

University of Oregon

Human Anatomy I

HPHY 321 Fall 2014

Monday & Wednesday 8:30-9:50am | 180 PLC

Course Instructor: Jon Runyeon

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PLEASE NOTE: For the majority of our communication, we will find using the course Discussion board to be most efficient; please post your course related questions to the discussion board, found on Blackboard. For questions or issues that are personal in nature, please feel free to call me, chat with me before or after class, or visit during office hours.

Course grader:

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Pre-requisite Coursework: **HPHY 211; BI 212 or BI 282H are required (C or better)**

*We believe the best learning opportunity occurs if students choose to take HPHY 321 (Anatomy I) & HPHY 322 (Physiology I) **together**. It is **strongly** recommended!*

Required Resources:

1. Anatomy & Physiology Revealed 3.0, Web-Based Program. This is a great piece of software that we believe you will use extensively. Students will need access to this software to complete some of the assignments this term.

2. Atlas of Anatomy 2nd ed., Anne M. Gilroy, et al. This beautiful book includes fantastic annotated illustrations of all the systems of the body. An “atlas” provides mostly labeled images of anatomical structures, with little text.

3. Clinically Oriented Anatomy 7th Ed., Keith L. Moore & Arthur F. Dalley (or an older edition). This text offers descriptions and explanations of the anatomy, with many clinical references and descriptions, and will be very useful when you create your own anatomy resource, called your “External Brain”. This is the

common anatomy text at most medical schools and physician assistant programs.

4. i>clicker 1 or 2. We will use personal response systems (or clickers) in class each day to provide you with a chance to challenge your knowledge of anatomy using old exam questions. Please purchase an i>clicker at the bookstore and bring it to class every day.

5. 3x5 index cards. On most days in class, we will use 3x5 cards to provide you with a chance to challenge your knowledge of anatomy. Please purchase a packet of 3x5 cards and bring it to class every day (starting the first day of class). *Only 3x5 cards* will be tallied for participation credit (not scrap paper or other sized cards)

6. Computer access and software: You will need regular access to a computer in this course. At minimum, you will also need an up to date web browser (Firefox, Chrome, etc.), a PDF reader (Adobe or Preview) and text editor or word processor.

Course Overview: This course will use both a systems & regional approach to uncover the anatomy of the head, brain, spinal cord, cranial nerves, and special senses (nervous system). But first, we will become comfortable with the language of anatomy and learn about the tissues that make up the body. The laboratory experience will complement the lecture material, and allow us the unique opportunity to explore prosected donated human bodies, models, and charts. This course will also include *an on-line guest lecture*, delivered by a physician in the community, which you will watch outside of class time. This lecture will be available within the “Guest Lecture” folder in blackboard. Most days throughout the term you will have an opportunity to challenge your knowledge of anatomy while answering questions using your i>Clicker personal response system.

Course Philosophy: It is our intention to provide the best environment to facilitate your learning. You will be encouraged to discuss, challenge, and critique information by interacting with your peers and the instructors. Information will be uncovered as you create your own unique anatomy resource, called your “External Brain”, which you will use in class, in the laboratory, and during examinations to answer clinical questions related to anatomy. We strongly believe that a great laboratory experience can make learning about a topic more engaging, meaningful and successful. Great laboratories include small group experiences in which you can practice what you are learning...in this case, studying like an anatomist. It is a place that hands-on, practical and visual learners can make lecture content tangible and concrete. Your instructors will provide a positive environment for diverse learners to achieve their goals, and will encourage (and expect) your participation.

Course Expectations: You can expect to spend 15 hours per week working on this 5-credit course (3 hours outside of class for every 1.5 hours in class). Approximately 5 hours each week will be in lecture/lab, with the remaining hours devoted to open lab, creating your External Brain, completing pre-lab assignments, and studying the human body!

You can expect your instructors to work hard to facilitate and guide your learning, be available to help you outside of class, and be dedicated to your success.

You are expected to be present for every lecture & lab, to have class/lab preparations and assignments

completed, to check Blackboard Announcements and Discussion Board regularly, and to actively participate in discussions and activities. Please be respectful of your fellow classmates' learning environment by arriving on time, silencing your cell phone, and if you must leave early, please sit in a location that will minimize the distraction to other students when you leave (back row or aisle).

Together, we can create a successful and enjoyable learning environment that will prepare you for future learning in the health sciences.

Learning Objectives:

- a. Given External Brain Chapter assignments, you will be able to create specific anatomical content in the form of illustrations, charts, or narrative, using your textbook, the internet or other electronic resources, in a way that most suits your learning or information retrieval style, and utilizes thoughtful design to create an attractive and functional resource for current and future use.
- b. You will be able to correctly recall the **name, location, tissue type and function of anatomical structures** that you have assembled in your External Brain Chapter assignments, pre-lab assignments, lab and class notes, when given closed-book examinations.
- c. You will also be able to correctly recall the following during closed-book examinations:
 1. spatial relationships between structures
 2. tissue types and basic composition/function
 3. the structures and functions of the skin
 4. the fiber direction for muscles of facial expression and mastication, their general attachment sites, and their function
 5. gross anatomy of the brain
 6. the specific foramen that nerves travel through the skull
 7. where in the brain cranial nerve cell bodies are housed
 8. which structures various cranial nerves innervate
 9. the cross-sectional and longitudinal anatomy of the spinal cord
 10. typical mechanisms of injury for specific anatomical structures.
- d. You will be able to apply anatomical knowledge to clinical scenarios on open-book multiple-choice examinations while referencing the information constructed in your External Brain.
- e. You will be able to discuss your knowledge and application of anatomy with your peers and be able to judge the accuracy of your original exam responses based on this discussion. You will then be able to select which answers from your individual examination to change, and which to keep the same during your group/take-home examination.
- f. You will be able to use pre-lab assignments and anatomical structure lists to create a good two-dimensional understanding of human muscles, bones, ligaments, arteries, veins, nerves, and organs **PRIOR** to your lab time.
- g. You will be able to utilize your preparation for lab, with your group during your scheduled lab time, by searching for and identifying these same structures on three-dimensional resources, including

prosected donated human bodies, human bones, organs, models, and microscopes. When you have questions, you will consult your anatomy atlas, lab notebook and lab group. When questions persist, you will work with your lab instructors and TAs to use your resources most effectively and uncover the answers you seek.

h. You will be able to apply knowledge you have accumulated from lecture, External Brain assignments, and lab by correctly identifying the anatomical structures on given images, answering multiple-choice, True/False, and fill-in-the-blank questions related to concepts from lecture during on-line quizzes.

i. During the three timed practical identification exams held in the anatomy lab, you will be able to correctly identify, spell and orient anatomical structures in and out of human the body.

j. You will be able to conduct yourself in a professional manner, which includes: punctuality, professional communication, timeliness of work produced, proper lab attire, maintenance of a clean and orderly lab space, & respectful treatment of the donated human bodies and lab equipment.

Although this course has been designed using the principles of Universal Design, please alert me if some aspect of the course is not accessible to you, and requires adaptation. I would be happy to explore options to help make your learning experience more positive. You are also encouraged to contact the Accessible Education Center, located in 164 Oregon Hall. Please call (541) 346-1155 or email uoaec@uoregon.edu to schedule an appointment. Students with a letter from AEC indicating additional time be provided on exams are encouraged to take their exams at the testing center aectesting@uoregon.edu.

Lecture exams	50%
Lab	40%
External Brain	10%

Grades are **not** assigned on a curve, so you are **not** in competition with your fellow students. Plus and minus grades (ie: A+, B-) will be assigned in the following way: 80-82% = B-, 83-86% = B, 87-89 = B+, etc...

Possible deductions from final course grade:

Pre-lab assignments	-2% of your <u>final course grade</u> will be deducted for each missing pre-lab
Lab attendance	-2% of your <u>final course grade</u> will be deducted for each absence from lab (physically or mentally), beyond the first (i.e., one 'freebie').
Quizzes	-2% for more than one quiz not 80% correct by due date.
Professionalism	Any point deduction from professionalism rubric will be deducted from final course percentage.
EB check-off	Final EB score will be zero (0) if EB is not checked off at the end of term

Possible additions to your final course grade:

If you use your i>clicker or submit in-class participation assignments 80% of the time offered in class, your final course score will be rounded up to the nearest whole number (*89.1% becomes 90%*), before letter grades are assigned. If you use your i>clicker or submit participation assignments 90% of the time offered in class, your final course score will be rounded up to the nearest whole number AND one

percentage point (1%) will be added to your final course score, before letter grades are *assigned* (89.1% becomes 91%).

External Brain (EB) Homework Assignments: (10% of final course grade).

To prepare for class discussions & participation questions, you will have an External Brain (EB) assignment to create and submit via Blackboard, before attending class. Please note: homework may *only be turned in electronically ½ hour prior to class*. Please respect the logistical challenge of collecting and grading 300+ homework assignments. Students who forget to turn in their homework (or turn in the wrong homework, submit to the wrong location, do not ensure correct uploading of EB, etc.) will **not** have an opportunity to turn in their homework at another time or location. However, everyone has one “freebee”...Be sure to save your one “freebee” for these types of situations. If you submit all EB assignment across the term, your lowest score will be dropped. EB Homework will be graded with a rubric.

In order for your External Brain score to be applied to your final course grade, you will need to submit your entire EB for a quick check-off, in lab during weeks 4 and 10. Your EB is expected to be organized like a book, chapter by chapter, in a 3-ringed binder (or bound in some other manner). A rubric will be used for the “check-off”. Failure to submit your complete EB at either of these times will reduce the final EB value to 5% of course grade (or 0% if both opportunities are missed)

Lecture Examinations: (50% of final course grade)

Each of our three examinations in lecture will have a few parts.

Part 1 of the exam will take place during class and will involve *a closed-book portion, and an open-book portion*. The closed-book portion will include short straightforward questions (multiple choice and short answer) that require the student to be confident in anatomical relationships, structure and function. The open-book portion will include application of human anatomy to clinical situations. Students are welcome to use class notes/lecture slides and External Brain Chapters while answering the comprehensive clinical open-book questions. Part 1 of the exam is worth 80% of the combined exam score.

Part 2 of the exam is *take-home/group* exam worth 20% of the combined exam score. You may use any resources you wish (internet, textbook, group members, friends, family, pets, Frog, Yoda, etc.) to research the answers to the same exam questions answered during part 1. This portion of the exam is not optional, and answers must be turned in by the due date, as the exam key will be available immediately following the due date/time.

Part 3 of the exam IS optional and should only be exercised by a select number of students in the class who chose a different answer than the answer key due to the existence of an “alternate meaning” for the words in the question, or have a published resource which clearly supports their answer. It would not be appropriate to submit Part 3 of the exam if the question was misread (i.e.: read the word true, instead of false), or if another authority says your answer is correct, but you lack a published resource to back up your answer. Part 3 of the exam must follow an essay format and include the checklist that is available on blackboard in the Housekeeping folder. If your argument has merit, you will redeem the lost points for that question and your Part 1 exam grade will be changed to reflect this. Be sure to check the cover page of the exam for the due date for Part 3 of that particular exam.

Alternative grading paradigms will be used if a student must miss one of the first two lecture exams, due to an excused absence, which is discussed *prior* to the exam date. A “no show” for an exam results in a zero on the exam; using an alternative grading paradigm or doing a ‘make-up’ exam is **not** an option for a “no show” on exam day. The cumulative final exam must be completed, **as scheduled**, in order to pass the course and receive a letter grade. Each student’s lecture exam score contribution to the final course grade will be calculated as outlined below, and the highest total will be used when determining the final course grade:

Lecture Exam Grading Options:	option A	option B	option C	option D
Exam 1	25%	0	30	0
Exam 2	35%	40	0	0
Final Exam	40%	60	70	100

Laboratory/Practical Examinations: (40% of final course grade)

Three (3) practical identification & short answer exams will take place in the anatomy lab: Friday of weeks 4 & 7, and Tuesday of finals week. The exams will be cumulative. These 3 exams will be the basis of your score for the lab portion of Human Anatomy (40% of final course grade). Given the nature of our practical exams, ‘make-up’ exams are **not** an option. *It is expected that students take each exam*, in order to exercise the following scoring paradigms. Each student’s final laboratory score will be calculated as outlined below, and the highest total will be used when determining the final course grade:

Lab/Practical Grading Criteria:	option A	option B	option C	option D
Lab Exam 1	25%	0	30	0
Lab Exam 2	35%	40	0	0
Lab Final Exam	40%	60	70	100

Laboratory exam procedures:

Students will sign up for their preferred exam time slot (50-60 minute exam) via Blackboard. Exams will be held between approximately 8:00-4:00pm. All of the structures on models, charts and cadavers that are included in lab stations throughout the term may be tagged during the exams. Pins, arrows, and probes will identify the anatomical structures to be identified, and students will rotate from station to station during the exam while recording the names of the tagged structures onto their exam sheet. When a pin is used to identify a structure, we are typically looking for the structure that the pin is piercing (not where the tip of the pin is pointing). In addition, a short answer questions may be asked, that require the student to be confident in anatomical identification and *function*.

In order to correctly identify an anatomical structure, it is sometimes necessary to include information beyond the name of the structure. Commonly, the orientation is required (Right or Left), in addition to identifying the origin of the tagged structure (i.e., “choroid plexus of the fourth ventricle”).

The following is a good rule of thumb: each structure needs to be identified so that another anatomist or medical professional would know **PRECISELY** which structure you are referencing, without any other context...just the terms you write!

Please be sure to read the document titled “**Anatomy Practical Examination Tips**”, found in the

“Housekeeping” folder on Blackboard.

Abbreviations and Tissue Naming:

It is NOT necessary to include the words “Muscle” or “Bone” when identifying these tissues on a lab exam, but it IS necessary to include the names of all other tissues (e.g.: ligaments, nerves, veins etc.). When identifying structures during exams, the following abbreviations may be used.

- | | |
|---------------------------|--|
| - Lig for ligament | i.e. Lateral collateral lig. of the knee |
| - V for Vein | i.e. External jugular V. |
| - A for artery | i.e. Brachial A. |
| - N for nerve | i.e. Vagus N. |
| - L for left | i.e. L humerus. |
| - R for right | i.e. R ulna. |

Outline of Scoring Procedures:

A. Bones: Each question is worth 2 points.

- 1) Name of bone worth 1 point.
- 2) Name of specific structure worth 1 point.
- 3) Incorrect orientation of BONES- 1/2 point deduction.
- 4) Spelling errors - 1/2 point off.

eg. Lateral epicondyle of R humerus	2 points
Lateral epicondyle of L humerus	1 1/2 points
R humerus	1 point
Humerus	1/2 point
R lateral epicondyle	1 point
Lateral epicondyle	1/2 point

B. Muscles and Ligaments:

- 1) Name of specific structure is worth 2 points.
- 2) Spelling errors - 1/2 point deduction.
- 3) Incorrect siding/orientation – 1/2 point deduction.

C. Nerves (including Brachial Plexus), Arteries, and Veins:

- 1) Identifying specific structure is worth 2 point.
- 2) **Incorrectly** naming the type of tissue (vein, artery, nerve, or specifically brachial plexus) is a 1 point deduction.
- 3) Incorrect siding/orientation – 1/2 point deduction.

eg: the following would earn full points

Arteries: Radial artery (or radial A.)

Veins: Femoral vein (or femoral V.)

Nerves: Saphenous nerve (or saphenous N.)

Brachial Plexus:

Rami: C5 ramus of the brachial plexus

Trunks: Middle trunk of the brachial plexus

Divisions: Anterior division of the lower trunk of the brachial plexus

Cords: Posterior cord of the brachial plexus

Branches: Musculocutaneous nerve (N.)

Pre-lab Assignments: (2% deduction for each missed pre-lab)

You will find a pre-lab assignment for each lab on our Blackboard site. The pre-lab assignments should be completed by the time of your lab and turned in as you enter the lab. For any incomplete pre-lab assignment or an assignment that does not meet the minimum expectations, 2% of your final course grade will be deducted. If you know you will be missing a lab (due to illness, family event/emergency, flood, snow, fire, etc.), you may submit the pre-lab as directed by your lab instructor, *if arranged prior to your absence from lab*. You should use your Thieme Atlas and A&P Revealed software to complete your lab preparation (in addition to your textbook and any other quality anatomy resource you enjoy using). By working through the pre-lab assignment, with your structure list in hand, you will become familiar with *most* of the structures to be identified during a particular lab session, in addition to new terminology. You are encouraged to add your pre-lab assignment, lab notes, and lab structure lists to your growing *External Brain*.

Laboratory Attendance, Participation & Conduct: (2% deduction, after one freebee)

For each lab (*beyond one freebie*) that you are absent, or non-participatory, or *clearly not prepared*, 2% will be deducted from your final course grade. Please sign in at the beginning of each lab session, as directed by your lab instructor. Lab instructors will make a note on the sign-in sheet if you leave before being excused, come poorly prepared, and/or do not engage in the learning process.

Coming prepared and participating is expected. *We hope to make our time in the lab as effective as possible; it is such a fantastic opportunity to learn the human body...PLEASE, make the most of your time in the lab.*

In addition to professional and respectful conduct in our classroom, there are a few specific expectations to mention regarding the use of the donated human body laboratory, as outlined below:

Anatomy Lab Conduct:

1. **Personal items** should be hung on the hooks or placed in cubby holes provided during both teaching labs and open labs. Please keep all electronic devices, including cellphones, put away, too. No cameras in the lab!
2. **Nothing is to be removed** from the lab.
3. You should **not bring food or drink** into this chemical environment.
4. All lab participants must wear **long pants, close-toed shoes, and a T-shirt** (or equivalent). Scrubs are recommended and considered the “professional attire” for the human anatomy lab setting.

5. **Probes will be used when identifying structures** on the bodies, bones, models and charts. Please do NOT use pens or pencils when pointing to structures (no marks please)!
6. **Donated Bodies and specimens will be kept moist** by spraying or soaking with the 'blue' wetting solution, available in the spray bottles, during and at the completion of all lab sessions and open labs.
7. **Gloves** (nitrile, latex, or vinyl) must be worn at all times when handling the bodies. Students must furnish their own gloves. Three (3) pairs, at minimum, are suggested for each lab session.
8. **Please remove gloves** (clean or dirty) *before* exiting the anatomy lab. Gloves saturated with fluid must be placed in the red disposal bin. Non-saturated gloves can be placed in the garbage.
9. **Dissection** is to be carried out by the Instructors and authorized dissection students only.
10. Any student found damaging or mishandling the donated bodies, bones, microscopes, charts or models, or otherwise misusing any lab equipment will be *permanently excused* from the lab.
11. **THE FINAL WORD: The donated human bodies are to be utilized for educational purposes only and must be treated with the utmost respect at all times.** It is a felony to mistreat human remains in any way. Violators are subject to academic discipline and/or criminal prosecution. **Photography** of the bodies is a violation of our contract with the "Body Donation Program". Please, no cameras (or cellphones) in the lab.

Quizzes: (2% maximum deduction)

A typical quiz will include a few questions from the week's lecture, lab, EB, and questions from the pre-lab assignments. Quizzes will be available on Thursday afternoon and due before Saturday at 11:59pm (see weekly schedule for specific dates).

The quizzes are a purely formative assessment. As such, you may repeat the quiz as many times as you like prior to the due date. To avoid grade deductions, please submit your quiz with at least 80% correct before the due date. Again, you may re-take the quiz as many times as needed during that timeframe. A 2% deduction will be applied to your final course grade if more than one quiz does not meet these criteria.

Professionalism: (deductions only; % deduction based on rubric) We believe developing your skills, as a professional, is extremely important for your future success. If not meeting expectations, you may receive feedback regarding your professionalism during the term using the "Professionalism Rubric".

If offered by your lab instructor or course instructor, the feedback you receive during the term will be a purely formative assessment, meaning it is intended simply as a learning and/or growth opportunity. After the term is complete the Professionalism Rubric will be summative. *Any points deducted from the final Professionalism Rubric are deducted from your final course grade.* The course instructor will notify you if this situation applies to you.

Discussion Groups:

Effective communication is one of the most important skills to master during your undergraduate degree. Sitting in class with the same group of students each day ensures you have the opportunity to communicate on a daily basis. Therefore, during each class period there will be group activities that are designed to challenge your knowledge of human anatomy. All students will break into **groups of 4 in their lab**, and these same groups will work together during our lecture. You will be expected to sit with your group during class to facilitate smooth transitions into group activities and clicker questions.

i>clickers & in-class participation:

Each time you use your clicker in class to answer a question, it will register one point (regardless of whether your answer was correct or not). At the end of the term, I will tally up the total number of points possible (which will equal the number of questions asked). All students who have accumulated at least 80% of the total possible clicker points or in-class participation points will have their final course grade percentage rounded up to the next whole number (i.e., 89.1% will become 90.0%, or an A-). If you use your i>clicker or submit participation assignments 90% of the time offered in class, your final course score will be rounded up to the next whole number AND one percentage point (1%) will be added to your final course score, before letter grades are assigned (i.e., 88.1% will now become 90.0%, or an A-!).

Most importantly, I hope you will find intrinsic value in participating during class, as this offers you a chance to test your knowledge on authentic exam style questions and understanding of key concepts, with no consequence for being wrong.

Open Labs: (Times to be posted on the LAB door and Blackboard)

Open to all *current* anatomy students for study purposes, and supervised by Lab TAs or GTFs. Students are also welcome to use the **Anatomy & Physiology Study Room in the Science Library**. This study room has bones and models, as well as computer software, charts and books to study from. This room is open during regular Science Library hours.

Plagiarism & Cheating: Plagiarism, as defined below, is obviously not permitted. *All suspected cheating or plagiarism concerns would be referred immediately to the HPHYS Conduct Officer, who will contact the student directly. Consequences can include an F in the class.* Please read the following quotation, from the UO Office of the Dean of Students.

"**Academic Misconduct:** The University Student Conduct Code (available at conduct.uoregon.edu) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at www.libweb.uoregon.edu/guides/plagiarism/students."

Reminder: when completing External Brain assignments, be aware that re-wording the ideas of others can lead to a charge of plagiarism. Please do not work with your groups or collaborate when writing External Brain assignments.

The Final Word:

You will find that your course instructor works hard to support your learning, and provides multiple opportunities for you to be successful. At the end of the term, when your grade has been calculated, **please do not** request any opportunities for extra credit, or your grade to be bumped up to the next grade level. No such request will be acknowledged or granted.

Weekly outline on next page...

Weekly Outline:

Week	in the ANATOMY LECTURE HALL	in the ANATOMY LAB
Week 1	Introduction, terminology, tissue organization, and histology Online quiz 1 (due Saturday, Oct. 4 at 11:59pm)	Lab overview & introduction to Histology
Week 2	Histology & integumentary system Online quiz 2 (due Saturday, Oct. 11 at 11:59pm)	Lab #1: Brain, meninges & the Integumentary system
Week 3	CNS: Brain and protection Online quiz 3 (due Saturday, Oct. 18 at 11:59pm)	Lab #2: Cranium
Week 4	CNS: Brain and protection Exam 1: Wednesday, October 22 (in-class) Exam 1, part 2: due Friday, Oct. 24 at 5pm Exam 1, part 3: due Monday, Oct. 27 at 8am	Lab #3: Muscles of facial expression and mastication; Sex ID of skull. <i>Bring External Brain to lab this week for check-off!</i> Lab Exam on Friday, October 24
Week 5	CNS & ANS Spinal cord, cranium, and cranial nerves Online quiz 4 (due Saturday, Nov. 1 at 11:59pm)	Lab #4: Cranial nerves, spinal cord & circulation of brain
Week 6	Cranial nerves & facial bones Facial expression (and facial muscles) Online quiz 5 (due Saturday, Nov. 8 at 11:59pm)	Lab #5: Vertebral column and thorax
Week 7	Muscles of mastication	Review for... Lab Exam on Friday, November 14
Week 8	Back, Neck, & Trunk Exam 2: Wednesday, November 19 Exam 2, part 2: due Friday, Nov. 21 at 5pm Exam 2, part 3: due Monday, Nov. 24 at 8am	Lab #6: Special senses
Week 9	Back, Neck, & Trunk	No Lab (Thanksgiving)
Week 10	Special Senses Online quiz 6 (due Saturday, Dec. 6 at 11:59pm)	Review week <i>Bring External Brain to lab this week for check-off!</i>
Week 11	Final exam: Monday, December 8 at 10:15am Final exam, part 2: due Wednesday, Dec. 10 at 5pm Final exam, part 3: due Thursday, Dec. 11 at 5pm	Lab Exam on Tuesday, December 9