

**METX135:
Human Functional Anatomy
Summer 2022**

Lecture: Tuesday/Thursday 900am -1230pm in person in N. Sci Annex 101

Instructor:

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Phone # 831 459-1249
Office hours By appointment, either in person or via Zoom

TA (also for METX 135L):

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Instructor for METX 135L:

Nicole Schrad, nschrad@ucsc.edu
Office Hours: By appointment on Zoom

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 as well as more conceptual exercises. 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 (in which enrollment is mandatory) will place emphasis on nomenclature and recognition of anatomical and histological features. The **materials for lab and lecture largely overlap and reinforce each other**, please work as if this were two aspects of the same class.

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 learn the interplay between different systems in a healthy body as the foundation for understanding disease states.

This class is very demanding. We 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** (more if you don't have training in biology) and to make every effort to **keep up with the material** as it is being presented. **This is especially important for the fast pace of the summer session.**

COURSE ORGANIZATION.

METX 135 and 135L, as mentioned above are interlinked and there is mandatory co-enrollment. I am working closely with Nicole Schrad the Instructor for 135L to assure our classes are closely aligned throughout the quarter. **METX 135 and 135L will be sharing a canvas course website.**

Lecture materials on Canvas:

You will find the following materials in the "Modules" section of canvas.

- A list of key terminology or "vocab list"; **this list can also be used later as a study guide**
- Additional active learning questions for you to solve on your own time (individually or with other students).
- For the bone and muscle lectures, I will also be posting coloring plates from *Netter Anatomy* to use as an additional reference.
- Pre-recorded lecture by Dr. Camps that can be used as supplemental study material. **Note: NOT all the information presented in the recordings will be on the exams so use as a supplemental resource.**

RESOURCES:

Required: Textbook and Connect:

Textbook. Human Anatomy, by Kenneth Saladin 6th Edition McGraw Hill Eds.

I have also asked for a copy of the textbook to be available at the Science Library for a 24-hour check-out.

Connect. You need to have a Connect access card for this class. Connect is integrated with Canvas, so you'll find it in one of the tabs on the left side. When you try Connect for the first time, you'll go through registration.

Your options are (you will get a 2-week free trial to Connect and the ebook):

- 1) Through the M-H Connect link on the course Canvas site:
 - a. Purchase the Connect access card, which comes with an ebook directly through the M-H Connect link on the Canvas course page. Your cost should be \$85.
 - b. Rent the Connect access card, which comes with an ebook through the M-H Connect link on the Canvas course page. You can rent for \$16.99/month.
 - c. Purchase a loose leaf text book for \$39 to use with the ebook (or can find a used text book).
- 2) Through the UCSC Bookstore
 - a. Purchase a loose leaf book and Connect card directly through McGraw Hill through the UCSC bookstore (under materials required for METX 135) for \$122.40.

Topics not covered by the textbook will be covered through supplemental material or videos; if discussed in class, these additional materials will be included in the tests.

If you have trouble with registering for Connect you can contact student support:

- o P: 800-331-5094
- o <https://mhedu.force.com/CXG/s/ContactUs>

We will use Connect for *Smartbook* assignments, which will constitute 25% of the final grade (see below).

If you have any technical issues with Connect or the *Smartbook* assignments you can contact 24-hour support:

For technical support or urgent needs, please contact our Customer Experience Group (CXG):

- **Phone: 1-800-331-5094; Live chat/email: <https://mhedu.force.com/CXG/s/ContactUs>**
- **Mon-Thu: 24 Hours, Fri: 12 AM-9 PM, Sat: 10 AM-8 PM, Sun: 12 PM-12 AM (All Times Eastern USA)**

Connect has a number of materials, including virtual dissection and quizzes which will not be assigned for points but will be available for you use to study. **Screenshot of Connect page:**

The screenshot displays the Connect interface for a course. On the left, under 'Course materials', there are options to 'Rent the book' or 'Loose leaf option'. Below that, the 'Read' section shows the textbook 'Human Anatomy' by Kenneth Saladin, 6e, and a 'Practice Atlas for Anatomy & Physiology'. A link to 'Download the mobile app to read offline' is also present. The 'Resources' section includes 'Anatomy & Physiology Revealed', 'Additional Practice', and 'Recorded Lectures'. On the right, a list of SmartBook assignments is shown, including 'SmartBook 2.0 Orientation Video', 'Chapter 6: The Skeletal System I: Bone Tissue', 'Chapter 7: The Skeletal System II: Axial Skeleton', 'Chapter 8: The Skeletal System III: Appendicular Skeleton', and 'Chapter 20: The Circulatory System II: The Heart'. Each assignment includes start and due dates. At the bottom right, there is a link for 'Instructors Only - Training Resources'.

Deadlines:

- Add deadline is Thursday, July 28, 11:59PM
- Drop deadline is Monday, August 1, 11:59PM
- Request "W" Grade - Sunday, August 14 (no tuition reversal)
- Change Grade Option - Sunday, August 21

EVALUATION: You have two options for evaluation for this course: **You will automatically be assigned option 1 (attendance optional) unless you opt in to option 2 (attendance mandatory) during class on July 26th. You can NOT switch your option after class on July 26th so please think this over.**

Option 1: Attendance optional (no credit for lecture attendance and participation)

- **75% exams**
 - **Midterm 1 (bones, joints, etc.): 20%**
 - **Midterm 2 (muscles): 20%**
 - **Final exam: 35%**
 - Exams will consist of four different types of questions: multiple choice, classification, matching, and short answers.
 - Practice exam will be posted on canvas
 - A study guide will be posted on canvas
- **25% Smartbook assignments.** See detailed schedule below
- **Your lowest 2 SmartBook assignment scores will be automatically dropped**
 - 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.
 - The goal is to familiarize students with lecture materials ahead of the corresponding lecture.
 - Assignments for each lecture have a total of between 5 and 15 points and are calibrated to take about 30-60 min (depending on the number of points).

Option 2: Attendance mandatory (credit given for lecture attendance and participation):

- **60% exams**
 - **Midterm 1 (bones, joints, etc.): 15%**
 - **Midterm 2 (muscles): 15%**
 - **Final exam: 30%**
- **25% Smartbook assignments.** (See detailed schedule below)
- **Your lowest 2 SmartBook assignment scores will be automatically dropped**
 - 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.
 - The goal is to familiarize students with lecture materials ahead of the corresponding lecture.
 - Assignments for each lecture have a total of between 5 and 15 points and are calibrated to take about 30-60 min (depending on the number of points).
- **15% Lecture attendance and participation:** You will be required to attend lectures and participate in active learning activities. **Excused absences will be able to make-up participation credit with no penalty.**

Regardless of which grading option you choose, there is also extra credit available:

- **Extra credit 2%:** You will have a few options for earning extra credit during the course.
- **No late submissions accepted**
 - 0.5% for filling out 'A few questions about technology and learning' quiz and introducing yourself on the discussion forum. Due Thursday July 28th at 9am
 - 0.5% canvas submission of antagonist/agonist worksheet due Thurs. Aug 4th by 9am
 - 0.5% canvas submission of hormones and pathologies worksheet due Thurs Aug 18th by 9am
 - 0.5% if $\geq 75\%$ of the class completes the SET survey at the end of the quarter

Daily Lecture Schedule (may be modified as needed).

- Lectures will be webcast and available on canvas through YuJa.

Tuesday July 26th

- Introduction and course logistics
- Connect, with *Smartbook*

pages

- Anatomical terms 10-12
- Bone Biology 129-144
- Axial skeleton 153-173

Thursday July 28th

pages

- Terms of movement 210-216
- Appendicular skeleton 182-196
- Joints 203-210
- Bipedality supplemental reading
 - Also 164, 190 196-197

Tuesday Aug 2nd

Midterm 1 – Bones, joints, etc. (9-10am)

Start 1030 am:

pages

- Introduction to muscles
- Muscles of head and neck 266-276

Thursday Aug 4th

pages

- Muscles of the arm, and hand 292-306
- Muscles of the torso 277-278, 282-284
- Muscles of abdomen 279-281
- Muscles of pelvic floor 285-286
- Muscles of respiration 277-278
- Muscles of leg and abdomen 307-318
- Muscles of the feet 319-32

Tuesday Aug 9th

Midterm 2 – Muscles (9-10am)

Start 1030 am:

pages

- Taste, smell 462-466
- Hearing 466-472
- Balance 472-476
- Eye 476-487

Thursday Aug 11th

pages

- Circuitry 348-350
- Anatomical elements 402-422
- Peripheral NS 378-387, 423-432
- Autonomic NS 439-452
- CSF 398-401

Tuesday Aug 16th

pages

- Heart 536-548
- Circulatory system 565-595
- Endocrine system 494-507

Thursday Aug 18th

pages

- Reproductive system
 - Male 698-711
 - Female 712-722
- Embryology 726-729
- Respiratory 631-643

Tuesday Aug 23rd

pages

- Digestive 653-678
- Flora suppl. Reading
- Review

Thursday Aug 26th:

Exam – material from Aug 9th- Aug 23rd

Schedule of assignments in SmartBook (through Connect):***Your lowest 2 SmartBook assignment scores will be automatically dropped***

Lecture	Topic	Book chapter	Expected time*	Credit (points)	Due date (at 9:00 am)
July 26 th	Bone biology	Chapter 6	45	10	Aug 2 nd
July 26 th	Axial skeleton	Chapter 7	45	10	Aug 2 nd
July 28 th	Appendicular skeleton	Chapter 8	45	10	Aug 2 nd
July 28 th	Joints	Chapter 9	20	5	Aug 2 nd
Aug 2 nd	Axial musculature	Chapter 11	45	10	Aug 4 th
Aug 4 th	Appendicular musculature	Chapter 12	60	15	Aug 8 th
Aug 9 th	Special organs	Chapter 17	60	15	Aug 11 th
Aug 11 th	CNS	Chapter 15	45	10	Aug 16 th
Aug 11 th	PNS	Chapter 14	20	5	Aug 16 th
Aug 11 th	ANS	Chapter 16	20	5	Aug 16 th
Aug 16 th	Heart	Chapter 20	45	10	Aug 18 th
Aug 16 th	Circulatory	Chapter 21	20	5	Aug 18 th
Aug 16 th	Endocrine	Chapter 18	45	10	Aug 18 th
Aug 18 th	Reproductive	Chapter 26	45	10	Aug 23 rd
Aug 18 th	Respiratory	Chapter 23	30	5	Aug 23 rd
Aug 23 rd	Digestive	Chapter 24	60	15	Aug 25 th

How to succeed in this course:

1. Come to every lecture.

You will get more out of the lecture if you are there in person with very little to distract you,

2. Read the textbook before each lecture.

The lecture should make sense after reading the textbook; if not, please ask questions during lecture.

3. Study frequently, regularly, and efficiently

Good ideas:

- Keep up with the material. The Smartbook assignments should help in this regard, but set aside time after each class to study.
- **Use vocab lists as a study guides** for lecture.
- **Study for lecture and lab as if they are one class.** Make the connections between the two. To that end, you can compare vocab lists and worksheets.
- Study in a group (you can do that remotely as well) and take turns teaching the topics from lecture to the group or quizzing each other
- Draw, color structures, write lists, anything you do actively helps much more than reading
- Use a detailed atlas, like Netter's Atlas of Human Anatomy.
- Ask for help as soon as you need it.

Instructor Evaluation:

During week 2, I will submit an anonymous survey to monitor the quality of instruction and ask for suggestions for improvement.

At the end of the course, 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. **The whole class will receive 0.5% extra credit towards their final grade if $\geq 75\%$ of the class completes the SET survey.**

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.

Title IX

The university cherishes the free and open exchange of ideas and enlargement of knowledge. To maintain this freedom and openness requires objectivity, mutual trust, and confidence; it requires the absence of coercion, intimidation, or exploitation. The principal responsibility for maintaining these conditions must rest upon those members of the university community who exercise most authority and leadership: faculty, managers, and supervisors.

The university has therefore instituted a number of measures designed to protect its community from sex discrimination, sexual harassment, sexual violence, and other related prohibited conduct. Information about the Title IX Office, the online reporting link, applicable campus resources, reporting responsibilities, the UC Policy on Sexual Violence and Sexual Harassment and the UC Santa Cruz Procedures for Reporting and Responding to Reports of Sexual Violence and Sexual Harassment can be found at titleix.ucsc.edu Links to an external site..

The Title IX/Sexual Harassment Office is located at 105 Kerr Hall. In addition to the online reporting option, you can contact the Title IX Office by calling 831-459-2462.

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