# Syllabus

**Overview:** This seminar is designed to provide participants with hands-on experience in experimental design, programming with PsychoPy, and data analysis. Through practical exercises, creative ideation, and collaborative research proposal development, students will learn to design and conduct experiments in the field of cognitive psychology.

**Day 1: Saturday - Getting Situated**

**Objective:** Prepare participants mentally and technically for the seminar.

* **18:00 – 19:30**: **Welcome**
  + Welcome speech and dinner.
  + Set up rooms and equipment.
* **19:30 – 21:00**: **Drink and (USB) Drive**
  + Test program installations and distribute materials.
  + Exercise: "Peanut Butter Jelly" to introduce algorithmic thinking in a fun, practical context.
* **21:00 – open end**: **Social Evening**
  + Casual social activities to foster group cohesion.

**Day 2: Sunday - Exploring Research and Programming**

**Objective:** Familiarize participants with research papers and programming basics in PsychoPy.

* **08:00 – 08:30:** **Breakfast.**
* **08:45 – 11:00**: **Paper Reading Exercise**
  + Understand independent/dependent variables, experimental design, and results interpretation.
  + Group discussions on assigned research papers.
* **11:00 – 13:30**: **Introduction to Experimental Programming with PsychoPy**
  + Step-by-step exercise to create a basic visual search experiment.
  + Group participation to collect experimental data.
* **15:30 – 17:30**: **Idea Generation Exercise**
  + Use creative techniques to brainstorm potential research questions.
* **17:30 – 19:30**: **R U Ready?! (Part 1 & 2)**
  + Introductory session to data analysis with R.
* **19:30 – 22:30**: **Meet the Panel & Draft Proposals**
  + Students may get started working on their research proposals (if they finish early with their tutorials, otherwise this is moved to next morning before & after hike).

**Day 3: Monday - Creative Research Design**

**Objective:** Inspire creativity in experiment design while refining ideas from the previous day.

* **09:00 – 09:30**: Breakfast.
* **09:30 – 16:00**: **Fine-Tuning & Hike**
  + Continue to refine experimental designs with feedback.
  + Informal Q&A during a group hike.
  + Roleplay as a grant review board to help students frame and refine their research proposals (this can be moved to after hike, all depends on the weather and the previous day)
* **16:00 – open end**: **Program Your Experiments**
  + Groups work on implementing their final experimental designs in PsychoPy.

**Day 4: Tuesday - Independent Work and Data Collection**

**Objective:** Apply learned skills in a self-directed environment.

* **09:00 – 09:30**: Breakfast and **Introduction to Scientific Paper Writing**.
* **09:30 – 13:30**: **Data Collection**
  + Groups recruit participants and collect data for their experiments.
* **13:30 – 18:30**: **Group Time**
  + Data analysis and preparation for presentations.
* **19:30 – open end**: **Finalizing Projects**
  + Continue working on finalizing the projects for the presentation.

**Day 5: Wednesday - Presentations and Feedback**

**Objective:** Present research projects and reflect on the learning experience.

* **09:00 – 10:30**: Final preparation for presentations.
* **10:30 – 12:00**: **Presentations**
  + Each group presents their project (15 minutes presentation + 5 minutes Q&A).
* **12:00 – 13:00**: **Closing Words & Feedback**
  + Recap of the seminar and feedback session.
  + Evaluation and discussions.
* **13:00 – onwards**: Departure.