

BIOL 2402 Human Anatomy and Physiology II Lab (Fall 2026)

Instructor Information

David Brooks, Ph.D.

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Office Hours: T 2:00- 3:00, W 12:00-1:00, Th 11:00- 12:00 F2F in Office.

(Virtual by appointment)

Class Times

BIOL 2402-01L	M	STEM room 337	11- 1:45 PM
BIOL 2402-05L	M	STEM room 337	3- 5:45 PM

Course Description

Study of the structure and function of human anatomy, including the cardiovascular system, lymphatic system, respiratory system, endocrine system, digestive system, metabolism, urinary system, and reproductive system. With laboratory section. This course meets the standards for the Life and Physical Sciences category of courses under the core curriculum.

TSI Restriction(s): Reading, Math, and Writing (TAMUSA Catalog).

BIOL 2401 Anatomy and Physiology I is a prerequisite.

Learning Outcomes

Course Description and Learning Outcomes as per the Academic Course Guide Manual of The Texas Higher Education Coordinating Board (THECB): Anatomy and Physiology II is the second part of a two-course sequence. It is a study of the structure and function of the human body including the following systems: endocrine, cardiovascular (heart, blood and vessels), immune, lymphatic, respiratory, digestive (including nutrition), urinary (including fluid and electrolyte balance), and reproductive (including human development and genetics). Emphasis is on interrelationships among systems and regulation of physiological functions involved in maintaining homeostasis.

They are:

- Communication – expressing ideas through effective written, oral, and visual communication.
- Teamwork – considering different points of view and working effectively with others to support a shared purpose or goal.

- Critical Thinking – exploring issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.
- Empirical and Quantitative Skills – Applying scientific and mathematical concepts to analyze and solve problems.

Upon successful completion of this course, students will:

- Use anatomical terminology to identify and describe locations of major organs of each system covered.
- Explain interrelationships between molecular, cellular, tissue, and organ functions in each system.
- Describe the interdependency and interactions of the systems.
- Explain contributions of organs and systems to the maintenance of homeostasis.
- Identify causes and effects of homeostatic imbalances.
- Describe modern technology and tools used to study anatomy and physiology.

BIOL 2402 Lab Topics

Week 1	8/24	Lab 1- Blood typing and Vernier introduction EKG
Week 2	8/31	Lab 2 - Heart Models / Heart Dissection
Week 3	9/07	LABOR DAY No Lab
Week 4	9/14	Lab 3 - Cardiovascular sys. – Pulse/BP/EKG
Week 5	9/21	Lab Practical 1
Week 6	9/28	Lab 4 - Respiratory Models & Vernier Spirometry
Week 7	10/05	Lab 5 - Respiratory Vernier 2
Week 8	10/12	Lab 6- Digestion system /Pig Dissection

Week 9	10/19	Lab Practical 2
Week 10	10/26	Lab 7- Kidney Dissection/ Urinalysis
Week 11	11/02	Lab 8 - Reproductive sys.
Week 12	11/09	Lab 9 - Pregnancy and Human development
Week 13	11/16	Lab 10-Hereditiy
Week 14	11/23	Lab Practical 3
Week 15	11/30	No Lab- Finish Assignments

Lab Points

There is a separate syllabus for the laboratory part of this course. Here is summary of points.

Lab Assignments = 150 points

- ✓ Online labs = 124 pts.
- ✓ In Person labs = 26 pts.

Lab Practicals = 162 points

- ✓ 3 Virtual practicals = 60 pts. (20 pts. each)
- ✓ 3 In Person practicals = 102 pts. (34pts. each)

Technology Requirements

Students must use Respondus Lockdown Browser with webcam when taking on-line practicals.

Total Lab Points = 300 (+12) pts.

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

Students must attend in person labs. If a student misses more than three labs their final lab grade will be no higher than 50% of total points!

Bonus Credit:

- **Class pre-test** - bonus point opportunity before class starts and will be due the second week of class. No need to study anything. This attempt is to find out what you know entering the class. It does not count against class grade.
- **Assignment bonus points** - embedded within certain McGraw-Hill Homework and 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.

These are the **ONLY** options for bonus points.

TOTAL COURSE EVALUATION.

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

Lecture Course Grade Calculation (700 pts.)	
Lecture Exams	380 pts.
Lecture Quizzes	70 pts.
Lecture Assignments	143 pts.
Final Lecture Exam	120 pts.
Laboratory Course Grade Calculation (300 pts.)	
Lab Practicals	162 pts.
Laboratory Assignments	148 pts.

REQUIRED MATERIALS.

Required Text: *Seeley's Anatomy and Physiology*, VanPutte, 13th edition, with connect access
ISBN: 9781265348649

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- Lecture and Lab class materials are embedded within the Blackboard lecture course utilizing the McGraw-Hill Connect website. The textbook will be in Blackboard as an eText when you are given your McGraw-Hill's access code. You can also purchase a hard copy at the indicated website.

COLLEGE POLICIES AND PROCEDURES. These policies and procedures are presented in the [College Catalog](#). Quick links to Student Code of Conduct, Scholastic Dishonesty, Plagiarism, Collusion, and Student Handbook are noted as follows.

- [Academic Standards](#) (Attendance, Grades, Academic Standing and Probation, Eligibility for Participation in College-Sponsored Programs and Events, and Honors)
- [Student Code of Conduct](#) (Academic and Non-Academic Grievance)
- [Student Handbook](#)

Attendance. Students must attend lecture and lab in person. In lecture, student attendance counts as a lecture exam grade. In lab, **you cannot miss more than three in person labs**, or your lab grade will not be higher than 50%.

- Laboratory assignments need to be electronically submitted to McGraw-Hill or through BlackBoard. It is important that students remain cognizant of McGraw-Hill work through the McGraw-Hill website. Remember, **LATE** electronic submissions are accepted with a possible point deduction.

Process for Drops or Withdrawals:

- Prior to the Census Date (noted in the schedule): Faculty will process drops for students who never attended in person since the first day of class.
- Participation – students who do not consistently attend in person class may be dropped.
 - Leading up to the Census Date students must submit all assignments as outlined in the schedule in addition to meeting the attendance policy.
 - After the Census Date, in addition to meeting the attendance policy, students must be earning at least a 65 or higher (in both lecture and lab), earning a project average of 70 or better as well as have taken all lecture exams scheduled up to that point.

Instructor Response Time: One week is required to complete grading on some assignments. In some cases, it may be longer, depending on the nature of the assignment. However, students will always be alerted of any delays.

- If the student emails, please allow at least 24 – 48 hours for the instructor to respond.

STUDENT RESPONSIBILITIES.

- **First and foremost**, students are responsible for meeting all course requirements regardless of personal events outside of the classroom environment. If these events begin to interfere with meeting the course requirements, students should contact the instructor to discuss their options, if any, to continue with the course in a productive manner.

- The reviews posted for each chapter will assist students in knowing which information to focus on for each exam. Therefore, it is important that students **PRACTICE** the designated chapters material as much as possible to **LEARN** the concepts covered in the chapter and exam reviews.
 - It is important that students regularly participate in class to be successful.
 - Students are required to inform the instructor, **IMMEDIATELY**, if they are having any problems accessing the course. They cannot use this as an excuse for not submitting assignments. If the problem cannot be alleviated in a timely manner, the instructor will work with the student to ensure they do not fall behind.
 - The following provides information on [Academic Integrity Disciplinary and Appeal Process](#).
 - Electronic communication with students will occur using the Jagwire Email not the message application in Blackboard. However, if Jagwire is not accessible students may use their personal email service to contact the instructor at dbrooks@tamusa.edu. Students are to communicate with the instructor using proper English rather than “texting” language.
 - Contact the **Texas A&M University - San Antonio HelpDesk** if technological errors occur when using Jagwire or Blackboard.
- 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 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-chatgpt>

IMPORTANT POLICIES AND RESOURCES

University Email Policy and Course Communications: All correspondence between professors and students must occur via university email accounts. You must have your Jaguar email account ready and working. If it is not working, contact the help desk at helpdesk@tamusa.edu or at 210-784-HELP (4357). If you don’t hear back within 48 hours, contact them again. They have many requests during the first part of the semester, so you may need to follow up with them.

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 at the [website](#) or email us at dss@tamusa.edu. All students are encouraged to discuss their academic accommodation with Disability Support Services and their instructors as soon as possible.

Academic Learning Center: All currently enrolled students at Texas A&M University-San Antonio can utilize the Academic Learning Center for subject-area tutoring. 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, calling (210) 784-1307, or visiting the Central Academic Building, room 202. Online tutoring is also available for after hours and weekend assistance.

While tutoring hours may change based on tutor schedules and availability, the current tutoring hours for MATH in the ALC are as follows:

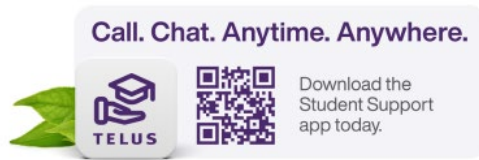
Appointments available MATH Walk in Tutoring – No appointment needed

	Appointments available	Walk in Tutoring – No appointment needed
MONDAY	8 am – 6 pm	9 am – 5 pm
TUESDAY	8 am – 6 pm	9 am – 5 pm
WEDNESDAY	8 am – 6 pm	9 am – 5 pm
THURSDAY	8 am – 6 pm	9 am – 5 pm
FRIDAY	8 am – 5 pm	11 am – 4 pm

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, visit our website, call 210-784-1331 or visit Madla 120 between the hours of 8:00 AM and 5:00 PM.

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. *Crisis support is available 24/7/365 by calling the SCC at 210-784-1331 or through the TELUS student support App.*

The TELUS Student Support App provides a variety of mental health resources to including 24/7/365 support for in the moment distress, crisis support, 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 system. 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 on emergency response may be found at: [Emergency Operations Plan](#) and the [Emergency Action Plan](#). 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. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended by the published Census Date (the first week of class). Any student receiving federal financial aid who does not attend prior to the published Census Date (the first week of class) will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Jaguar Writing, Language, and Digital Composing Center (WLDCC): The WLDCC provides support to graduate and undergraduate students in all three colleges as well as faculty and staff. Writing 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. The WLDCC offers face-to-face, synchronous online, and asynchronous digital appointments. Students can schedule appointments with the WLDCC in JagWire under the Student Services tab. Click on "Writing, Language, and Digital Composing Center" to make your appointment. Students wanting to work in realtime with a tutor can schedule an "Online Appointment." Students wishing to receive asynchronous, written feedback from a tutor can schedule an "eTutoring" appointment. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our [website](#) . The WLDCC can also be reached by emailing wldcc@tamusa.edu.

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 report](#) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to direct you to available resources. A food pantry is available on campus; click [here](#) for hours and contact information.

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 or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the wide variety 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 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 on our campus and within our state, nation, and world. All decisions and actions involving students and employees are to 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, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the University's Civil Rights Officer at 210-784-2061 or titleix@tamusa.edu.

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 discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking based on sex, 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 sex-based misconduct, the faculty member must share that information with the university's Title IX Coordinator (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 such reasonable accommodations to pregnant students as 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; 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.

Young Jaguars can support parenting students with daycare if students meet this criteria: (1) must be enrolled in classes at Texas A&M-San Antonio in the current semester, (2) must be Pell eligible or a single parent, (3) child(ren) must be aged 3 to 12-years-old, and (4) child(ren) must be enrolled in Pre-K-3 through 6th grade. Hours of operation is Monday-Thursday 3:30pm-

9:00pm. For more information, please contact Young Jaguars at youngjaguars@tamusa.edu or call (210) 784-2636.

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, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, 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 student 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, 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](#) or visit the resources available in the [OSRR website](#)

Important Fall 2026 Dates:

Dates	Event
August 20	Tuition & Fee Payments deadline
August 24	First day of class
September 7	Labor Day Holiday – No Classes / University Closed
September 9	Census Date – Students not paid in full or enrolled in a payment plan by 4:59 pm may be dropped for non-payment
October 5 – October 16	Midterm grading period
November 13	Last day to drop with an automatic “W”
November 25	Study Day – No classes
November 26-November 28	Thanksgiving Holiday – No Classes / University Closed
November 30	Last day to drop a course or withdraw from the University
December 4	Last day of classes
December 5 – December 11	Final exams
December 15	Commencement

The complete [academic calendar](#) is available online