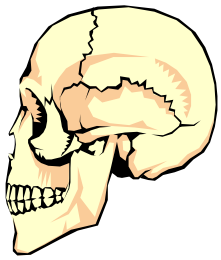

METX135/METX135L:
Human Functional Anatomy and Human Anatomy Lab
Summer Session II 2016

Instructor:

Manel Camps	mcamps@ucsc.edu	459-5396
Office	Physical and Biological Sciences	PSB434
Office hours	Wednesdays 12:00 -1:00pm	

Teaching Assistant:

Name:	Email address	Office hours	Location (lab)
Audrey Lyman	aulyman@ucsc.edu	Mondays 1:00-2:00	217 Thimann

METX135		
Time:	Tuesday, Thursday	9:00 am -12:30 pm
Location:	Engineering 2 192	
METX135L (Lab)		
Time:	Monday, Tuesday	2:00 -4:00 pm
Location:	Thimann Labs 217	
Open lab	Wednesday	2:00 -4:00 pm
	Thimann Labs 215	

note Cadaver Lab meet at the Physical Anthropology lab on the fourth floor of Social Sciences Building 1

OVERVIEW

This course is a rigorous systems-based course in anatomy. Lectures will provide an overview of functional anatomy at all levels, from the systems to the tissues. The goal is to provide a mechanistic understanding of the different structures in our body as a foundation for human-health oriented studies. The concurrent laboratory section (enrollment in which is mandatory) will place emphasis on nomenclature and recognition of anatomical and histological features.

Course goals:

1. To identify the different structures present in the human body and acquire the vocabulary to adequately describe them. Muscular-skeletal anatomy will be emphasized, but all the organ systems will be covered.
2. To learn about the cellular and extracellular components present in these structures at the microscopic level as a way to understand their physiological function.
3. To understand the embryological origins of these structures.
4. To learn how the different systems work together in a healthy body as the foundation for understanding disease states.

This class is very demanding. The instructors will make every effort to present the material in an understandable manner but this class requires a lot of studying. *You need to be prepared to dedicate at least 30h a week to this class* and to make every effort to keep up with the material as it is being presented.

COURSE ORGANIZATION

Lectures:
Lectures will typically have three sections, separated by a 5-10 minute pause.
The lectures will be based on the textbook, although there may be additional materials from the web or supplemental readings. The contents will be presented using two doc-projectors in parallel: one representing a "chalk talk", and a second one showing images of the anatomical structures as they are being described in the lecture.

Webcast: each METX135 lecture will be recorded and posted online the next day at webcast.ucsc.edu; protected by the following password "METX1354U"; the login is "METX135"

Lecture materials: will be posted on e-commons by midnight the day before class to facilitate note taking. These include:

- Lecture slides
- A list of key terminology; this list can also be used later as a study guide

Connect:
Connect is has a number of study materials, including virtual dissection and quizzes. We will use Connect for LearnSmart assignments, which will constitute 20% of the final grade (see below).

Connect access codes may be packaged with a new textbook in the bookstore. Connect can also be purchased online at our section's Connect web address: http://connect.mcgraw-hill.com/class/m_camps_lecture If you purchase Connect online, you will have the option of purchasing Connect or Connect Plus, which includes an interactive eBook version of the required textbook for this course. You can register in Connect and have access without a code for a limited time period (typically three weeks).

To register in Connect, please visit
:http://connect.mheducation.com/class/m-camps-summer-2016-lecture
and click "Register Now"

The course name is "Summer 2016 lecture"

If you have any issues while registering or using Connect, please contact McGraw-Hill's Customer Experience team through http://www.mhhe.com/support or at 800-331-5094.

Laboratory:
Laboratory manuals will be posted on ecommons. **Please make sure to print them out and bring them to your session.**
Individual laboratory sections meet twice per week and last 2 hours each. They will include a short introduction to the material and moving through a number of stations providing the information necessary to fill out the worksheet.

No pictures are allowed, but to additional access to lab materials will be provided during TA office hours (which will be held in the lab) and during open lab sessions the week before practical exams.

Calendar:

*****Pages refer to original, not revised numbering
Drop deadline: August 1
Withdrawing deadline: August 12

Date	Lecture	Date	Lab
Tuesday July 26	**Lecture 1** Anatomical terms 12-13 Bone Biology 132-141 Axial skeleton 155-175		
Thursday July 28	**Lecture 2** Appendicular skeleton 185-200 Joints 206-211 Bipedality supplemental reading	**Week 1** Tuesday July 26	Introduction to anatomical terms, axial skeleton Epithelial histology
Tuesday August 2	**Lecture 3** Muscles of head and neck 268-278 Muscles of arm and torso 279-284 294-305	**Week 2** Monday August 1	Appendicular skeleton Bone and muscle histology
Thursday August 4	**Lecture 4** Muscles of leg and abdomen 308-319 Muscles of pelvic floor 285-286	**Week 3** Tuesday August 2	Muscles head and neck Arm and torso
Tuesday August 9	**Lecture 5** Nervous system: Circuitry/CSF 352-353, 402-403 Anatomical elements 404-425 ANS vs PNS 444-455	**Week 4** Monday August 8	Cadaver lab **Note change in location:** fourth floor of the Social Sciences 1Building
Thursday August 11	**Midterm#1: muscles and bones**	**Week 5** Tuesday August 9	Muscles Leg and abdomen Pelvic floor CNS
Tuesday August 16	**Lecture 6** Endocrine system 497-511 Reproductive system 703-724	**Week 6** Monday August15	**Practical Midterm**
Thursday August 18	**Lecture 7** Blood 519-534 Blood vessels 563-571 Heart 539-549 Urinary 684-697	**Week 7** Tuesday August 16	Endocrine Reproductive
Tuesday August 23	**Lecture 8** Digestive system 653-677 Respiratory system 631-642 Flora Supplemental reading	**Week 8** Monday August 22	Circulatory Urinary
Thursday August 25	**Final**	**Week 9** Tuesday August 23	**Practical Final**

RESOURCES:

Textbook:

Course:

Human Anatomy, by Kenneth Saladin 4th Edition McGraw Hill Eds.
The textbook with Connect card can be found at the Baytree bookstore. Alternatively, an all-electronic version is available as well. One copy will be put on reserve at the library.

Topics that are not covered by the textbook will be covered through supplemental material or videos; these materials be included in the tests

Lab:

Histology: a Text and Atlas, by Michael H. Ross and Wojciech Pawlina
Lippincott Williams & Wilkins Eds. Sixth Edition (2011)
10 of these textbooks (one per microscope) will be available during histology lab sessions and several will be put on reserve at the library so you should not need to purchase this textbook.

Articles:

Supporting the content of certain lectures will be posted on ecommons following the relevant lecture; these will be discussed at the beginning of next class. Questions related to the discussion of these articles in class may appear in the exam.

Examples include:

- **Additional reading on bone disease** 1: Marx J. Coming to grips with bone loss. Science. 2004 Sep 3;305(5689):1420-2. PubMed PMID: 15353792..
- **Additional reading on glia** Aguzzi A, Barres BA, Bennett ML. Microglia: scapegoat, saboteur, or something else? Science. 2013 Jan 11;339(6116):156-61. doi: 10.1126/science.1227901. Review. PubMed PMID: 23307732.
- **Additional reading on inflammation** Medzhitov R. Origin and physiological roles of inflammation. Nature. 2008 Jul 24;454(7203):428-35. doi: 10.1038/nature07201. Review. PubMed PMID: 18650913.
- **Additional reading on role of microbial flora in disease** 1: Blaser MJ. Who are we? Indigenous microbes and the ecology of human diseases. EMBO Rep. 2006 Oct;7(10):956-60. Review. PubMed PMID: 17016449; PubMed Central PMCID: PMC1618379.

EVALUATION

The course and lab will be evaluated separately, and evaluations will be based on the scores from exams and homework assignments; in the case of labs, missing sessions will be penalized (see below).

In both cases the final grade will be determined by curve, with D being approximately one standard deviation below the mean, and A approximately one standard deviation above the mean.

Lecture:

- *One* ***midterm*****,** and one ***final exam***, **each** of which will be **40%** of the grade.
    - Exams will consist of an objective portion (multiple choice, fill-in, and matching) and a short answer portion.
    - A study guide and practice exam will be posted on ecommons a week before the corresponding exam.

- **LearnSmart assignments** will be **20%** of the final grade. This consists of assigned reading followed by a quiz to test the knowledge of the material. Failed responses are not counted against you, you just need to keep trying until you get the key concepts right, at which time the assignment is considered complete.
    - Each assignment is worth 10 points and is calibrated to take about 1 h.
    - The assigned reading will largely overlap with the material presented in class, so the goal of this exercise is to make sure students are keeping up with the material.
    - Assignments can be started anytime. They are due one week after the corresponding lecture. Late submissions will get no credit.

The schedule of assignments is laid out in detail below:

Assignment	**Topic**	**Expected time**	**Credit (points)**	**Due date***
*Connects lists the next day at 3 am as the due date, in case you go over midnight, but you should aim for the date listed here.				
Lecture 1	Bone biology	20	3	8/2
	Axial skeleton	40	7	8/2
Lecture 2	Appendicular skeleton	30	5	8/4
	Joints	30	5	8/4
Lecture 3	Axial muscles	60	10	8/9
Lecture 4	Appendicular muscles	60	10	8/11
Lecture 5	Intro to nervous system	10	1	8/16
	Brain	40	5	8/16
	ANS	30	4	8/16
Lecture 6	Endocrine	45	5	8/23
	Reproductive	45	5	8/23
Lecture 7	Blood	10	1	8/25
	Blood vessels	10	1	8/25
	Urinary system	40	4	8/25
	Heart	40	4	8/25
Lecture 8	Digestive	45	6	8/25
	Respiratory	30	4	8/25

Lab:

- Attendance is mandatory,
  Failure to attend will be penalized with 2% of the final grade if it happens once, 10% it if happens twice and failing the class if it happens 3 or more times.

- Two ***laboratory practicals*** will be given; **each 50%** of the final grade. Please bring your ID to the exam to identify yourself.
  PLEASE LOOK AT THE SYLLABUS SCHEDULE IF YOU CANNOT MAKE THE LAB PRACTICAL DATES THEN SWITCH SECTIONS NOW OR DROP THE COURSE.

How to succeed in this course:

1. Come to every lecture and lab session. You will get more out of the lecture if you are there in person with very little to distract you, Missing lab sessions can result in serious deductions from your grade!

2. Read the textbook after each lecture and review the recorded lecture. The lecture should make sense after attending it and reading the textbook..

3. Study frequently, regularly, and efficiently

Frequently:
How much time you need to devote to the course outside of class in order to get an "A" will vary among individuals, but in most cases it will be in the range of 2-3 hours for every hour you spent in class. That's 10-15 hours a week!

Regularly:
There are a lot of terms to learn in anatomy. If you wait until right before an exam and try to cram them all in your head you will get the equivalent of an emotional ice cream headache! It's best to space out your studying sessions throughout the quarter. An example of a good strategy would be setting a few hours aside the day before each lecture and lab session to review the material from the last class and read the textbook to prepare for tomorrow.

Efficiently: Not all studying methods are equal!
The best methods involve actively doing something and also making connections between the different lectures and between lecture and lab. Studying in group often helps.

<u>Good ideas:</u>

- USE VOCAB LISTS as a study guides for lecture and also to identify structures you have seen in lecture you are seeing again in lab.
- GO TO OPEN LABS TO STUDY FOR LAB PRACTICALS.
- Make flashcards and quiz yourself or a study partner
- Study in a group and take turns teaching the topics from lecture to the group
- In lab with your partner, take turns quizzing each other on the different features of each model
- In lab "teach" your partner the names and functions for each model feature.
- Use the connect software to take anatomy quizzes
- Purchase and color in an anatomy coloring book
- Use a detailed atlas, like Netter's Atlas of Human Anatomy, to help you

identify features in lab
- Ask for help as soon as you need it. The instructors, teaching assistants, and learning assistant are all here to help you. Please come to office hours or e-mail questions when you are having trouble, we don't bite!

Inefficient ideas:
- Trying to absorb the information by simply looking at the lecture slides or figures from the textbook
- Preparing for lab practicals using only the figures from your textbook. You need to go to open lab and use the models and slides!

Instructor Evaluation:
At week 2, I will submit an anonymous survey on ecommons to monitor the quality of instruction and ask for suggestions for improvement.

During week 4 of instruction you will be asked by email to evaluate the class instructor and the Teaching Assistants formally. **PLEASE TAKE THE TIME TO FILL IT OUT**, your feedback is really important for the continued improvement of this class.

Disabilities
I am more than willing to meet the special needs of students with disabilities. Please contact me so that appropriate academic adjustments or accommodations can be made.

Plagiarism and cheating: The University's policy on academic honesty will be observed in this class. Plagiarism is the conscious or inadvertent failure to identify the contributions of others. Cheating is falsely passing off the work of others as your own. Neither will be tolerated evidence of either will result in persecution to the furthest extent of the law.

*******Please note: This syllabus is not a contract. Changes to this syllabus may be made during the course of the quarter.**