

Neuroscience I: A Laboratory Course ([PSY3460](#))

Spring 2018

COURSE DESCRIPTION

Neuroscience I is a four-credit course introducing the biological bases of animal and human behavior. Content will focus on the nervous system, particularly the central nervous system (CNS).

If you choose to pursue neuroscience, Utah State University offers a series of advanced classroom and laboratory courses that may interest you. Like most universities, USU does not offer a major in neuroscience. Instead, prospective neuroscientists can major in related fields like psychology, biology, and engineering: Neuroscience is necessarily a multidisciplinary field. Subsequent opportunities, like in graduate school, would provide you with opportunities to (a) contribute your particular expertise acquired from your plan of study, (b) expand your expertise to other domains, and (c) collaborate with others who have expertise you lack.

This course is only partially self-paced. Weekly, new course content will become available and deadlines will pass; however, all assignments and evaluations have windows for completion that should accommodate most schedules.

LEARNING OBJECTIVES

1. Describe basic neuroanatomical structures (e.g., regions of the brain).
2. Describe basic neurophysiological functions (i.e., how the nervous system “communicates”).
3. Describe procedures commonly used by neuroscientists (e.g., brain imaging techniques).
4. Describe how neuroscience contributes to our understanding of learning, motivation, disease, and everyday life.

Instructor – David M. Cole, M.S., BCBA

E-mail – dcole@observechange.org

Phone Number – (904) 345-0104

Office Hours – By request, on campus or distance

Teaching Assistant – Noa Reuveni (noasara@aggiemail.usu.edu)

Required Textbook – Garrett, B. (2015). *Brain and behavior: An introduction to biological psychology* (4th ed.). Los Angeles, CA: Sage.

Recommended Textbook – Hough, G. (2015). *Study guide to Bob Garrett’s Brain and behavior: An introduction to biological psychology* (4th ed.). Los Angeles, CA: Sage.

Grading Rubric

Assignment Type	Count	Points per Assignment	Points Subtotal	Percentage Subtotal
Quizzes	14	10	120	24
Labs	13	10	130	26
Exams	4	62.5	250	50
Study Guide EC	13	1	13	2.6
Repeated Quiz EC	30	1	30	6
Bonus Chapters	2	10	20	4
Total (+extra credit):			500 (+63)	100 (+12.6)

ASSIGNMENT TYPES

Quizzes (13)

Every Friday, except for [Spring Break and No Test Week](#), a quiz will be due. All quizzes are **proctored** (see box on p. 3). The first quiz is **open-book** and may be taken up to **5 times**, with the highest score retained; it regards this syllabus, which you may reference during the quiz. It provides an opportunity to become acquainted with the proctoring software, as applicable, as well as the structure of quizzes. All other quizzes are **closed-book** and may be taken only **once** for full points (but see *Extra Credit*).

Because life happens, your **2 lowest quiz scores** will be dropped. For any other accommodations, see *Late and Incomplete Assignments*.

What to expect:

- You have **20 minutes** to answer **10 multiple-choice** questions.
- All questions address the **current week's content**, but because course content builds systematically, some questions require recall of **prior content**.
- Most questions are based on the **study guide**, but do not expect all questions/answers to duplicate the study guide. You will not be tested on lab content, unless this content also appeared in the text.
- The study guide contains known errors. A list of errors will be shared with you. If you believe a question in any assignment (e.g., quiz, lab, exam) contains an error, **attach a comment to the exam or contact Noa or I within 1 week of the exam deadline**.

Labs (13)

For each chapter, a laboratory to complement classroom content. Typically, labs will consist of videos and/or additional readings. As you complete the lab, you will answer graded questions. Labs are **unproctored**, **open-book**, and **untimed**.

Exams (4)

Four units in this course address four thematically-related sets of chapters. Each unit is followed by an exam. All exams must be **proctored** (see box on p. 3) and are **closed-book**.

What to expect:

- You have **120 minutes** to answer **50 multiple-choice** questions, each worth 1.25 points.
- All exams are **cumulative**, though questions will be disproportionately drawn from the current unit (see figure on p. 3).
- Most questions are based on the **study guide**, but do not expect all questions/answers to duplicate the study guide. You will not be tested on lab content, unless this content also appeared in the text.
- The study guide contains known errors. A list of errors will be shared with you. If you believe a question in any assignment (e.g., quiz, lab, exam) contains an error, **attach a comment to the exam or contact Noa or I within 1 week of the exam deadline**.

Extra Credit (57)

There are three types of extra credit opportunities, which are designed to enhance your acquisition of core content (i.e., improve your test scores) or expand on core content.

First, every chapter, if you turn in proof that you completed the relevant **study guide** section, you will receive one point. Proof includes (a) a PDF scan of your completed study guide or, (b) if you prefer not to write in your study guide, a numbered list of your answers, hand-written or typed. No partial credit will be awarded: All questions must be answered and answers must be legible. This includes fill-in-the-blanks, multiple-choice, and short answers. Answers need not be correct—correct answers are included in the study guide. So, use this as a study opportunity.

Second, we learn best through *spaced repetition*. To encourage you to revisit material throughout the semester as well as prepare you for the cumulative exams, you may **repeat quizzes** for extra credit. Before Exam 1, you may repeat Quizzes 1–3; before Exam 2, Quizzes 1–6; before Exam 3, Quizzes 1–6 and 8–10; and for before the final exam, Quizzes 1–6, 8–12, and 14. In other words, you may repeat all prior quizzes, excluding the current week’s quiz. For each repeat, questions will be worth 1/10 of their original value (i.e., original quizzes are worth 10 total points and repeated quizzes are worth 1 total point). This might not sound like much, but it could add 6 points to your final grade, while also helping you to prepare for exams. Did you do well on a repeated quiz? You may be well prepared for the exam. Did you do poorly? You may consider brushing up on that chapter before taking the exam.

Third, we will not have time to cover **Chapters 7 and 13**. You may complete proctored, closed-book quizzes on these chapters for extra credit, any time from when the applicable unit becomes available to the end of the semester. No other extra credit for these chapters (i.e., for study guides or repeated quizzes) is available.

Proctoring Options

Virtual Proctoring

Requirements: [Chrome-based browser](#), [Proctorio Chrome extension](#), webcam, microphone, ≥0.25 Mbps Internet connection, photo identification (e.g., student ID, driver’s license)

Cost: Free

Directions: Click on an open test and follow the onscreen prompts ([FAQ](#))

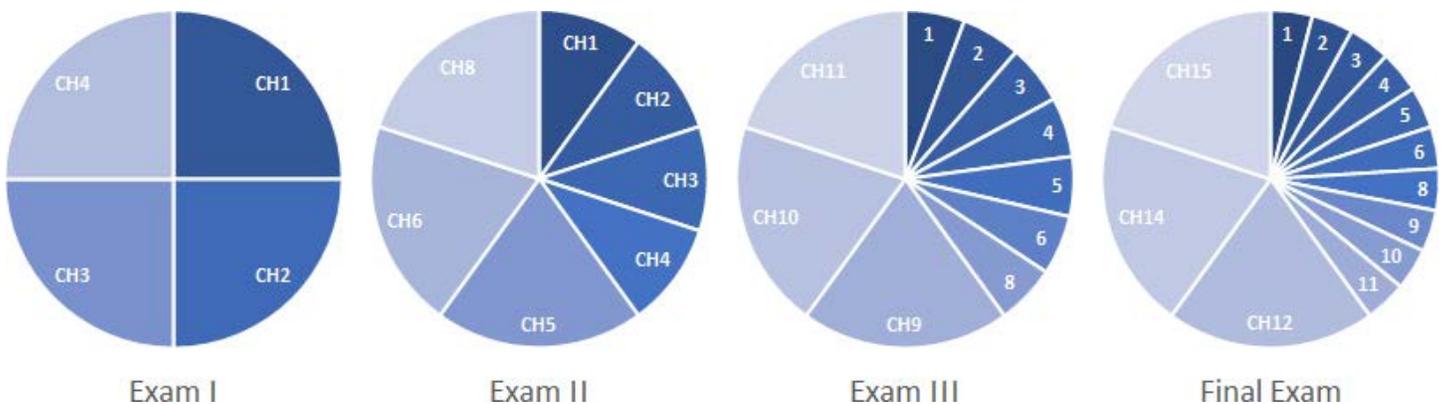
Live Proctoring

Requirements: USU-certified proctor

Cost: Varies

Directions: As soon as possible, [find a proctor](#). To mitigate costs, consider completing multiple proctored assignments per session (or using virtual proctoring).

Question Distribution for Exams



GRADING

Calculating Grades

This section is a bit wonky, but it is an important read if you wish to accurately predict your course grade.

For an accurate prediction of your final grade, you must simulate scores for all assignments whose deadlines have not yet passed. If you skipped an assignment, including extra credit, you should enter a zero for it, because when final grades are calculated, non-submissions are treated as zeros. Noa and I will try to remember to enter zeros on our end, but do not get caught off-guard at the end of the semester and, because you did not factor in zeros for non-submissions, mistake your course grade for higher than what will be reported.

Note that early in the semester, because your lowest 2 quiz scores are dropped, your course grade may be artificially inflated (i.e., scoring 0%, 0%, and 100% on your first three quizzes will be treated as if you scored 100% on quizzes, which account for 24% of your course grade). Conversely, note that extra credit is end-loaded across the semester (i.e., you have more opportunities for extra credit as the course progresses).

On completing extra credit, your course grade may lower. This is because extra credit is factored into your grade by making the course worth more than 100% (see Grading Rubric on p. 1). Prior to deadlines, scoring less than 100% on extra credit does lower your course grade, but (a) if you opt to skip extra credit, a zero is recorded and your course grade lowers even more, assuming you would have earned at least partial extra credit for a submission, and (b) if you skip all extra credit, you can still score 100% in the course. In other words, if you do not earn all points on an extra credit assignment, your maximum score naturally lowers, but it is not true that you are penalized for completing extra credit.

Grading Scale	
A	100–93%
A-	92–90%
B+	89–87%
B	86–83%
B-	82–80%
C+	79–77%
C	76–73%
C-	72–70%
D+	69–67%
D	66–60%
F	59–0%

Final grades will be rounded up to the nearest full point

Achieving Your Target Grade

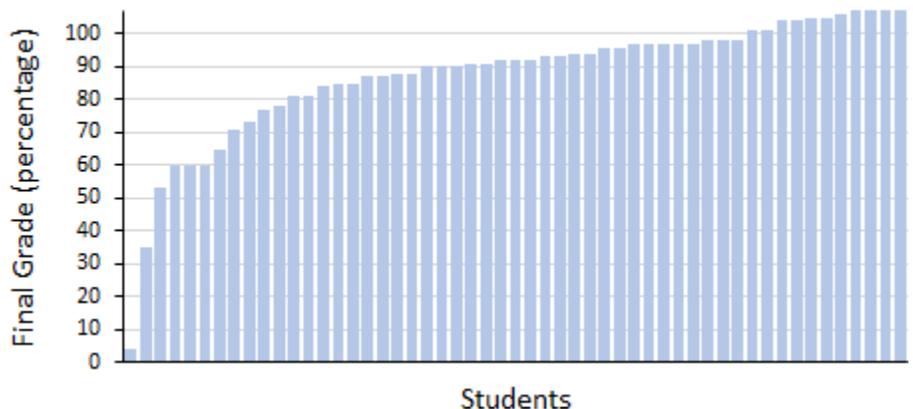
I strongly recommend you complete all repeat quizzes for extra credit. If you are struggling with this course, my first step will be to verify that you are completing all repeat quizzes. These extra-credit assignments are free points for studying for the exam. As you can see from the grading distribution in the figure below, an A or B in this course is eminently achievable. Most students with less than a B did not complete all extra-credit assignments; most students with less than a C did not complete all core assignments.

Late and Incomplete Assignments

Most assignments open 10 days prior to their due date—pay attention to Canvas deadlines for exceptions. So, typically, assignments open by Wednesday of the week prior to their due date.

Technically, it is possible to complete extra-credit quizzes prior to the actual quiz. For

Grade Distribution for Fall 2017



example, the first extra-credit quiz for Chapter 1 will open immediately after the deadline on Saturday, January 20, while the grace period for the normal quiz for Chapter 1 does not end until Tuesday, January 23. However, because this would give students an unfair advantage on the normal quiz, which is worth more points, you are prohibited taking a normal quiz if you have already taken the extra-credit quiz. Doing so will result in a zeroing out of both grades.

Normal quizzes and exams are due before midnight on Fridays. Pre-deadline, I will work with you to address technical errors (e.g., Proctorio server outages), documented illnesses, and so on (see below). During the 4-day grace period (Saturday through Tuesday), you may complete tests *without penalty*; however, you assume all risks (i.e., rescheduling is no longer offered). After Tuesday, no points are available.

Labs are due before midnight on Fridays. At midnight, 2 points will be deducted. An additional 2 points will be deducted every additional 24 hours tardy. Thus, after Tuesday, no points are available. Note that Canvas does not automatically dock points for tardiness. So, there will be a delay before late penalties are assessed.

Extra-credit assignments (including extra-credit quizzes) are due before midnight on Fridays. There is no grace period or partial credit; at midnight, no points are available.

Requests for accommodations (i.e., rescheduling assignments) will be denied for events that interfere with normal quizzes and exams during the grace period. Please send all other requests to dcole@observechange.org (a) with documentation (e.g., physician's note regarding acute illness) and (b) no later than 7 days after the interfering event.

Going on a hiking trip? Accommodations are unavailable for non-mandatory, reschedulable events; however, feel free to read ahead to minimize work during your vacation. And have fun!

Was this terribly confusing? Set up [Canvas notifications for upcoming deadlines](#).

OTHER COURSE POLICIES

Communication

Important **course announcements** are disseminated through Canvas. Ensure that you have set your [Canvas preferences](#) to receive e-mail notifications of announcements.

Technical difficulties with Proctorio should be directed to support@proctorio.com. All other technical difficulties (e.g., with Canvas) should be directed to servicedesk@usu.edu.

For **course-specific inquiries**, unless the inquiry is private, please post to the [discussion boards](#).

Private inquiries about course policies should be directed to dcole@observechange.org. Private inquiries about course content should be directed to either dcole@observechange.org or noasara@aggiemail.usu.edu. On request, we are happy to speak with you in-person, via teleconference, or via videoconference.

Disabilities

All accommodation requests for disabilities must be communicated directly from the [Disability Resource Center](#). Core requirements are otherwise non-negotiable.

Academic Honesty

All suspected violations of the [student code](#) will be reported to Utah State University and will result in a failing grade on the affected assignment and possibly the course.

Intellectual Property

All course content is copyrighted. Should you disseminate course materials in any form, including test questions, the university will pursue their removal, and your standing as a student of Utah State University will be at risk. **You are working for your grade—allow others the opportunity to work for theirs.**

Course Attribution

David Cole, MS, BCBA is a doctoral student in the laboratory of David Bolton at Utah State University. With humans and animal models, he studies decision-making. Prior to joining Dr. Bolton's laboratory, he directed a center for children with developmental disabilities, including autism.

Noa Reuveni is also a doctoral student in the laboratory of Mona Buhusi. She holds a bachelor's degree in Biochemistry and Molecular Biology from the University of Massachusetts Amherst. Her research interests include neuropharmacology with a focus on mental illnesses.

COURSE SCHEDULE

All assignments are due before midnight on the listed dates. For grace periods and late penalties, see *Late and Incomplete Assignments*.

Friday, January 12

Syllabus: Quiz

Friday, January 19

Chapter 1: Quiz Lab SG EC

Friday, January 26

Chapter 2: Quiz Lab SG EC

Friday, February 2

Chapter 3: Quiz Lab SG EC

Friday, February 9

Chapter 4: Quiz Lab SG EC

Cumulative: Exam I EC Quizzes (3)

Friday, February 16

Chapter 5: Quiz Lab SG EC

Friday, February 23

Chapter 6: Quiz Lab SG EC

Friday, March 2

Chapter 8: Quiz Lab SG EC

Cumulative: Exam II EC Quizzes (6)

Friday, March 9

Spring Break

Friday, March 16

Chapter 9: Quiz Lab SG EC

Friday, March 23

Chapter 10: Quiz Lab SG EC

Friday, March 30

Chapter 11: Quiz Lab SG EC

Cumulative: Exam III EC Quizzes (9)

Friday, April 6

Chapter 12: Quiz Lab SG EC

Friday, April 13

Chapter 14: Quiz Lab SG EC

Friday, April 20

Chapter 15: Quiz Lab SG EC

Friday, April 27

No Test Week

Friday, May 4

Cumulative: Final Exam EC Quizzes (12)

Other EC: Ch7 Quiz Ch13 Quiz

SG = Study Guide; EC = Extra Credit