

# Cognition Online Lab

Revised 9.10.2018

**01:830:306:93 Fall 2018**

**Busch Psychology Building, Rm 105**

**Weekly Chats: Tuesday 10:20 AM – 11:00 AM**

**In-Class Meetings: September 11 and October 30**

**Instructor:** Sten Knutsen

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**Online Discussion/Chat Session:** Tuesday 10:20 AM – 11:00 AM (**MANDATORY**)

**Office Hours:** By appointment.

We will be doing various lab exercises that will give you hands on experience with the research methods and important findings in Cognition. These exercises will give you opportunity to experience some phenomena first hand, as well as the opportunity to generate and test some hypotheses of your own. You'll also be able to improve some basic skills in using software, analyzing data and communicating scientific findings.

## **Learning Goals:**

1. Develop scientific thinking skills, including how to form and test hypotheses and how to draw sound conclusions from results.
2. Demonstrate some well-known cognitive and perceptual phenomena by running lab exercises.
3. Learn-by-doing the main research methods of the field.
4. Learn how to analyze data and evaluate hypotheses.
5. Learn research communication skills.
6. Improve computer literacy.

This laboratory class is meant to serve as a companion to the lecture class PSYCH-305. The conceptual and theoretical basis for the exercises and demonstrations are developed in lecture. For this reason, concurrent or past registration in PSYCH-305 is required.



This course has been certified as satisfying four of the Writing and Communication Learning Outcome Goals (including WCR and WCD) of the SAS Core Curriculum

Specifically, students will be able to:

- a) Respond effectively to editorial feedback from peers, instructors, and/or supervisors through successive drafts and revision (WCR);
- b) Communicate effectively in modes appropriate to a discipline or area of inquiry (WCD)
- c) Evaluate and critically assess sources and use the conventions of attribution and citation correctly
- d) Analyze and synthesize information and ideas from multiple sources to generate new insights.

### **Class website:**

- All relevant course information will be posted on the Sakai website, including experiment files, powerpoints, instructional videos, and journal articles.
- The class website also has this syllabus and the lab assignments.
- Assignment due dates and submission will all be in the assignment tab.
- All uploaded assignments must be .doc, .docx or .pdf. All uploaded data must be in excel or google sheets.
- Grades will be posted in the gradebook on the website.

### **Time Management:**

Note that Rutgers University expects the **median** student to spend 3 hours per week on lab classes. (If you don't remember what "median" is, please ask!) Therefore, you should plan to spend 3 hours per week on this class. You should also be aware that any given week may take you more time if you find the material difficult, or less if you've covered it in previous classes. The great thing about online classes is that these three hours do not have to be all at the same time, or even the same time every week! (There is one exception to the "same time every week": see the section below called "Weekly Sakai Chats")

Please also note that the Lab Coordinator has very carefully chosen assignments such that they will take the median student approximately 3 hours. If the list of assignments one week seems like a lot of individual assignments, that is because most of them will take a short time. If the list of assignments one week seems like short, that is because you are expected to spend more time on each assignment.

### **Computers:**

Lab exercises require computers that run either Windows or Macintosh operating systems. Lab software is not compatible with operating systems used on notebooks, tablets, or ipads. Lab exercises may be run on computers in a university computer lab (see <https://oit-nb.rutgers.edu/service/computer-labs-0> for a list of university computer lab locations). If you choose to run the exercises in a computer lab, be sure to bring a thumb-drive so that you can keep copies of your work. In addition, some of the exercises may require use of headphones.

### **Important Rules:**

No electronic recording (audio, video, photos, etc.) of class materials is allowed. No online posting of class material is allowed other than as approved by the instructor.

### **Data Collection:**

In this course we are doing lab exercises, not original research. All data for weekly exercises as well as the final project will be collected with either you or your classmates serving as the participants. Collecting data from anyone else (roommates, friends, family members, etc.) is **never** permitted.

### **Grading:**

In order to pass this class, you must do the weekly assignments on time. In addition, you must do the final project. **If you do not complete both of these aspects of the course, you will automatically fail the course.**

Your final grade will be based on three things:

1. Attendance (see Attendance Policy below)
2. Weekly lab assignments (REQUIRED: see above)
3. An original project report completed during the last several weeks (REQUIRED: see above)

Every assignment will count towards your grade. There are no tests or quizzes. Grades for this course will not be curved or scaled.

The criteria for grading your work will be:

- Effort and class participation
- Demonstration of progress in understanding and using software tools
- Clarity of graphs
- Clarity of writing
- Demonstration of understanding basic perceptual concepts introduced in the labs

### **Final Project:**

The final project is the writing of a full laboratory report based on an original experiment carried out in class during the final weeks of the semester. These reports will be given a letter grade (A, B+, B, C+, C, D, F).

### **Weekly Homework:**

We will be working on exercises – modified versions of well-known experiments in the field of Cognition – at least every week. Sometimes, we will spend two weeks on one of these exercises. In addition to your writing assignments (see next section), you are also responsible for preparing for the chatroom by reading the posted power-points and watching the posted movies. These are the resources you would be shown in class, and you are just as responsible for understanding them as you are in an in-class course. (The great thing about the online version is that you can watch/read them at your own speed, and you can go back as many times as you like.) Make sure you leave yourself enough time to understand the material before the mandatory weekly chats (see below writing assignments).

*Weekly Assignments:*

For each week, you will have small written assignments. Writing assignments will consist of one or more of the following: worksheets about the reading; practice in formatting aspects of the laboratory report; and other, small opportunities to practice the skills needed to write a full laboratory report. The first two or three weeks will include shorter portions of the lab report. These portions will be on methods, raw data, data analysis (graphs, charts, statistical tests, etc.), results and conclusions. In later weeks, assignments will often consist of full portions of the lab report: Abstract, Introduction, Methods, Results, Discussion. You will also be assigned an exercise that practices statistical analysis. These assignments are due weekly.

These assignments will be graded according to a “pass-plus”/ “pass”/ “pass-minus”/ “fail” scale. If you hand the assignments in on time, you may have the option to rewrite the assignment depending on your grade. You are strongly encouraged to take advantage of this option. The revised version is due within one week of me handing back the graded assignment. The revised report will also be graded. Revising an assignment DOES NOT guarantee you a higher grade: you must still follow the assignment and make the necessary corrections. No revisions will be accepted after this one-week time period, and no subsequent revisions will be accepted after the first revision. However, I will be available to meet with you to discuss the material and your performance.

The grade you earn is as follows:

P+: Pass-plus: Excellent work, no rewrite needed

P: Pass: adequate work, but there are mistakes and you would benefit from a rewrite

P-: Pass-minus: definite problems or needs improvement; you are likely to do poorly without a rewrite

F: Fail, requires redo

All laboratory assignments and reports must be completed by the individual student. Collaborative reports will be given an F grade. Please see Academic Dishonesty Policy below.

### **Late Assignments:**

If you do not turn in an assignment on time, you will lose the option to revise it. However, you can still receive partial credit if you submit it by the end of the revision period. When the revision assignment has been posted in the Assignments tab on Sakai, late assignments must be submitted there, and the maximum grade you can receive will be a P. If your late assignment is not submitted by the revision due date it will become an F and there will be no further opportunities to receive credit for it.

### **Weekly Sakai Chats:**

Each week, we will have a weekly chat meeting in the chatroom on the class Sakai site. This meeting gives you an opportunity to ask any questions you may have about the experiment/assignment for the week. This is MANDATORY, and will determine your participation grade in the course. To receive credit, you must be in the chat room on time, for the entire time, and you must contribute meaningfully to the discussion. A “meaningful contribution” includes comments such as a question about the material that is not answered in the power-point or the movies assigned, or answering someone else’s question with a reasonable answer. Contributions that will not be counted include comments such as “I understood everything,” or “What did everyone do this weekend?” Each student is required to remain and participate in the chatroom for the full scheduled time. Note: this chat time is included as part of your time-management allotment.

### **Attendance Policy:**

If you miss a chat meeting for a legitimate reason (e.g. illness, religious holiday) you must send an official excuse note (e.g. doctor's note). Missed chats that are not excused will negatively impact your participation grade. ***You must attend the weekly chat meetings on Sakai.*** Not attending prevents you from learning about the goals and content of the lab projects. If you are more than 20 minutes late you will be marked down as having an unexcused absence.

### **Academic Dishonesty Policy:**

In science, there is absolutely no room for fraud or untruth. Our job as scientists is to search out facts, not just for ourselves but for society as a whole. Consequently, you should be very clear that, just as I expect you to learn about the topic matter, I also expect you to learn about scientific honesty. In the work that you present to me, falsifying, plagiarism, or copying without attribution will not be tolerated. Additionally, re-use of assignments from other classes will not be permitted. Intentional ethical violations will be handled in accordance with the university’s academic integrity policy. All assignments will be submitted to the Turn-it-in system, where its originality will be verified. Please check the school guidelines for further clarification of violations.

**All course materials can be found on <http://sakai.rutgers.edu> after you log in. It is expected that you have reviewed all relevant materials to the week’s assignment prior to our scheduled online chat.**

**If you decide to stay enrolled in this class after receiving this syllabus, I will assume you have read the entire syllabus and have agreed to all the policies outlined.**

**Class Schedule**

The following class schedule is subject to change (I can guarantee you it *will* change) but I will make sure to inform you of all changes by email.

**CLASS SCHEDULE**

Week	Date	Content	Stuff Due
1	September 11th	<ul style="list-style-type: none"> <li>• First in-class meeting from 10:20 - 11:00 AM, room 105 of Psych building</li> <li>• Introduction to course</li> <li>• Installing and testing PsychoPy</li> <li>• Assignment released: Excel</li> <li>• Assignment released: Scientific Methods</li> <li>• Reading: Basics of Scientific Writing Powerpoint</li> </ul>	Nothing this week. Just downloading, installing and testing PsychoPy
2	September 18th	<ul style="list-style-type: none"> <li>• First online chat</li> <li>• Discuss any problems/questions regarding Excel assignment</li> <li>• Discuss reading: Basics of Scientific Writing Powerpoint</li> <li>• Assignment released: Mental Rotation/Methods</li> <li>• Reading: How to Write a Methods Section Powerpoint</li> </ul>	Excel and Scientific Methods assignments due Friday, September 21 @ 11:00AM
3	September 25th	<ul style="list-style-type: none"> <li>• Chat: discuss methods, mental rotation data collection</li> <li>• Assignment released: TBA</li> </ul>	Mental Rotation/Methods assignments due Wednesday, September 25 @ 5AM
4	October 2nd	TBA	TBA
5	October 9th	TBA	TBA
6	October 16th	TBA	TBA
7	October 23rd	TBA	TBA
8	October 30th	<ul style="list-style-type: none"> <li>• Second in-class meeting from 10:20 - 11:00 AM, room 105 of Psych building</li> <li>• Collect data for final project</li> </ul>	TBA
9	November 6th	TBA	TBA
10	November 13th	TBA	TBA
11	November 20th	Thanksgiving Week	Nothing this week.

Week	Date	Content	Stuff Due
12	November 27th	TBA	TBA
13	December 4th	TBA	TBA
14	December 11th	TBA	Final project due on Thursday, December 13 at 5:00 AM