiment in which we collect behavioral data and measure brain activity using the electroencephalogram (EEG). Understanding exactly what the EEG measures, and how it does so, will be part of the focus of the course. Collecting EEG data is much easier than analyzing it and understanding the result, and so much of the course content will be focused on the analysis of EEG evoked potentials. Students will analyze both behavioral data and EEG data and prepare a written report of the results.

Plan for Lectures and labs

There will be a lecture every Tuesday at 11:30. Thursdays will be handled as follows. For the first several weeks Thursday will also be a lecture. There are 15 students registered in the course. We will divide into five teams of three students each. Each team will be scheduled for a weekly two-hour lab at a time to be determined at our first meeting on September 6th. These labs will replace the Thursday time slot; however, that slot should be reserved by all students for group meetings later in the course. Thursday meetings, if needed, will be announced at the Tuesday lectures.

The laboratory component for Psychology 3BL3 is being conducted the Human Neural Plasticity lab run by Dr L.E. Roberts. Other than the preliminary training experiment, the experiments conducted in this lab are designed to fit into an ongoing program of scientific research, rather than being conducted for purely didactic purposes. The course will therefore familiarize students with the general environment and type of research they will probably encounter should they choose to do a thesis project in one of the department’s electrophysiology laboratories. We will begin in the first three weeks with EEG training sessions. Then data collection will begin. The topics of Tuesday lectures will be developed as we go, to meet current need.

Evaluation of Students

Evaluation of students will be based on their written report of the experiment due Tuesday December 2nd. This report will determine 75% of the course grade. The remaining 25% will be determined by two take home exam/assignments, which will be announced with a minimum of one weeks notice. There is no final examination for Psychology 3BL3.

The instructor reserves the right to adjust course marks up or down, on an individual basis, in the light of special circumstances and/or the individual's total performance in the course. The instructor also reserves the right to adjust course format if necessitated by extenuating circumstances.

Assigned Readings and Office Hours

Because a suitable textbook is not available, selected readings will be assigned in class. One copy of each assigned reading will be distributed to each laboratory team. Office hours and email addresses will be given in class.