

# Cognition Hybrid Lab

01:830:306:02 Spring 2020

Where: Busch Psychology Building, Rm 101

Day and time: Thursdays, 5:00 PM – 6:20 PM

First class is on Thursday, January 30

**Instructor:** Sten Knutsen

**E-mail:** [sten.knutsen@rutgers.edu](mailto:sten.knutsen@rutgers.edu)

**Office Hours:** Right after class, or by appointment, Psych. Bldg. Room 109

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: 1 hour and 20 minutes in class, and **1 hour and 40 minutes on your own**. 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.

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.

## COMMUNICATION

Please feel free to email me at [sten.knutsen@rutgers.edu](mailto:sten.knutsen@rutgers.edu) if you have any questions, concerns or comments. **The only things that I am not willing to discuss via email are:**

- 1) attendance or grading issues (which I will be happy to discuss in person during office hours)
- 2) questions that can be answered by reading this syllabus

## Grading

In order to pass this class you must:

- 1) do all weekly assignments and submit them on time, and
- 2) complete the final project

**If you do not complete either of these two 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 0 to 3 point 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.

Assignment grading breakdown:

**3 points:** Pass-plus: Good to Excellent work, possibly some mistakes, but no rewrite needed. Make sure to apply feedback in future work.

**2 points:** Pass: adequate work, and you would probably benefit from a rewrite.

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

**0 points:** Fail, requires redo. Used for both missing/late assignments and “blank” submissions

## **Weekly Assignment Policy (IMPORTANT):**

There is no such thing as a late assignment, only a missing assignment. **All weekly assignments will be due on Friday evening by 11:59 PM.**

Assignments that are not turned in on time will be considered missing/not turned in.

If you turn in **NO ASSIGNMENTS** for **ANY TWO WEEKS** *or* if you **FAIL ALL ASSIGNMENTS** for **ANY TWO WEEKS**, **YOU WILL AUTOMATICALLY FAIL THE COURSE WITH NO CHANCE OF MAKING IT UP LATER.**

**YOU WILL NEED TO RETAKE THE COURSE ANOTHER SEMESTER.**

**YOU CANNOT TURN IN A FINAL PAPER AND PASS — YOU ALREADY FAILED THE COURSE.**

**Question:** Wait. Does that mean that if I don't turn in my assignments for the weeks of February 6 and 13, I will have failed out of this course before Valentines Day?

**Answer:** Yes! That is exactly what that means. It doesn't have to be two weeks in a row even. You could blow of your February 6 assignments, then not turn in your April 9 assignment and fail the course before Easter!

**Question:** Whoa — that's pretty intense — but I get a chance to make up for that, right? Like, I can still turn in the final paper and pass, right?

**Answer:** No. If you turn in no assignments for any two weeks, or if you fail all assignments for any two weeks, **YOU HAVE FAILED THE COURSE** and will need to retake it another semester.

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 2 (-1 point penalty)**. If your late

assignment is not submitted by the revision due date it will become an 0 and there will be no further opportunities to receive credit for it.

### **FOR THE *CHRONICALLY* LATE**

The above late assignment policy applies to a student who fails to turn a weekly assignment. However, penalties for lateness increase by consecutive weeks.

This means that the first week you turn in an assignment late, **the maximum grade you can receive will be a 2, which is a -1 point penalty.**

However, if any **two** homework assignments are late for any two consecutive weeks, the maximum grade you can receive on the second late assignment will be a **1, which is a -2 point penalty.**

Furthermore, if any **three** homework assignments are late for any three consecutive weeks, the maximum grade you can receive on the second late assignment will be a **0, or a -3 point penalty.**

**RELEVANT MUSINGS:** Technically, there is no such thing as a late assignment in this class. You can either:

- 1) submit an assignment on time, in which case I will grade it, and you will have the opportunity to resubmit your revised assignment for a higher grade, or
- 2) submit your assignment as a revised assignment (late). However, you will have no chance for a higher grade once I grade it.

Also note that if you do not submit any assignments on time for a given week, this counts towards your first week of missing assignments, which is also your first step towards immediate failure from the course.

### **EXTRA CREDIT**

As of now, there is no extra credit for this course. **Please do not email me asking if there is something you can do for extra credit.** If during the course of the semester I determine that an extra credit assignment or quiz is in order, I will make an announcement to the entire class. The extra credit assignment/quiz will be open to the entire class and will not be curved.

### **Weekly lecture/class discussions**

Each week our class will be a combination of lecture and class discussion. This class gives you an opportunity to ask any questions you may have about the

experiment/assignment for the week. Attendance is MANDATORY. **If you miss more than 3 classes, your final letter grade will be reduced by half a grade.** Each student is required to remain and participate in class for the full scheduled time.

## **Attendance Policy**

All students are expected to attend every class. If you are so ill that you cannot physically attend a class, two things must happen for you to get attendance credit:

- 1) you must notify me of your absence by email before the class starts**
- 2) you must provide note from a doctor, dean or other appropriate person**

**If you do not complete both of these steps, you will not get attendance credit. Missing more than three classes will result your final course grade being lowered by half a letter grade (e.g. from an A to B+).**

**Question:** I can't miss more than three classes? What if I get sick?

**Answer:** Well, if you are so sick that you can't attend class, you can 1) email me before class starts stating that you're sick and can't make it and 2) provide the appropriate documentation (doctor's note, etc.) . If you do these two things, I will give you credit for attending the class you missed.

**Question:** Okay, but why do we lose half a grade if we're absent more than three classes? Doesn't that seem extreme?

**Answer:** Not really when you think about it. During each class, I am going to tell you how you can best complete your weekly assignments. In turn, these assignments will help you write your final paper, which is most of your grade. If you miss classes, you will miss my instruction and this will likely affect your final grade negatively. That's why attendance is important (not because of the half a grade you lose for poor attendance).

## **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.

**IMPORTANT: This includes reuse of your own assignments from this class, if you have already taken this class before.** For instance, if you took Cognition Lab or Sensation and Perception Lab last semester and failed, you cannot turn in

assignments you already completed for that semester. **All work you turn in should be done this semester.**

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.**

### **TENTATIVE CLASS SCHEDULE**

<b>Week</b>	<b>Date</b>	<b>Content</b>	<b>Stuff Due</b>
1	January 30	<ul style="list-style-type: none"> <li>• First day of Cognition Lab! 5:00 - 6:20 PM, room 101 of Psych building</li> <li>• Assignments released: Excel-lent Exercise, Scientific Methods and Writing exercise</li> </ul>	<b>ALL ASSIGNMENTS DUE SUNDAY BY 11:55 PM</b>
2	February 6	<ul style="list-style-type: none"> <li>• Discuss any problems/questions regarding Excel exercise</li> <li>• Assignments released: Mental Rotation Data Collection, Mental Rotation Reading Comprehension and Procedure Subsection</li> </ul>	Excel Exercise, Scientific Methods and Writing exercise <b>Due Feb. 9</b>
3	February 13	<ul style="list-style-type: none"> <li>• Assignment released: Mental Rotation Methods, Descriptive Statistics exercise</li> </ul>	Mental Rotation Data Collection, Mental Rotation Reading Comprehension and Procedure Subsection <b>Due Feb. 16</b>
4	February 20	<ul style="list-style-type: none"> <li>• Assignments released: Mental Rotation Results</li> </ul>	Mental Rotation Methods, Descriptive Statistics exercise <b>Due Feb. 23</b>
5	February 27	<ul style="list-style-type: none"> <li>• Assignments released: Citation practice, Final Project Selection and Reading Comprehension, <b>Final Project Data Collection</b></li> </ul>	Mental Rotation Results <b>Due March 1</b>
6	March 5	<ul style="list-style-type: none"> <li>• Assignment released: Mental Rotation Introduction</li> </ul>	Citation practice, Final Project Selection and Reading Comprehension <b>Due March 8</b>
7	March 12	<ul style="list-style-type: none"> <li>• Assignments released: Mental Rotation Discussion, Inferential Statistics exercise</li> </ul>	Mental Rotation Introduction, Final Project Data Collection <b>Due March 15</b>

Week	Date	Content	Stuff Due
8	March 19	SPRING BREAK	NO NEW ASSIGNMENTS!!
9	March 26	• Assignment released: Final Project Proposal	Mental Rotation Discussion, Inferential Statistics exercise <b>Due March 29</b>
10	April 2	• Assignments released: Final Project Methods	Final Project Proposal <b>Due April 5</b>
11	April 9	• Assignments released: Final Project Results	Final Project Methods <b>Due April 12</b>
12	April 16	• Assignments released: Final Project Introduction	Final Project Results <b>Due April 19</b>
13	April 23	• Assignments released: <b>Final Project Discussion (Due next Thursday)</b>	Final Project Introduction <b>Due April 26</b>
14	April 30	• Assignment released: <b>Final Project Paper (Due Monday, May 4 @5PM)</b>	<b>NOTE: Final Project Discussion Due Thursday, April 30 @ 11:59 PM</b>
15	May 4	<b>Final Project Paper Due</b>	<b>NOTE: Final paper due Monday, May 4 @ 5PM</b>