



## Texas A&M University – San Antonio Biol 2401

### *Spring 2026 - Syllabus*

**Instructor:** Alejandro Nunez Cardenas, MS  
**E-mail:** [anunezcarde@tamus.edu](mailto:anunezcarde@tamus.edu)  
**Office Hours:** Wednesdays by appointment only.

#### Class Times

Laboratory 2401 05L 3:00 – 5:45	Wednesday	Science & Technology 337
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#### Course Materials and Assignments

- **Lab Class:** All assignments, course materials, and resources for the lab portion of the course are embedded within the McGraw-Hill Connect website, which can be accessed through Blackboard.

#### Spring 2026 Regular 16-Week Session

October 27	Monday	Registration opens
December 24-January 2	Wednesday-Friday	Winter Break
January 13	Tuesday	Tuition & fee payment deadline
January 16	Friday	Last day for students withdrawing to receive 100% refund (0% responsibility) for tuition
January 19	Monday	Martin Luther King, Jr. Day - No classes
January 20	Tuesday	First class day
January 27	Tuesday	Last day to register
February 4	Wednesday	Census Date
February 5	Thursday	Drop for non-payment
February 23-March 6	Monday-Friday	Midterm grading period
March 9-March 14	Monday-Saturday	Spring Break
April 3	Friday	Study day - No classes
April 17	Friday	Last day to drop with an automatic grade of "W"
May 1	Friday	Last day to withdraw from the university
May 4	Monday	Last day of scheduled classes for weekday classes

May 5	Tuesday	Study day - No classes
May 6-May 12	Wednesday-Tuesday	Final examinations
May 12	Tuesday	End of term
May 15	Friday	All grades due by noon
May 18	Monday	Grades available in JagWire
May 19	Tuesday	Commencement

### Teaching Philosophy

My teaching philosophy emphasizes active and experiential learning. Throughout the course, you will engage in activities and discussions that challenge you to think critically about Anatomy & Physiology clinical concepts. Expect to encounter thought-provoking questions during class, designed to promote deeper understanding and practical application of the material. Active participation is encouraged, as it is key to mastering the subject and developing problem-solving skills essential for success in the health sciences.

### Lecture Course Description

As outlined in the Academic Course Guide Manual of the Texas Higher Education Coordinating Board (THECB):

Anatomy and Physiology I is the first part of a two-course sequence. This course is a comprehensive study of the structure and function of the human body, focusing on the cells, tissues, and organs of the following systems: integumentary, skeletal, muscular, nervous, and special senses. Emphasis is placed on the interrelationships among these systems and the regulation of physiological functions involved in maintaining homeostasis.

Attendance: Attendance for lectures is integral to course success and is equivalent to a lecture exam grade.

### Student/Institutional Learning Outcomes

This course also assesses the following student and institutional learning outcomes, as required by the Texas Higher Education Board (THECB):

- Communication: Demonstrating the ability to express ideas effectively through written, oral, and visual communication.
- Teamwork: Collaborating with others by considering different points of view and working effectively to achieve a shared purpose or goal.
- Critical Thinking: Analyzing and evaluating issues, ideas, and information before formulating an opinion or conclusion.
- Empirical and Quantitative Skills: Applying scientific and mathematical concepts to analyze data and solve problems.

### Lecture Class Learning Outcomes.

Upon successful completion of this course, students will be able to:

1. **Use Anatomical Terminology:** Apply correct anatomical terminology to identify and describe the locations of major organs within each system covered in the course.
2. **Explain System Interrelationships:** Describe the interrelationships among molecular, cellular, tissue, and organ functions in each system.
3. **Understand System Interdependency:** Analyze the interdependency and interactions between different systems of the human body.
4. **Contributions to Homeostasis:** Explain the role of organs and systems in maintaining homeostasis and physiological balance within the body.

5. **Identify Homeostatic Imbalances:** Recognize the causes and effects of homeostatic imbalances and their impact on health.
6. **Describe Modern Tools and Technology:** Identify and explain modern technologies and tools used in the study of anatomy and physiology, such as imaging techniques, laboratory equipment, and data acquisition systems.

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#### Important Notes

- **Online Exams:** Students are required to use the Respondus Lockdown Browser with webcam for online exams or assignments.
- **Late Submissions:** There is no point deduction for late submissions.

## Spring 2026 Lab Schedule

- **Week 1: January 19 - January 25**
  - Introduction
  - **Lab 1:** Human Body
  - Microscopy – parts of the microscope and correct use
  - Chemistry (elements, periodicity, subatomic particles, bonds, pH)
- **Week 2: January 26 - February 1**
  - **Lab 2:** Cells (organelles, cell division, macromolecules, and cell membrane) – Human cell model
- **Week 3: February 2 - February 8**
  - **Lab 3:** Tissues (epithelial, connective, muscular, and nervous) – microscopy
  - Integumentary System – Skin model
- **Week 4: February 9 - February 15**
  - **Lab Practical 1**
- **Week 5: February 16 - February 22**
  - **Lab 4:** Bones and Skeletal Tissue – Skeletal model
  - Articulations (joints)
  - The Skeleton (axial)
- **Week 6: February 23 - March 1**
  - **Lab 5:** The Skeleton (axial & appendicular)
- **Week 7: March 1 - March 7**
  - **Lab 6:** Muscles and Muscle Tissue – Human body model
- **Week 8: March 8 - March 14**
  - **Spring Break** (March 9 - March 14: Monday - Saturday)
- **Week 9: March 15 - March 21**
  - **Lab 7:** Muscular System (Axial & Appendicular)

- **Week 10: March 22 - March 28**

- **Lab Practical 2**

- **Week 11: March 29 - April 4**

- **Lab 8:** Nervous Tissue – Flat model and brain anatomical models
  - Central Nervous System
  - Sheep's Brain Dissection

- **Week 12: April 5 - April 11**

- **Lab 9:** Peripheral Nervous System – Nervous System Flat Anatomical Model and The Fifth Cervical Vertebra Model
  - Autonomic Nervous System

- **Week 13: April 12 - April 18**

- Easter Holiday 4/17

- **Week 14: April 19 - April 25**

- **Lab 10:** Special Senses – Eye, ear, and inner ear anatomical models

Sheep's Eye Dissection

- **Week 15: April 26 - May 2**

- **Lab Practical 3**

### Lab Grade Calculation:

Category	Points per Item	Number of Items	Total Points
<b>Lab Assignments</b>			<b>1500 pts</b>
Pre-Lab Assignments	30 pts	10	300 pts
Online Lab Assignments	45 pts	10	450 pts
In-Person Lab Assignments	45 pts	10	450 pts
Checks for Understanding	30 pts	10	300 pts
<b>Lab Practical Exams</b>			<b>1500 pts</b>
Virtual Labs	250 pts	3	750 pts
In-Person Labs	250 pts	3	750 pts
<b>TOTAL</b>			<b>3000 pts</b>

#### Explanation:

- **Lab Assignments (1500 pts):** Includes pre-labs, online labs, in-person labs, and checks for understanding.
- **Lab Practical Exams (1500 pts):** Divided into virtual labs and in-person labs, each worth 250 points.

Total points for the semester: **3000 pts = 30% of the total points + 70% of Lecture.**

**Final Exam:** A comprehensive final lecture exam will be administered in person at the end of the semester.

#### Bonus Credit:

- **Class pre-test** - bonus point opportunity before class starts and will be due the first week of class. No need to study anything. This attempt is to find out what you know about entering the class. It does not count against the class grade.
- **Assignment bonus points** - embedded within certain McGraw-Hill Lab assignments. You must turn in assignments before their completion date to be eligible for bonus points.
- **End of course surveys** – two end-of-class surveys are worth bonus points.

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**LABORATORY.** *Students are **not** required to purchase a laboratory manual. All laboratory materials are available through McGraw-Hill Connect.*

**Laboratory Course Description (as per the Academic Course Guide Manual of The Texas Higher Education Coordinating Board):** This laboratory course offers a hands-on learning experience, allowing students to explore human system components and basic physiology. Students will use anatomical models for anatomy studies and conduct physiology experiments using Vernier equipment.

This course emphasizes active learning, where students will engage in critical thinking exercises and discussions. The instructor will pose thought-provoking questions about the various organs and systems of the human body, encouraging students to apply their knowledge, analyze concepts, and develop a deeper understanding of Anatomy & Physiology. Active participation is expected and integral to the learning process.

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#### **Anatomy and Physiology 2401 Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. **Apply Safety and Ethical Standards**
  - Demonstrate an understanding of and adherence to laboratory safety protocols and ethical guidelines in the study of human anatomy and physiology.
2. **Locate and Identify Anatomical Structures**
  - Accurately identify and locate anatomical structures on models, dissections, and virtual simulations, relating their functions to human physiological processes.
3. **Utilize Laboratory Equipment**
  - Effectively use laboratory equipment such as microscopes, dissection tools, general labware, physiology data acquisition systems, and virtual simulations to gather data and perform experiments.
4. **Collaborate in Experimentation**
  - Work collaboratively with peers to design, conduct, and analyze experiments, demonstrating teamwork, communication, and responsibility in laboratory settings.
5. **Demonstrate the Scientific Method**
  - Apply the scientific method to investigate hypotheses, design experiments, collect data, and evaluate results in a controlled laboratory environment.
6. **Analyze and Communicate Scientific Results**
  - Communicate scientific findings clearly through written reports and oral presentations, analyzing data, making conclusions, and evaluating the reliability of experimental results.
7. **Employing Critical Thinking and Scientific Problem-Solving Skills**
  - Demonstrate critical thinking by integrating, synthesizing, and summarizing information to solve complex anatomical and physiological problems, make informed decisions, and predict outcomes based on scientific evidence.

## EVALUATION

Grade Points Scale	
<b>A</b>	1000 – 900 pts.
<b>B</b>	899 – 800 pts.
<b>C</b>	799 – 700 pts.
<b>D</b>	699 – 600 pts.
<b>F</b>	below 600 pts.

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### Lecture Course Grade Calculation (700 pts)

Component	Points	Percentage of Final Grade
Lecture Exams	400 pts	40%
Lecture Quizzes	100 pts	10%
Final Lecture Exam	100 pts	10%
Lecture Assignments	100 pts	10%
<b>Total (Lecture)</b>	<b>700 pts</b>	<b>70%</b>

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### Laboratory Course Grade Calculation (3000 pts)

Component	Points	Percentage of Final Grade
Online Lab Practical	750 pts	25%
In-Person Lab Practical	750 pts	25%
McGraw-Hill Assignments	1500 pts	50%
<b>Total (Lab)</b>	<b>3000 pts</b>	<b>30%</b>

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### Overall Course Grade Calculation

Component	Percentage of Final Grade
Total (Lecture)	70%
Total (Lab)	30%
<b>Total (Lecture + Lab)</b>	<b>100%</b>

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## REQUIRED MATERIALS.

### Textbook Information

- **Required Textbook:** *Seeley's Anatomy and Physiology*, 13th Edition by Cinnamon VanPutte.
- The textbook is provided by TAMUSA and is available on Blackboard as an e-text. To ensure proper integration with Blackboard, please log in to the e-text using your TAMUSA email address.
- There is no need to purchase a hard copy, as the e-text will be accessible through Blackboard.

#### **IMPORTANT POLICIES AND RESOURCES**

Academic Accommodations for Individuals with Disabilities: Texas A&M University-San Antonio is committed to providing all students with reasonable access to learning opportunities and accommodations in accordance with The Americans with Disabilities Act, as amended, and Section 504 of the Rehabilitation Act. If you experience barriers to your education due to a disability or think you may have a disability, Disability Support Services is located in the Central Academic Building, Suite 210. You can also contact us via phone at (210) 784-1335, visit us <https://www.tamusa.edu/Disability-Support-Services/index.html> or email us at [dss@tamusa.edu](mailto:dss@tamusa.edu). Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Support Services and their instructors as soon as possible.

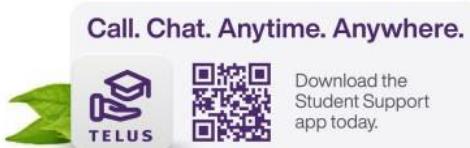
Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing [tutoring@tamusa.edu](mailto:tutoring@tamusa.edu), calling (210) 784-1307, or visiting the Central Academic Building, room 202.

Counseling/Mental Health Resources: As a college student, there may be times when personal stressors interfere with your academic performance and negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student Counseling Center (SCC). To schedule an appointment, call 210-784-1331 or visit Madla 120.

All mental health services provided by the SCC are free and confidential (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services. For more information on SCC services visit [tamusa.edu/studentcounseling](https://www.tamusa.edu/studentcounseling)

*Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option '2').*

Additionally, the TELUS Student Support App provides a variety of mental health resources to include support for in the moment distress, an anonymous peer-to-peer support network, mental health screenings, podcasts, and articles to improve your mental wellbeing.



Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio's mass notification. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com/>.

More information about Emergency Operations Plan and the Emergency Action Plan can be found here: <https://www.tamusa.edu/about-us/emergency-management/>.

Download the SafeZone App (<https://safezoneapp.com/>) for emergencies or call (210) 784-1911. Non-Emergency (210) 784-1900.

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Any student receiving federal financial aid who does not attend by the census date will have their financial aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester, a Care report will be submitted, and you will possibly be dropped from the class. Your financial aid may have to be recalculated, and a portion of your federal aid may have to be returned to the DoE.

Writing, Language, and Digital Composing Center: The Writing, Language, and Digital Composing Center supports graduate and undergraduate students in all three colleges as well as faculty and staff. Tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. Students can schedule appointments through JagWire under the Student Services tab. Click on "Writing, Language, and Digital Composing Center" to make your appointment. The Center offers face-to-face, synchronous online, and asynchronous digital appointments. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our website at <https://www.tamusa.edu/academics/>.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to submit a CARE referral (<https://www.tamusa.edu/university-policies/Student-Rights-and-Responsibilities/file-a-report.html>) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to direct you to available resources.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to visit the Office of Military Affairs for any question involving federal or state VA Education Benefits. Visit the Patriots' Casa building, room 202, or to contact the Office of Military Affairs with any questions at [military.va@tamusa.edu](mailto:military.va@tamusa.edu) or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided with an opportunity to make up any examination, study, or course work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student's GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as "F" grades and will impact the student's GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equal opportunity, and human dignity. To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality and the uniqueness of the individual within our state, nation, and world. All decisions and actions involving students and employees should be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, gender identity, gender expression, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the appropriate offices within their respective units.

Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex- or gender-based discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking, know that help and support are available. A&M-San Antonio's Title IX Coordinator can support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and trained victim advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment, sexual violence, or other related misconduct, the faculty member must share that information with the university's Title IX Coordinator ([titleix@tamusa.edu](mailto:titleix@tamusa.edu), 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

Pregnant/Parenting Students: Texas A&M-San Antonio does not require a pregnant or parenting student, solely because of that status or issues related to that status, to (1) take a leave of absence or withdraw from their degree or certificate program; (2) limit the student's studies; (3) participate in an alternative program; (4) change the student's major, degree, or certificate program; or (5) refrain from joining or cease participating in any course, activity, or program at the University. The university will provide reasonable accommodation for pregnant students as it would be provided to a student with a temporary medical condition that are related to the health and safety of the student and the student's unborn child. These could include maintaining a safe distance from substances, areas, and activities known to be hazardous to pregnant individuals and their unborn child; excused absences because of illness or medical appointments; modified due dates for assignments; rescheduled tests/exams; taking a leave of absence; and being provided access to instructional materials and video recordings of lectures for excused absences, if these would be provided to any other student with an excused absence. Pregnant/parenting students are encouraged to contact the Title IX Coordinator with any questions or concerns related to their status ([titleix@tamusa.edu](mailto:titleix@tamusa.edu); 210-784-2061; CAB 439K).

Texas A&M-San Antonio has also designated the Title IX Coordinator as the liaison officer for current or incoming students who are the parent or guardian of a child younger than 18 years of age. The Title IX Coordinator can provide students with information regarding support services and other resources.

Students' Rights and Responsibilities: The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

*Students' Rights*

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, based on race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, gender identity, gender expression, and pregnancy/parenting or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.

4. Each student subject to disciplinary action arising from violations of university students' rules shall be assured a fundamentally fair process.

*Students' Responsibilities*

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty, and administration.
2. A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, [Student Code of Conduct](#), on our website, and University Catalog, and to comply with them, as well as with federal, state, and local laws.
3. A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire University community.
4. A student has the responsibility to recognize the University's obligation to provide a safe environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notifications.

We expect that students will behave in a manner that is dignified, respectful, and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation, or disability. Conduct that infringes on the rights of another individual will not be tolerated.

Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be considered as academic misconduct. For more information on academic misconduct policies and procedures please review the Student Code of Conduct (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/documents/Student-Handbook-2022-23.pdf>) or visit the resources available in the OSRR website (<https://www.tamusa.edu/university-policies/student-rights-and-responsibilities/academic-integrity.html>).

**Broader Use of Generative AI Permitted Within Guidelines**

Use of artificial intelligence (AI) tools, including ChatGPT, is permitted in this course for students who wish to use them. To adhere to our scholarly values, students must cite any AI-generated material that informed them of their work (this includes in-text citations and/or use of quotations, and in your reference list). Using an AI tool to generate content without proper attribution qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

**NOTE:** Guidance for how to cite AI-generators, like ChatGPT, can be found here  
<https://apastyle.apa.org/blog/how-to-cite-chatgp>

