

# ANATOMY & PHYSIOLOGY I

BIOL3455.001

M; 4:00 PM - 6:45 PM

FN 2.102

**Instructor** Ruben D. Ramirez, M.D., Ph.D.

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**Office Hours** Monday & Thursday, 1:00pm - 3:00pm

## Course Pre-Requisite, Co-Requisite, and/or Other Restrictions:

Pre-requisite: Introduction to Modern Biology II (BIOL2312) or equivalent.

Co-requisite: Human Anatomy & Physiology Lab: BIOL 3455.301, 302, 303, 304, or 801.

Lab Instructors	E-mail	Sections
Ruben D. Ramirez, M.D., Ph.D.	<a href="mailto:Ruben.Ramirez@UTDallas.edu">Ruben.Ramirez@UTDallas.edu</a>	303 & 304
John Kolar, Ph.D.	<a href="mailto:jck014400@utdallas.edu">jck014400@utdallas.edu</a>	301, 302 & 801

Lab Section	Days & Times	Room	Professor
301	F 4:00pm – 6:45pm	SLC 2.206	Dr. Kolar
302	W 4:00pm – 6:45pm	SLC 2.206	Dr. Kolar
303	T 1:00pm – 3:45pm	SLC 2.206	Dr. Ramirez
304	T 4:00pm – 6:45pm	SLC 2.206	Dr. Ramirez
801	W 7:00pm – 9:45pm	SLC 2.206	Dr. Kolar

## Required Textbook and Materials:

### LECTURE

- Fundamental of Anatomy & Physiology**
  - Authors: Frederic H. Martini, Ph.D., Judi L. Nath, Ph.D. & Edwin F. Bartholomew, M.S.
  - 10th edition,
  - A La Carte (3 hole punch)
  - Plus **Modified** Mastering A&P VP Fundamentals with eText
  - VP ISBN-10: 013397426X  
VP ISBN-13: 9780133974263
- Response Card RF LCD**
  - By Turning Technologies
  - ISBN: 9781934931400

### LAB

- Human Anatomy & Physiology Laboratory Manual**
  - Authors: Elaine N. Marieb, R.N., Ph.D., Susan J. Mitchell, Ph.D., & Lori A. Smith, Ph.D.
  - 10th edition
  - Main version
  - Plus **Modified** Mastering A&P with eText and PhysioEX 9.1.
  - ISBN-10: 0133983811  
ISBN-13: 9780133983814

Two copies of the lecture textbook (Martini's) are on reserve in the Library. Request these reserved books in Circulation Desk by referring to call numbers #13494 and #13495. They are set for 2-hour check out.

Two copies of the lab manual (Marieb's) are on reserve in the Library. Request these reserved books in Circulation Desk by referring to call numbers #13496 and #13497. They are set for 2-hour check out.

#### Description:

Biology 3455, Human Anatomy and Physiology I, is the first of a two-part series designed as a comprehensive examination of the basic principles of human physiology in the context of a detailed examination of human anatomy. The course is designed to give the pre-professional health care student a detailed fundamental background to enable the student to excel in the anatomical and physiological sciences within the professional school curriculum. This first-half study of the structure-function relationship includes a survey of tissue types, osseous histology and structures, skeletal muscle physiology and anatomy, neurophysiology and anatomy and sensory systems. Emphasis will be placed on the anatomy of these systems as outlined in a model-based laboratory setting.

#### Student Learning Outcomes:

1. Understand and be conversant with the anatomy of the human body that includes histology, skeletal system, skeletal muscle, and neuroanatomy;
2. Understand and be conversant with the physiology of the human body that includes histology, skeletal system, skeletal muscle and neurophysiology;
3. Be familiar with the operation of these human organ systems and their interactions within the body;
4. Be familiar with the concepts of integration of operation of these human organ systems within the body.

#### Grading Policy:

1. Grades for lecture will be calculated as follows:
 

a. Lecture Exams (4)	60%	}	= Final Overall Grade
b. Lecture Quizzes	5%		
c. Lecture Homework	5%		
d. Lab Practical Exams (3)	30%		

2. Grading scale:

Grade	Score	Grade	Score	Grade	Score	Grade	Score
A+	100-96	B+	87-85	C+	77-75	D+	67-65
A	95-92	B	84-82	C	74-72	D	64-62
A-	91-88	B-	81-78	C-	71-68	D-	61-58
						F	57 and below

3. Final grade will be rounded to the nearest integer, e.g., a final grade of 87.5 will round up to 88.00, thus letter grade "A-"; while a final grade of 87.49 will round down to 87.00, thus letter grade "B+". No points or fraction of a point (regardless how small) will be awarded to increase to the next letter grade up (**No Exceptions**).

4. Grades are determined based only on performance. Grades are not based on need, effort, or attendance.
5. I do not curve grades (do not ask, beg, cry or plead).

#### Lecture Examinations:

Exam I - M, 9/22 at **HH 2.402** (Chapters 1, 4 & 5)

Exam II - M, 10/13 at **HH 2.402** (Chapters 6, 10/11 & 12)

Exam III - M, 11/10 at **HH 2.402** (Chapters 13, 14 & 15)

Exam IV - M, 12/8 at **HH 2.402** (Chapters 16 & 17)

Makeup Exam due to bad weather, or other unexpected event - Pending date/room

#### Course Policy:

Components of the course that will be used to calculate your final overall grade are:

1. **Lecture Exams,**
2. **Lecture Quizzes,**
3. **Lecture Homework,**
4. **Lab Practical Exams, and**
5. **In-Class Participation**

#### 1. **Lecture Exams:**

- a. Four (4) lecture exams will be given during the semester. There will be no final exam. Graded exams will not be reviewed in class. Exams will be kept on file in the instructor's office and will be available for review for 1 week (if student wants to review after this period of time, contact professor within this week to make appointment), starting the next day after the exam grades are posted in eLearning. The student is responsible for scheduling time to review. All issues regarding exam questions and grades must be resolved within this week. After this week, grades will be considered final.
- b. The test classroom and times for all four **lecture exams** will be **HH 2.402**.
- c. The average of four lecture exams will count 60% of final overall grade (thus, each lecture exam is 15% of final overall grade). No lecture exam will be dropped.
- d. The structure of the exams will be multiple choice, true/false, and matching questions. There will be **100 questions** on all exams, and the time allowed to complete the exam will be **1 hour and 15 minutes**. You will need a Scantron (ParSCORE, SCORE SHEET, Form No. F-1712-PAR-L) for all exams.
- e. Bonus points (maximum 6 points) will be made available during all lecture exams. No bonus/extra points will be awarded to the final overall grade.
- f. Everything in the textbook is fair game for lecture exams/quizzes/homework, regardless of whether or not it is presented in class. You are responsible to use all of the information contained throughout the entire chapters and additional sources (see below) to prepare for exams/quizzes (regardless of whether or not material from

chapters is presented in class). Information from additional sources is presented in activities of Mastering A&P, such as PhysioEx 9.1, Interactive Physiology, A&P Flix, or Clinical Case Studies, which will also be fair game for exams/quizzes/homework.

- g. For exam purposes only, when there are conflicts between the information contained in textbook (or any other outside source) and the material presented in class, material presented by the professor in class will rule over what is written in textbook/outside source.
- h. Do not miss lecture exams! (If exams are missed you must be able to verify your reason for missing exam).
- i. **Make-up lecture exams** are usually not given - if there are circumstances that warrant a make-up the instructor will determine the criteria for such an exam at the appropriate time. The structure of make-up exams will be different than that specify in #1d above.
- j. The only Legitimate Reasons to make-up missed lecture exams are as follows: death of an immediate family member, bona fide medical emergencies, and military orders. Proper documentation must be presented in writing before a make-up is granted – **no exceptions**.

NOTE.- Make up exams will not be granted for other reasons, such as, trips to weddings, graduation, vacations, visits, etc. Please, do not purchase tickets. If you must go to this trip or if it costs excessive amount of money to change trip tickets, reservations, etc., consider dropping the course from the fall semester. Please, do not ask for "other" ways.

- k. **Late to Exam:** Exams are scheduled to begin at the same time as lecture (4:00pm). However, I usually take around 15 minutes to give a speech about different issues regarding the exam and to shuffle around the students in the room. So, no one has to arrive after I have done all of the above. Yet, someone might arrive late. Keep in mind that arriving after the exam has actually begun is very disruptive to your classmates. Be polite to your classmates and arrive on time.

**For those who arrive after the exam has begun:** 1) if one (1) student finishes the exam and leaves the classroom before you arrive, you will not be allowed to take the exam, and your score for the particular exam will be zero (0) and there will be no makeup exam (No exceptions). It is the student responsibility to allow plenty time to arrive to the school, in case some awkward event happens. 2) if a student arrives after the exam has begun (and assuming no one has finished the exam and turned it in), then the student will be given whatever amount of time is left to finish the exam (i.e., 1 hour and 15 minutes are allowed to finish the exam, but if student arrives 15 minutes after the exam has started, then the student will be given only 1 hour – the amount of time left – to complete the exam).

## 2. **Lecture Quizzes:**

- a. There will be a **maximum** of 10 quizzes posted for in eLearning.
- b. The average of all quizzes minus the lowest two scores will count 5% of final overall grade.
- c. Quizzes will be taken in eLearning. You will have 1 week (168 hours) to take the quiz (due date and time will be shown in eLearning). Thus, do not procrastinate, because there will be no make-up for missing quizzes (**absolutely no exceptions**).
- d. A missed quiz will receive a zero (0).
- e. Read the instructions prior to taking the quiz.
- f. Quizzes are timed and only two attempts are allowed (you will get the highest score out of the two attempts).

### 3. **Lecture Homework:**

- a. There will be a **maximum** of 10 homework.
- b. Homework will be taken in eLearning (course menu: Pearson Mastering; link: Mastering Assignments).
- c. Homework will be comprised of activities and reading questions from textbook or activities found in the **Study Area** of Mastering: PhysioEx 9.1, Interactive Physiology, A&P Flix, or Clinical Case Studies.
- d. Homework will not be timed, but they will have a due date. Late submission will not be accepted (regardless of the reason).
- e. Homework can only be taken once.
- f. There will be no make-up for missing homework either.
- g. The average of homework minus the lowest score will count 5% of your lecture grade.
- h. Check the grading setting on each homework under 'Grading Policy' to see how homework will be graded. Below is a sample of grading policy:

#### **Grading Policy for Homework**

**Number of answer attempts per question is: 6**

**You gain credit for:**

- Correctly answering a question in a Part
- Correctly answering a question in a Hint
- Not opening a Hint (2% bonus)

**You lose credit for:**

- Exhausting all attempts or giving up on a question in a Part or Hint
- Incorrectly answering a question in a Part or Hint

**Homework/Assignments are not timed. But there is a due date. Therefore, late submissions:** receive no credit. There will be no make-ups (**no exceptions**)

**Hints** are helpful clues or simpler questions that guide you to the answer. Hints are not available for all questions. There is **no penalty** for leaving questions in Hints unanswered.

**Grading of Incorrect Answers before the last attempt:**

- You lose 100%/(# of options - 1) credit per incorrect answer on multiple-choice and true/false questions.
- You lose 3% credit per incorrect answer on questions that are not multiple-choice or true/false.

### 4. **Lab Practical Exams:**

- a. Three (3) practical lab exams will be given during the semester. The average of all three lab practical exams will count 30% of final overall grade (thus, each lab practical exam is 10% of final overall grade).
- b. **Open lab sessions** will be announced prior to the lab practical exam week. Typically, we have open lab sessions on the Sunday before the practical exam week. This time, we have set additional open lab sessions on the week prior to the practical exams week. The exact dates and times will be announced in eLearning. Open labs are for review and a self-studying activity (no lecture will be given by professors or TAs). Although, we can answer questions.

- c. No lab practical exam will be dropped.
- d. **Make-up lab practical exams** are usually not given. If there are circumstances that warrant a make-up practical exam, the instructor of your lab section will determine the criteria for such an exam at the appropriate time.
- e. **No one will be allowed to take practical exams in a lab section in which the student is not enrolled (regardless of the reason) without prior authorization by me and the professor involved. If a student is granted permission to take the practical lab exam in a different section, it will depend on whether or not there is space for this student. If lab section is full, no student will be authorized to take the practical exam and overload this lab section.**
- f. Graded lab practical exams will not be reviewed in class. Lab practical exams will be kept on file in the instructor's office and will be available for review for 1 week (if student wants to review after this period of time, contact professor within this week to make appointment), starting the next day after the exam grades are posted in eLearning. The student is responsible for scheduling time to review. All issues regarding exam questions and grades must be resolved within this week. After this week, grades will be considered final.
- g. The structure of the lab practical exams will be filling in the blank and short answers. There will be between 60-100 questions in 32 stations (2-4 questions per station). During the practical exam, one (1) minute will be allowed per station (not per question), and ten (10) additional minutes will be allowed at the end of the practical for you to double check your answers. You will not need a Scantron for exams; an answer sheet will be provided. There may be a maximum of 5 bonus points on all practical exams.
- h. Any changes to clause # 4f above will be announced by your own lab instructor on the first day of lab class.
- i. Everything in the lab manual is fair game for practical lab exams, regardless whether or not it is presented in class. You are responsible to use all of the information contained throughout the entire chapters to prepare for lab practical exams (regardless of whether or not material from chapters is presented in class). Information presented in activities of Mastering A&P, such as Histology Atlas and PAL 3.0, will also be fair game for practical lab exams.

**NOTE.-** when there are conflicts between the information contained in textbook or any other source and the material presented in class, material presented by the professor in class will rule over what is written in textbook/outside source.

##### 5. **In-Class Participation:**

- a. There will be in-class activities to evaluate class participation during lecture.
- b. These in-class activities will consist of questions that may cover material presented in any of the following: PhysioEx 9.1 exercises, Interactive Physiology activities, A&P Flix animations, Clinical Case Studies (all of these three are found in the **Study Area** of [MasteringAandP.com](http://MasteringAandP.com)) and including textbook/PowerPoint class notes/additional information presented in class.
- c. You will need **clickers** to answer the questions in lecture. Each question answered correctly will be worth a total of 1.0 point: you will earn the first 0.5 points/question just by answering the questions; and you will earn the second 0.5 points/question by answering correctly the questions.
- d. A maximum of 5.0 points total per exam will be awarded from these questions. Points earned from these in-class activities will be awarded to the corresponding lecture exam.
- e. These are in-class activities, thus students missing a class will receive no credit. There will be no make ups for these in-class activities (**no exceptions**).

**6. Practice Additional Lecture Assignments:**

- a. There will be no points awarded in lecture assignments. These lecture assignments are tools to practice and/or reinforce concepts presented in class. These lecture assignments are optional; however, concepts reviewed in these lecture assignments may be used to create questions for exams/quizzes/homework (see clause #1f above).
- b. Lecture assignments will be comprised of activities and reading questions from textbook or activities found in the **Study Area** of Mastering: PhysioEx 9.1, Interactive Physiology (IP), A&P Flix, or Clinical Case Studies.

**7. Practice Additional Lab Assignments:**

- a. There will be no points awarded in lab assignments. These lab assignments are tools to practice and/or reinforce concepts presented in the lab. These assignments are optional; however, concepts reviewed in these lab assignments may be used to create questions for lab practical exams (see clause #4i above).
- b. Lab assignments will be comprised of activities and reading questions from lab manual or activities found in the **Study Area** of Mastering: Histology Atlas and PAL 3.0.

**8. NOTE.- Supplemental Instruction (SI) is offered for this course. SI sessions are free group study opportunities, scheduled three times per week. Sessions are facilitated by an SI Leader, who has recently taken the course and received a high final grade. Enrollment into SI sessions is a recommended, encourage activity, but not a required activity. So, attendance is voluntary. No extra-points will be awarded for attending SI sessions. SI sessions will begin around the week of September 8<sup>th</sup>. For information about the days, times, and locations for SI sessions, refer to [www.utdallas.edu/studentsuccess/leaders/si.html](http://www.utdallas.edu/studentsuccess/leaders/si.html).**

**9. You will need a UTD photo ID to get into both lecture and lab exams. If you do not have an UTD photo ID presently, please make arrangements to get one before the first exam (photo ID on Driver Licenses/Cards/Badges are not considered substitute of UTD photo ID – we need your UTD number next to your photo in the same document, not just your photo). No exam or grade will be given to students without UTD photo ID (no exceptions). We are aware of the expense to attend college, but having an UTD Comet ID is a requirement set by the university for all UTD students.**

10. In keeping with the spirit of the Privacy Act, grades and/or grade information will not be given to anyone other than the student and will not be discussed over the phone or emails.

**UT Dallas Syllabus Policies and Procedures:**

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.

## Lecture Schedule:

WEEK	DAY	TOPIC	REQUIRED READING	ASSIGNMENTS
1	8/25	An Introduction to Anatomy & Physiology	Chapter 1	HW Chp 01
2	9/1	<b>***9/1 LABOR DAY***</b>	<b>NO CLASS</b>	
3	9/8	Tissues	Chapter 4	
4	9/15	Tissues The Integumentary System	Chapter 4 Chapter 5	HW Chp 05
5	9/22	<b>Exam I (HH 2.402)</b> Osseous Tissue & Bone Structure	<b>Chps 1, 4 &amp; 5</b> Chapter 6	Case Chp 06 HW Chp 06
6	9/29	Muscle Tissue The Muscular System	Chapter 10 (sections 10-1 to 10-7) Chapter 11 (sections 11-1 to 11-4)	PhysioEx 9.1, Exercise 2 HW Chp 10/11
7	10/6	Neural Tissue	Chapter 12	PhysioEx 9.1, Exercise 3 IP: NS I and II HW Chp 12
8	10/13	<b>Exam II (HH 2.402)</b>	<b>Chps 6, 10/11 &amp; 12</b>	
9	10/20	The Brain	Chapter 14	Case Chp 14
10	10/27	The Brain and Cranial Nerves	Chapter 14	HW Chp 14
11	11/3	The Spinal Cord, Spinal Nerves, & Spinal Reflexes Sensory Pathways & The Somatic Nervous System	Chapter 13 Chapter 15	Case Chp 13 HW Chp 13 HW Chp 15
12	11/10	<b>Exam III (HH 2.402)</b>	<b>Chps 13, 14 &amp; 15</b>	
13	11/17	Autonomic Nervous System & Higher-Order Functions The Special Senses - Anatomy	Chapter 16 Chapter 17	HW Chp 16
14	11/24	<b>***11/24 – 11/26 FALL BREAK***</b> <b>***11/27 – 11/29 THANKSGIVING HOLIDAYS***</b>	<b>NO CLASS</b>	
15	12/1	The Special Senses – Physiology	Chapter 17	HW Chp 17
16	12/8	<b>Exam IV (HH 2.402)</b>	<b>Chps 16 &amp; 17</b>	

**NOTE:** The professor has the right to change the syllabus at any point during the semester.

**\*\*\*10/30 LAST DAY TO WITHDRAW\*\*\***

**These descriptions and timelines are subject to change at the discretion of the Professor.**



Lab Schedule:

Dates			Topic	Required Reading
Tue	Wed	Fri		
Aug 26	Aug 27	Aug 29	Language of Anatomy, Organ Systems, Microscope, The Cell, Cell Transport, & Histology (Epithelial Tissue)	Ex. 1-6
Sept 2	Sept 3	Sept 5	Histology (Connective Tissue, Muscle Tissue, & Nervous Tissue), & Skin	Ex. 6 & 7
Sept 9	Sept 10	Sept 12	Axial Skeleton	Ex. 8- 9
Sept 16	Sept 17	Sept 19	Appendicular Skeleton – Upper Limb	Ex. 10
Sept 23	Sept 24	Sept 26	Appendicular Skeleton – Lower Limb & Joints	Ex. 10-11
Sept 30	Oct 1	Oct 3	<b>Lab Practical I</b>	<b>Ex. 1-11</b>
Oct 7	Oct 8	Oct 10	Axial Muscles	Ex. 12 & 13
Oct 14	Oct 15	Oct 17	Appendicular Muscles – Upper Limb	Ex. 13
Oct 21	Oct 22	Oct 24	Appendicular Muscles – Lower Limb	Ex. 13
Oct 28	Oct 29	Oct 31	<b>Lab Practical II</b>	<b>Ex. 12 &amp; 13</b>
Nov 4	Nov 5	Nov 7	Nervous System Brain & Cranial Nerves	Ex. 15 & 17
Nov 11	Nov 12	Nov 14	Spinal Cord, Spinal Nerves, Reflexes & ANS	Ex. 19 - 21
Nov 18	Nov 19	Nov 21	General & Special Senses	Ex. 22-26
Nov 25	Nov 26	Nov 28	***11/24 – 11/26 FALL BREAK*** ***11/27 – 11/29 THANKSGIVING HOLIDAYS***	No Class
Dec 2	Dec 3	Dec 5	<b>Lab Practical III</b>	<b>Ex. 15, 17, 19-26</b>

Tuesday column is for section 303 & 304; Wednesday column is for sections 302 & 801; Friday column is for section 301.

**\*\* Last day to withdraw is 10/30**

**NOTE:** The professor has the right to change the syllabus at any point during the semester.

Lab Examinations:

Practical I – 9/30, 10/1 & 10/3 at SLC 2.206 (Exercises 1 – 11)

Practical II – 10/28, 10/29 & 10/31 at SLC 2.206 (Exercises 12 & 13)

Practical III – 12/2, 12/3 & 12/5 at SLC 2.206 (Exercises 15, 17, 19 – 26)