

## ZOOL 2260 ANATOMY SPRING 2014

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Friday 11-12

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Include ZOOL 2260 in the subject line of all emails.

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### COURSE DESCRIPTION

This course is an introduction to gross and functional morphology of the human body. You must be concurrently enrolled in ZOOL 2260 lecture and lab. While lecture and lab are related, the material covered in each may differ in content and/or focus.

ZOOL 2260 is a course intended primarily for Kinesiology majors, and for biology majors wishing to fulfill a lower division elective. BIOL 1010/1020 or BIOL 1050 are prerequisites for this course; if you have not taken these or their equivalent at another institution, you will be dropped from the course.

There is a substantial amount of information to be mastered in this course. To do well, one must devote the necessary time and effort. Experience indicates that to be successful in the summer semester, a minimum of 15 hours of preparation and/or review are needed outside of class. **If you are not prepared to dedicate the time and effort needed for this course, you should reconsider your enrollment.**

### REQUIRED TEXTS/MATERIALS

- *Fundamentals of Anatomy & Physiology* by Martini, et al. 9TH edition. Pearson, ISBN: 9780321719799
- Mastering A&P access (bundled with text at bookstore...otherwise purchase access online)
- *Lab Manual for Human Anatomy and Morphology* by Jones, T. D. 2008. XanEdu. (bundled with text at bookstore, or can be purchased separately)
- Dissection kit (blunt/sharp surgical scissors, iris scissors, scalpel handle and #10 blades, medium forceps, blunt probe, dissecting needles)
- Box of sewing pins (ball-shaped plastic heads in different colors) **This may be shared with a lab partner.**
- Box of disposable gloves (nitrile gloves, rather than latex, are recommended) **This may be shared with a lab partner.**
- **Iclicker2** remote (must have keys that allow you to scroll through and enter letters of the alphabet)

### CENSUS DATE

This course cannot be taken for credit. It can only be taken for a letter grade. Students can only drop this course prior to the census date of February 21.

### GRADING

Grades are determined by the points you earn during the course. Your grade will be determined by your combined performance in lecture and lab. I do not use +/- grades, only whole letter grades. A total of 1000 points are available. It is expected that students will keep track of their scores (including copies of all graded materials) for the duration of the term. Because of potential privacy issues, scores and/or grades will not be given out *via* e-mail or phone.

**Dissection of once-living animals or animal organs is a required part of this course. Students who do not participate in dissection will receive a failing grade in the course.**

Lecture exam 1	100 points
Lecture exam 2	100 points
Lecture final exam (cumulative)	100 points
Lab practical exam 1	100 points
Lab practical exam 2 (cumulative)	100 points
Mastering A&P online homework (average of 12 points each assignment)	225 points
Iclicker participation in lecture	150 points
<b>Study group activities:</b>	
Weekly online chat study sessions, 25 points each <b>graded</b> session	125 points

## LECTURE EXAMS

The lecture exams will be given in a multiple choice format. They will focus on material covered in lecture and will not include specific questions from dissection. The final lecture exam is cumulative; that means that it will include material covered in the previous lecture exams. I do not recycle exam questions. **Do not make the mistake of underestimating the difficulty of exams.**

Students who arrive after the first exam of the day has been turned in will not be allowed to take the exam. If you must leave the room for personal reasons, you will not be allowed to finish the in-class exam. Your partially finished exam will be graded as it stands. If you miss an exam for any reason, you must take an alternate exam before the in-class exam is scheduled to take place. If you miss an exam unexpectedly, your total exam points will be based on the average of your other in-class exams.

Exam answers will be recorded on Scantron 882-E forms. Erase thoroughly...**if the machine reads your erased answer as incorrect, the automatic score is the grade I record.** When you turn in your exam, you may be required to show photo identification (unless I already know you).

## LAB PRACTICAL EXAMS

There will be two lab practicals worth 100 points each (50 fill-in-the-blank questions). Lab exams will be in a timed format and will focus on identification and understanding of relationships and function. Anything included in the lab manual may be included on these exams. Lab practical exams are not cumulative. Lab practical exams are very time-consuming to set up, thus make-up lab practical exams will not be given. Spelling errors will result in loss of points on lab exams; illegible and/or unintelligible answers will receive no credit.

## MASTERING A&P

Online homework assignments make up a substantial portion of your grade. Assignments are usually posted 2 weeks in advance, and can take 3-4 hours to finish. I recommend that you start the weekly homework assignment as early as possible, because a computer or website malfunction that prevents you from finishing an assignment by the deadline will result in a zero grade. Each question is submitted separately, thus you may start an assignment and return to it later, as long as you finish the assignment before the due date. For each homework assignment, there is a smaller Adaptive Followup assignment due 2 days later, for which you can earn extra credit. Students who register after the first homework assignments are due may **not** make up those missed assignments.

**To register for the Mastering A&P visit the website <http://www.masteringaandp.com/>**

Click the "STUDENTS" button under the register option. You will be asked for a student access code. This is a printed code supplied inside the Mastering A&P Student Access Kit, which was included with the purchase of your new textbook. If you bought your textbook used, then there is an option for you to purchase an access code online during the registration process at a cost of ~ \$65, cheaper than the campus bookstore (note: you do NOT need to buy access to Virtual Labs). If you prefer to purchase an electronic textbook, this option is also made available to you during the registration process.

In Mastering A&P, the name of this course is CSUSTAN ZOOLOGY 2260 Spring 2014 Cooper. To register for this course, enter the code MAPCOOPER28983.

## STUDY GROUPS

You will be assigned to a study group at the beginning of the semester (once lab period assignments have been finalized). Study groups will consist of 4 students, made up of 2 pairs of lab partners. You will work very closely with your study group members throughout the semester... you will sit as a group in lecture, you will have the same lab period, and you will participate in weekly online chat study sessions.

Part of your grade is dependent on your teamwork, thus every group member must do their share of the work! Group members who do not equally participate in dissection, or who cause a problem for their group members by not showing up to scheduled chat sessions, will be downgraded (up to 100 points can be deducted from your total of 1000). If one of your group members is not participating fully or is being irresponsible, the group needs to speak to that person about their behavior. If their behavior does not improve, then please bring this matter to my attention immediately. At the end of the

semester, all group members will formally evaluate each other on a 1-5 scale for participation level, to help me assess if any points need to be deducted from a student's grade.

### **ONLINE CHAT STUDY SESSIONS**

Study groups will use the online tool **COLLABORATE** to meet once a week for study sessions, **for a total of 14 sessions**. I will grade 5 of these sessions, assessing the performance of the group as a whole. To earn the full 25 points, each group member must **actively participate** for the full 2 hours. "Active participation" means focusing on anatomy the entire session, and frequently contributing to the chat by directing the discussion, quizzing group members, answering questions, or asking for clarification of a concept. Groups will be downgraded if they: 1) waste time gossiping or making irrelevant comments; 2) waste time transitioning between tasks. If you happen to miss participating in a graded session I will not downgrade your group, but **you** will not be able to make it up and **you** will receive zero points for that session, unless you can persuade your group members to schedule another session to **replace** the one you missed. I will not announce grading bouts. Study groups will be assigned their own chatroom with a unique URL. In your first lab period you will be given a tutorial on how to use **COLLABORATE**.

### **i>CLICKER2**

Questions and quizzes will be given during lecture using the i>Clicker2 system. i>Clicker2 is a response system that allows you to respond to questions posed during class. We will start using this system by Thursday, February 6, and to receive credit for your responses you must register the i>Clicker2 at <http://www.iclicker.com> by that date. When you register your i>Clicker2, use the name *exactly* shown on your university identification card and the serial number on the back of your i>Clicker2 unit. **If you forget to bring your remote to class, or if the remote malfunctions, then you will not receive credit for responses that day.** Questions may come from current or previous material and may include multiple choice, true/false, or fill in the blank.

### **ATTENDANCE AND PARTICIPATION**

Regular attendance is vital to your success in this course. Therefore, I will use Iclickers in class every single day to reward those students who attend class. The only excused absences are personal medical issues, court dates, military service, and scheduled sports tournaments, and documentation must be presented (physician's note, jury duty slip, letter from your coach, etc). Students who are physically present, but inattentive (such as sleeping) will be marked absent.

Turn your cell phones to vibrate when you arrive each day, and **do not text in class. It is rude.**

Use of laptops to take notes is forbidden; take notes by hand. I will not be making PowerPoint lectures available for student download. You are responsible for taking notes during lecture.

### **PERSONAL INTEGRITY**

It is assumed that you have read and understood the university's position on academic integrity and student discipline. Students are expected to conduct themselves responsibly and will treat instructors, their fellow students, the facilities, and course materials with courtesy and respect. Inappropriate behavior (including, but not limited to, cheating and/or plagiarism) will be dealt with as severely as university and state regulations allow.

### **OPEN LAB**

The anatomy lab (N224) will be open to students on Fridays, 8-5. It is highly recommended that you and your study group make use of this time to pull out and study models, and to finish dissections.

### **COURSE OBJECTIVES**

Students who successfully complete this course will:

- Understand the fundamental organization of the human body, the major features and interrelationships of the organ systems, and the relationship of structure and function
- Visualize internal anatomy and to relate this to surface features
- Understand lectures, texts, articles, and clinical demonstrations that you may encounter in subsequent classes
- Understand the nature of science and to the biological significance of animal structure
- Develop your care in verbal expression (including the precise use of English and scientific terminology) and habits of logical and critical thinking

## STUDY RECIPE (FOR STUDYING ALONE)

This course has a reputation for being challenging. Students often complain that they study “all the time” but that their hard work doesn’t pay off in good grades. This is often because their study strategy simply needs tweaking. I have developed the perfect recipe for studying, based on our current understanding of the neurophysiology of learning and long-term memory formation. Using the recipe I provide below, you will maximize the benefit gained from each single minute of study time. If you also study the number of hours I recommend (15 hours outside of class, not including lab or homework assignments) then you will enhance your chances of earning the grade you want.

For each day’s lecture notes, you should do 4 “drive-bys” of the information. Don’t read entire textbook chapters... that is a waste of time. Only use your textbook the way I have described below. Your study environment should be isolated from external noise and distraction (no TV, no music, no kids, no throwing the ball for your dog).

1. **Take detailed notes in lecture.** Indicate with a special mark each time I move on to a new PowerPoint slide. Don’t try to write every single word on the slide; instead, **listen to what I am saying** and write abbreviated summaries and main ideas based on what comes out of my mouth.
2. **DRIVE-BY 1 (LEARNING):** This study session is for **learning and understanding** the material I introduced in lecture.
  - This study session should be accomplished the same day as the lecture (ie. don’t have a sleeping period in between the lecture and the study session).
  - It should last a minimum of 1 hour, but will probably take 2-3 hours.
  - In the first 15 minutes, read through the notes and remind yourself of the general topic.
  - The remaining time should be spent in carefully reviewing each slide in turn, with your textbook open to the pages covering that material.
  - Read about every concept in the notes, and then read about it in the textbook.
  - Think about the examples provided, and see if you can think of other examples.
  - Try to draw relevant anatomical structures. Define terms in your own words.
  - Don’t stop until you have completed processing every slide of that day’s lecture notes.
3. **DRIVE-BY 2 (CONSOLIDATION):** This study session is for **consolidating your understanding** of the lecture material, and forming a clear connection in your mind between concepts, processes, and structures.
  - This study session should be accomplished the day following the lecture.
  - It should last a minimum of 1 hour. You will not use your textbook for this session, except to clarify your understanding of a particular fact.
  - In the first 15 minutes, review each slide and remind yourself of what you learned the day before.
  - Return to your notes on slide 1, cover with a sheet of paper, and write down what you can remember (definitions, concepts, drawings). You must **write and draw** as much as you can possibly squeeze out of your memory. Don’t cheat by glancing at the notes! This process is called **“active challenging”** and it quite literally builds a neural and biochemical pathway in your brain. We use this process when we form long-term memories. The action of drawing and writing (not typing) seems to amplify the effect.
  - Uncover your notes and compare them with your memory work. Use a colored highlighter to highlight any mistakes or misunderstandings. Then move on to the next slide.
  - Don’t stop until you have actively challenged yourself on every slide of that day’s lecture notes.
4. **DRIVE-BY 3 (LONG-TERM MEMORY FORMATION):** This study session is for **building the long-term memory** of the lecture material.
  - This study session should be accomplished the day following drive-by 2. Repeat every step described for drive-by 2, paying careful attention to the mistakes highlighted in that study session. Highlight new mistakes with a different color.
5. **DRIVE-BY 4 (LONG-TERM MEMORY RETRIEVAL):** This study session is for **reinforcing the long-term memory** of the lecture material. **LONG-TERM MEMORY RETRIEVAL IS THE ACTION PERFORMED DURING EXAMS.**
  - This study session should be accomplished the day following drive-by 3. Repeat every step described for drive-by 3, paying careful attention to the mistakes highlighted in that study session. Highlight new mistakes with a different color.
  - The more often you repeat this session, the more you reinforce the neural pathway for retrieving the long-term memory of each fact.

Lecture			Lab	
Date		Text	Week	
1/28	Review syllabus	Ch. 1	1/28 and 1/30	Study group assignment <i>COLLABORATE</i> tutorial
1/30	Skeletal System: Osseous Tissue	Ch. 6	2/4 and 2/6	Skeletal System
2/4	Skeletal System: Axial & Appendicular	Ch. 7, 8, 9	2/11 and 2/13	Skeletal System cont.
2/6	Skeletal System: Joints			
2/11	Muscular System	Ch. 10, 11	2/18 and 2/20	Muscular System Begin cat dissection
2/13				
2/18			2/25 and 2/27	Muscular System cont.
2/20	Respiratory System	Ch. 23	3/4 and 3/6	Muscular System cont.
2/25				
2/27	<b>LECTURE EXAM 1</b>		3/11 and 3/13	Muscular System cont.
3/4	Digestive System	Ch. 24	3/18 and 3/20	<b>LAB PRACTICAL EXAM 1</b>
3/6				
3/11				
3/13	Circulatory System	Ch. 20, 21	3/25 and 3/27	Digestive and Respiratory Systems
3/18				
3/20				
3/25				
3/27	Urinary System	Ch. 26	4/1 and 4/3	Circulatory System
4/1			4/8 and 4/10	Circulatory System cont.
4/3				
4/8	<b>LECTURE EXAM 2</b>		4/15 and 4/17	Urinary and Reproductive Systems
4/10	Reproductive System	Ch. 28	4/22 and 4/24	<b>NO LAB    SPRING BREAK</b>
4/15	Nervous System: Nervous Tissue	Ch. 12		
4/17				
4/22-4/24	<b>NO CLASS    SPRING BREAK</b>			
4/29	Nervous System: Brain, Spinal Cord	Ch. 13, 14	4/29 and 5/1	Nervous System Sheep brain dissection
5/1	Nervous System: Somatic NS	Ch. 15	5/6 and 5/8	Nervous System Sheep brain cont. Cat nerves
5/6				
5/8				
5/13	Nervous System: Autonomic NS	Ch. 16	5/13 and 5/15	<b>LAB PRACTICAL EXAM 2</b>
5/15				
5/20	<b>LECTURE FINAL EXAM 8:30 a.m.-10:30 a.m. in regular classroom</b>			

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
AM	5:00						
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