# Saturday

**Goal**: Get people situated and prepared for the next days, both technically AND mentally. Establish encouraged and open atmosphere to break down the ice and get people out of their “school”-like thinking. This evening should be an allegory for the rest of the seminar – nice informal atmosphere with room for personal growth, yet also a solid structure and clear aim.

***18:00 – 19:30*** **STARTSCHUSS**

Waiting for everybody to gather and quickly set up rooms NEED NOTHING

* Short welcome speech and dinner NEED NOTHING

***19:30 – 21:00*** **DRINK AND (USB) DRIVE**

* Tech & Troubleshoot: test if programs run and hand out sticks STICKS
* Peanut butter jelly (Appendix I) FLIPCHARTPAPER

***21:00 – open end*** **SOCIAL EVENING**

* Do something fun, decide based on the vibe (beerpong, other drinking game, werewolf etc.) NEED NOTHING

# Sunday

**Goal**: Students familiarize themselves with a set of papers and work through some creative exercises to come up with research ideas. The students should be reminded of IVs, DVs, factors, levels, experimental control; but all within the framework of PsychoPy. While working on the exercises and solving the challenges they will learn the practical value of these concepts. By analyzing the behavioral data, students will learn what the important things are in designing a study and what is needed to get sensible data in the end. Preaching *Think first, Do second* will be our credo, but they will learn to *Think* by *Doing* first ☺

***Open start - 08:30*** **BREAKFAST**

***08:45 – 11:00* PAPER READING EXERCISE**

* Students work through exercise sheet “Paper Reading Exercise.docx” ideally **on their laptops** so we can collect results. WORK SHEETS
* Collect all responses in a “results” doc and share with students.

***11:00 – 13:30* EXPERIMENTAL PROGRAMMING WITH PSYCHOPY**

* Make a schema FLIPCHART/WHITEBOARD
* Quick introduction to PsychoPy, do the tutorial
  + Create an experiment in a *step-wise DIY exercise* fashion
* Everyone participates in the experiment once, gives us data

***13:30-15:30*** **AFTER LUNCH BREAK**

***15:30-17:30* IDEA GENERATING EXERCISE**

* Students work through exercise sheet generating ideas WORK SHEET

***17:30 – 18:30*** **R U READY?! (Part 1)**

***18:30 – 19:30*** **DINNER**

***19:30 – 22:30*** **R U STILL HERE?! (Part 2)**

***Evening* MEET THE PANEL &** **DRAFT PROPOSALS**

* We role play as 4 members of a grant approval board, each having our own emphasis (e.g., novelty of the RQ, experimental control, feasibility, etc… ). Thus, we basically give them the structure / lay out of the research proposal (maybe multiple) which they need to come up with (maybe the person with *feasibility* should be chair of the board :D) (Appendix II).

# Monday

After a very tiring and practical day, this is going to be a more creative and inspiring experience. Students should learn to pick interesting, but feasibly projects / research questions and should learn to frame them and explain them well based on first ideas that came out of the previous day. They can combine the ideation part with nice nature exposure and chill time. In contrast, the evening will be all about GETTING STUFF DONE!

***Open start - 09:00*** **BREAKFAST**

***09:00 – 09:30/10:30*** **CONTINUE WORK ON PROPOSALS AND PANEL PITCH**

* Each group gets a private time slot (10 mins pitch + 5 mins panel time + 10 mins discussion) assigned to pitch to us and we give them feedback and settle on a design NEED FLIPCHART

***10:30 – 16:00*** **FINETUNE & HIKE**

* Finetune final design, open Q&A on hike…

***16:00 – 18:30*** **PROGRAM YOUR EXPERIMENTS**

Before programming their experiments, each group has to hand us a schema of the experiment. This can be simply a piece of paper with the sketch.

* Each group needs to work on their experiments
  + Can still be finished the next day, but make clear the goal is to finish that night

***18:30 – 19:30*** **DINNER**

***19:30 – open end*** **CONTINUE** **PROGRAM YOUR EXPERIMENTS**

* + Continue programming experiments

# Tuesday

**Goal**: the students should work as independently as possible and try to use the skills and knowledge from the previous days in their assignments. They should recruit and organize data collection and handle the data analysis. The lecturers function as crutches, but the students need to feel the weight and responsibility.

***Open start - 09:00*** **BREAKFAST**

***09:00 – 09:30* INTRO TO PAPER WRITING**

* We give a brief introduction to scientific paper writing.

***09:00 – 13:30*** **DATA COLLECTION**

* Each group needs 10 participants in their experiment NEED LAPTOPS/STICKS
* This time can also be used to finalize experiments

***13:30 – 18:30*** **GROUP TIME**

* Each group can do with this time what they want, but Analysis and presentations preparations are suggested NEED LAPTOPS/STICKS

***18:30 – 19:30*** **DINNER**

**19:30-open end**

* Keep working on project

# Wednesday

**Goal**: Present and discuss the projects. Recap everything learned and emphasize on the important bits.

***Open start - 09:00*** **BREAKFAST**

***09:00 – 10:30* FINALIZE PRESENTATIONS**

* Give students some more time to work on their presentations after breakfast

***10:30 – 12:00*** **PRESENT AND BE PROUD**

* Each group has 15+5 mins to present their projects

***12:00 – 13:00*** **CLOSING WORDS**

* Recap + Feedback round
* Ask students to do the evaluation

***13:00 – open end*** **THE LONG DRIVE HOME**

# PEANUT BUTTER JELLY TIME exercises (Appendix I)

**Goal**: capture *how-to* knowledge by breaking problems down into mechanical steps. Figure out how to turn that into something the machine understands, so that it can execute those steps for us, we're ready to start putting those pieces together. It will be a group format where the groups will always just create one page of a flip chart for a couple of minutes and show the others what they did. Very high pace with idea generation at its core…

***WED 19:30 – 21:00*** **THE MECHANICS OF BREAKING DOWN PROBLEMS (part of DRINK AND (USB) DRIVE )** NEED FLIPCHART

* Task 1: Go together in groups and write down all steps of making a peanut butter and jelly sandwich on a flip chart page (5-10mins)
* *WE surprise them by putting a (1) jar of peanut butter, a (2) jar of jelly, a (3) loaf of bread, and (4) a knife on the table. Aylin is a robot (computer) that is physically capable of making a peanut butter and jelly sandwich, and he uses the steps as instructions (programming). Aylin executes the instructions of each group without making inferences, having common sense and following EVERY part of the instruction.*
* Task 2: you get to rewrite the instructions within your group (10mins). Each group then sends out ONE negotiator to settle on the final instructions with the other group negotiators (10mins) and submit to Aylin on a new page and see if it works.
* *To get Aylin to spread peanut butter on a slice of bread, they'll learn they have to tell Aylin to...*
  1. *unscrew the top of the peanut butter jar and set it aside*
  2. *open the bag the bread is in*
  3. *pull out a slice of bread*
  4. *pick up the knife, by the handle end*
  5. *get peanut butter on the blade of the knife*
  6. *spread the peanut butter on one side of the bread and leave it face up*

# Research Proposal Outline (Appendix II)

**Instruction**: Today you will be meeting with three members of a “grant approval board” to pitch your idea for an experiment. Although they may look nice, they can be extremely tough! So make sure you have prepared a well thought out research proposal. In order to do so here we have outlined a structure which may help you line out your ideas. You will not need to prepare a formal presentation, however you will have 10minutes to pitch your ideas (with the aid of a flip chart), and the review panel will have 10 minutes to ask questions/critique your idea. The panel will be primarily concerned with **novelty of the research question, feasibility of the design, and experimental control**. You should do your best to convey your ideas as well as incorporate the suggestions of the panel. Please come prepared with 3 proposals.

See the example below to help you get started.

## Introduction/Motivation:

What has already been done? Prepare some examples of past research that may be the inspiration of the current design. You should paint a picture for the panel in which there is a “hole” or “gap” in the current research and this is the motivation for the current experiment.

## Research Question:

Always make the research questions explicit! Maybe write this on the flip chart ☺ This should be the main question you wish to answer with the proposed experiment.

### Methods:

Here you need to explain in DETAIL how you will answer the question. Having an explicit methods section will make it easier for the panel to assess the feasibility of the experiment (think of the PB&J example). When the methods are not thoroughly explained the panel will be forced to assume the experiment is not possible.

## Expected Results/Hypothesis:

What do you think will happen? You should propose some possible results, as well as interpret what these results would mean for the research question.

**TIP:** Make sure you can convey all your ideas in 10 minutes. It is always helpful to practice your presentation!