

**BIOL 4401 Vertebrae Embryology
Spring 2024**

Instructor: Charcacia T. Sanders
Section # and CRN: Section#: P01 and CRN: 23404
Office Location: Physical Location: Elmer E. O'Banion Science Building, Rm 430R
Virtual Location: Microsoft Teams
Office Phone: 936-261-3162
Email Address: ctsanders@pvamu.edu
Office Hours: Wednesday 2:00 PM – 5:00 PM
Friday 11:00 AM – 2:00 PM

Appointment Preferred: [Book time with Sanders, Charcacia: Dr. Caci's Office Hours](#)

Mode of Instruction: [Face-to-Face]
Course Location: Lecture: Elmer E. O'Banion Science Building, Room 103
Lab: E. O'Banion Science Building, Room 315

Class Days & Times: Lecture: TR 3:00 PM – 3:50 PM
Lab: TR 4:00 PM – 5:50 PM

Catalog Description: Structure, principles, and progress in vertebrate development. Chickens and pigs as principle laboratory materials.

Course Description: In this course, students will explore the critical roles of differential gene expression and cell signaling in animal development, examining how these processes drive the formation and differentiation of tissues and organs. Through hands-on projects and research, students will delve into the molecular and genetic underpinnings of developmental mechanisms, gaining practical experience and a deeper understanding of developmental biology principles.

Prerequisites: Undergraduate level BIOL 1015 Minimum Grade of C and Undergraduate level BIOL 1025 Minimum Grade of C

Co-requisites: BIOL 4401-P01 is a combined lecture-laboratory course. Students must be enrolled in both the lecture section and a laboratory section: BIOL 4401-P61

Required Texts: Developmental Biology, 13th Edition by Michael J. F. Barresi and Scott F. Gilbert



Oxford University Press; 13th edition (March 15, 2023)
ISBN-10: 0197699782
ISBN-13: 978-0197699782

In this course, you will use several resources such as peer-reviewed journal articles, online texts, videos, links to pertinent information, and other sources the instructor deem necessary. It is your responsibility to use posted resources to be successful in this course.

Student Learning Outcomes:

| | Upon successful completion of this course, students will be able to: | Program Learning Outcome # Alignment | Core Curriculum Outcome Alignment |
|---|--|--------------------------------------|---|
| 1 | Identify the process and investigate the critical events of embryonic development | 1, 2 3, and 4 | Integration of Broad Knowledge Discipline-Specific Knowledge |
| 2 | Summarize the genetic, biochemical, and physiological events of embryonic development | 1, 2 3, and 4 | Critical Thinking Discipline-Specific Knowledge |
| 3 | Describe molecular signaling processes and pathways involved in regulating developmental events | 1, 2 3, and 4 | Critical Thinking Problem Solving Discipline-Specific Knowledge |
| 4 | Identify the origin and analyze the function of sex cells | 1, 2 3, and 4 | Critical Thinking Problem Solving Discipline-Specific Knowledge |
| 5 | Explain the embryological origin of organ systems within the vertebrate body | 1, 2 3, and 4 | Critical Thinking Problem Solving Discipline-Specific Knowledge |
| 6 | Read, comprehend, critically analyze, and integrate knowledge from primary research articles | 1, 2 3, and 4 | Critical Thinking Problem Solving Discipline-Specific Knowledge |
| 7 | Explain molecular and cellular techniques commonly used in embryology, and formulate how to apply them to answer new questions | 1, 2 3, and 4 | Critical Thinking Problem Solving Discipline-Specific Knowledge |
| 8 | Critically evaluate connections between embryological processes and their relationship to disease | 1, 2 3, and 4 | Critical Thinking Problem Solving Discipline-Specific Knowledge |
| 9 | Design experiments to test whether a pathway is important in embryology and disease | 1, 2 3, and 4 | Critical Thinking Problem Solving Discipline-Specific Knowledge |

This syllabus is subject to change at the discretion of the instructor. Students will be notified of such changes ahead of time via eCourse.

Major Course Requirements

Method of Determining Final Course Grade

| Course Grade Requirement | Value | Total |
|---|----------------|----------------|
| Peer-Reviewed Performance Assessments | 10 Assessments | 20% |
| Instructor-Reviewed Performance Assessments | 5 Assessments | 25% |
| Labster Virtual Lab Assignments | 6 Virtual Labs | 15% |
| Group Research Project | 10 Activities | 40% |
| | | Total: 100.00% |

Grading Criteria and Conversion:

A = 90% to 100%

B = 80% to 89%

C = 70% to 79%

D = 60% to 69%

F = 0% to 59%

Detailed Description of Major Assignments:

| GRADE REQUIREMENT | DESCRIPTION | DUE DATES |
|---|--|--|
| <p>PEER-REVIEWED PERFORMANCE ASSESSMENTS</p> | <p>Students will present their embryological research or experiments to their peers, receiving constructive feedback and evaluation, fostering a collaborative learning environment and critical analysis skills.</p> | <p>Student Submissions: Wednesdays @ 11:59 PM</p> <p>Peer Review: Fridays @ 11:59 PM</p> |
| <p>INSTRUCTOR-REVIEWED PERFORMANCE ASSESSMENTS</p> | <p>These assessments involve students submitting detailed reports or presentations on embryological studies, which are thoroughly reviewed and critiqued by the instructor, providing expert feedback for individual learning and improvement.</p> | <p>Mondays @ 11:59 pm</p> |
| <p>LABSTER VIRTUAL LAB ASSIGNMENTS</p> | <p>Utilizing the Labster virtual lab platform, students will engage in simulated embryology experiments, allowing them to apply theoretical knowledge in a practical, interactive environment and learn complex concepts through hands-on experience.</p> | <p>Wednesdays @ 11:59 PM</p> |
| <p>GROUP RESEARCH PROJECT</p> | <p>Students will collaborate in small groups to conduct in-depth research on a specific topic in embryology, culminating in a comprehensive report and presentation, encouraging teamwork, research skills, and a deeper understanding of embryological processes.</p> | <p>TBD</p> |

Taskstream

Taskstream is a tool that Prairie View A&M University uses for assessment purposes. One of your assignments may be required to be submitted as an "artifact," an item of coursework that serves as evidence that course objectives are met. If applicable, more information will be provided during the semester, but for general information, you can visit Taskstream via the link in eCours

- I. **DIVERSITY STATEMENT:** The Department of Biology values the perspectives of individuals from all backgrounds, reflecting our students' diversity. We broadly define diversity as race, gender identity, national origin, ethnicity, religion, social class, age, sexual orientation, political background, and physical and learning ability. We strive to make this classroom and this department an inclusive space for all students.
- II. **COMMITMENT TO LEARNING:** You must be able to balance your time dedicated to this class along with your other responsibilities. Science courses often demand a much more significant amount of your time than other courses. You must create a schedule where you have reserved a reasonable amount of time daily to study and complete online assignments for this course. My purpose in this class is to act as your guide through this subject material. I must make sure that your grade in this class indicates your mastery of the subject material required by this college. This class is five credit hours, and you will need to commit to the time it will take to be successful in the course. A 4-credit hour course corresponds to a minimum of 12 hours of student engagement per week for a 16-week fall course. This time includes attending lab, readings and lectures, study and research, and assignments. Procrastination and cramming will lead to negative consequences. At worst, this will lead to failing the class. At best, you pass but fail to learn the material truly.

As an upper-level course, this course also seeks to reinforce critical thinking, experimental design, and scientific communications skills through student-planned experiments, presentations, and discussions. The success of many of the laboratory activities require thoughtful, responsible design and follow-up, including tasks outside of class time.

- III. **MINIMUM TECHNOLOGY REQUIREMENTS:** Students are required to maintain to have access to the following:
 - A. A computer (desktop/laptop) or mobile device (tablet) that is less than five years old.
 - B. Speakers/headphones/earbuds for listening to audio or videos presented in courses. Webcam for interacting in course activities that require video feedback from students (such as VoiceThread) or other third-party tools.
 - C. An Internet Browser, such as Mozilla Firefox and Google Chrome preferred.
 - D. Adobe Acrobat Reader (latest version) - Download.
 - E. A stable high-speed Internet connection
- IV. **CLASS FORMAT:** The class instructor facilitates a synchronous, face-to-face course. This class requires student participation and demonstrations. The instructor will ask students questions, present problems to solve, and use audiovisuals to demonstrate concepts. The expectation is students are prepared to actively participate in class to demonstrate their knowledge of biological concepts.
- V. **MATERIALS:** Students are required to maintain a folder with all class notes, handouts, and reports. You will also need access to a reliable internet connection and a computer. Students are required to maintain a lab notebook with all complete record of procedures (the actions you take), the reagents you use, the observations you make (these are the data), and the relevant thought processes that would enable another scientist to reproduce your observations.

Students are also required to wear scrub tops & pants in the lab. Students must be completely covered and closed-toed shoes are to be always worn while in the lab. There are NO exceptions. Students who are not in the appropriate attire will not be allowed in the lab.

- VI. **SUBMITTING ASSIGNMENTS:** All assignments must be submitted in class or online via Canvas. The instructor will not accept any assignments via email unless prior arrangements are made.
- VII. **MAKE-UP ASSESSMENTS:** You are required to complete assessments as scheduled with the rest of your class. No make-up will be given automatically. Suppose you cannot complete an assessment during the scheduled time. In that case, you must contact the instructor immediately to discuss your options email within 24 hours of missing the assessments. The make-up must be taken within 72 hours after the assessments have been administered). Make-ups will be given in a free- response format during a designated day and time at the instructor's discretion.

Do not assume that you are eligible to take a make-up. It is up to the instructor to decide if a student is eligible for a make-up pending the submission of the appropriate documentation.

Credit for make-up assignment will only be given to students with verifiable absences supported by acceptable documentation.

Examples of Acceptable Documentation:

- **Medical:** A doctor's note or medical certificate detailing the reason for your absence and the dates you were under their care.
- **Bereavement:** A copy of the obituary, funeral program, or death certificate, along with your relationship to the deceased.
- **Legal Obligations:** Documentation or proof of a court appearance or other legal obligations.
- **University Sanctioned Activities:** A letter from the organizing body or department verifying your participation in the activity that conflicted with the exam time.
- **Religious Observances:** A letter from your spiritual leader or organization outlining the nature and timing of the observance.
- **Military:** Documentation generally includes official military orders, letter from a commanding officer, training schedules, or deployment notices.
- **Significant Emergencies:** Documentation relating to emergencies like fire, flood, or other natural disasters affecting your ability to attend the exam.

If a student does not appear at the prearranged time or meet the prescribed deadline for makeup work, they forfeit their rights for the makeup of that work and will receive a grade of zero.

VIII. **LATE WORK:** Late work is not accepted. Any assignment not submitted by the due date will receive a 0 grade unless the instructor approves prior arrangements.

IX. **CLASS ATTENDANCE:** Success in this course is dependent on your active participation and engagement throughout the course. As such, students must complete all assignments by the due date and actively participate in class discussions. Your attendance will be taken in the form of your participation during class meetings. Attendance in this class is crucial to your success in this class and the success of the entire class. This course is designed to be interactive and student-centered.

PVAMU Absence Verification Process:

All non-athletic absences (e.g., Medical, Death/Funeral, Court/Legal-related, etc.) for which a student seeks to obtain a valid excuse must be submitted to the Dean of Students/Office of Student Conduct, with supporting documentation, for review and verification. Please use the [Online Reporting FormsLinks to an external site](#) to access/complete/submit the Request for a University Excused Absence form for an excuse. Upon receipt, a staff member will verify the documentation and provide an official university excuse, if applicable. The student is responsible for providing the official university excuse issued by the Office for Student Conduct to the professor(s). Questions should be directed to the Dean of Students via email: deanofstudents@pvamu.edu or phone: (936) 261-3550 or Office for Student Conduct via email: studentconduct@pvamu.edu or phone: (936) 261-3524.

X. **CLASS CONDUCT:** It is the instructor's goal to maintain the integrity of the course and an environment conducive to learning. Students are expected to follow the [Prairie View A&M University Code of Student Conduct](#) and adhere to the course procedure and policies.

- A. Academic Dishonesty: No cheating on exams, quizzes, reports, or any graded activity. Cheating will result in a grade of zero.
- B. Intellectual honesty is vital to an academic community and for my fair evaluation of your work. All work submitted in this course must be your own, completed in accordance with the University's academic regulations. You may not engage in unauthorized collaboration or make use of ChatGPT or other AI composition software. Using these tools without my permission puts your academic integrity at risk.

- XI. **ASSIGNMENT FOLLOW-UP:** All automatically graded assignments will be available for review after the work is completed. Assignments with open-ended responses will receive a grade and instructor feedback within a week after the due date.

To review assignments that are not available to view online, you must set up an appointment during the instructor's office hours. Students will have seven days after the assignment grade has been posted to discuss their performance on the assignment with the instructor. After the 7-day follow-up period, students will forfeit the opportunity to discuss the work with the instructor.

- XII. **COMMUNICATION:** My primary means of communication with you will be through the email address listed in this syllabus and email messaging via Canvas. Do not expect instantaneous replies and responses. You can expect a response to communications within 48 hours Monday – Friday from 9:00 am – 5:00 pm.

I expect you to check your PVAMU student email account, Canvas Inbox, and Canvas Announcements daily and use these systems as your primary mode of communication with me. Failure to keep up with email communications from me will solely be your responsibility as the student. Only email me from your PVAMU student email account. In the email's subject line, please write the course code, section number, and term in the following format: **BIOL 4401-P01 Spring 2024**. Any email that does not have the proper subject line will possibly be overlooked and receive a delayed response. At the end of each email, include your first and last name and a phone number.

If a student's parent or guardian requests a meeting with the instructor, the student, and a biology faculty member must be present.

STUDENT SUPPORT AND SUCCESS

John B. Coleman Library

The John B. Coleman Library's mission is to enhance the scholarly pursuit of knowledge, to foster intellectual curiosity, and to promote life-long learning and research through our innovative services, resources, and cultural programs, which support the Prairie View A&M University's global mission of teaching, service, and research. It maintains library collections and access both on campus, online, and through local agreements to further the educational goals of students and faculty. [Library Website](#) Phone: 936-261-1500

Academic Advising Services

Academic Advising Services offers students various services that contribute to student success and lead toward graduation. We assist students with understanding university policies and procedures that affect academic progress. We support the early alert program to help students connect to success early in the semester. We help refer students to the appropriate academic support services when they are unsure of the best resource for their needs. Faculty advisors support some students in their respective colleges. Your faculty advisor can be identified in PantherTracks. Advisors within Academic Advising Services are available to all students. We are located across campus. Find your advisor's location by academic major on the [advising website](#). Phone: 936-261-5911

The University Tutoring Center

The University Tutoring Center (UTC) offers free tutoring and academic support to all registered PVAMU students. The mission of the UTC is to help provide a solid academic foundation that enables students to become confident, capable, independent learners. Competent and caring staff and peer tutors guide students in identifying, acquiring, and enhancing the knowledge, skills, and attitudes needed to reach their desired goals. Tutoring and academic support are offered face-to-face in the UTC and virtually in online sessions. Other support services available for students include Supplemental Instruction, Study Breaks, Academic Success Workshops, and Algebra Study Jam. Location: J. B. Coleman Library, Rm. 307; Phone: 936-261-1561; Email: pvtutoring@pvamu.edu; [University Tutoring Website](#)

Writing Center

The Writing Center provides well-trained peer tutors to assist students with writing assignments at any stage of the writing process. Tutors help students with various writing tasks from understanding assignments, brainstorming, drafting, revising, editing, researching, and integrating sources. Students have free access to Grammarly online writing assistance. Grammarly is an automated proofreading and plagiarism detection tool. Students must register for Grammarly by using their student email address. In addition, students have access to face-to-face and virtual tutoring services either asynchronously via email or synchronously via Zoom. Location: J. B. Coleman Library, Rm. 209; Phone: 936-261-3724; [Writing Center Website](#), [Grammarly Registration](#)

Panther Navigate

Panther Navigate is a proactive system of communication and collaboration between faculty, academic advisors, and students that is designed to support student success by promptly identifying issues and allowing for intervention. Panther Navigate helps students by providing a central location to schedule advising appointments, view campus resources, and request assistance. Students who recognize that they have a problem that negatively affects their academic performance or ability to continue school may self-refer an academic early alert. To do so, students will log in to Canvas and click on Student Alerts on the left sidebar within a course. Students also have the option to download the Navigate Student app. Phone: 936-261-5902; [Panther Navigate Website](#)

Student Counseling Services

The Student Counseling Services offers a range of services and programs to assist students in maximizing their potential for success: short-term individual, couples, and group counseling, as well as crisis intervention, outreach, consultation, and referral services. The staff is licensed by the State of Texas and assists students who are dealing with academic skills concerns, situational crises, adjustment problems, and emotional difficulties. Information shared with the staff is treated confidentially and in accordance with Texas State Law. Location: Hobart Taylor, 2nd floor; Phone: 936-261-3564; [Health & Counseling Center Website](#)

Office of Testing Services

The Office of Testing Services serves to facilitate and protect the administration of educational and professional exams to aid students, faculty, staff, and the community in their academic and career goals. We provide proctoring services for individuals who need to take exams for distance or correspondence courses for another institution, exams for independent study courses, or make-up exams. In order for a proctored exam to be administered by our office, the instructor of the course must first submit the online PVAMU Testing Services – Test Proctoring Form (this form can only be completed by the instructor) to the Office of Testing Services 72 hours prior to the first exam being administered. Once the Test Proctoring Form has been submitted, the instructor will inform their testers so they can then register for an appointment with our office on one of the selected proctored exam test dates within the testing window for the exam and pay the applicable fees. To access the OTS – Test Proctoring Form, to schedule a proctored exam appointment, or to find more information about our proctoring services, please visit the [OTS – Proctoring Service website](#). Location: Wilhelmina Delco, 3rd Floor, Rm. 305; Phone: 936-261-3627; Email: aetesting@pvamu.edu; [Testing Website](#)

Office of Diagnostic Testing and Disability Services

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, contact the Office of Disability Services. As a federally-mandated educational support unit, the Office of Disability Services serves as the repository for confidential disability files for faculty, staff, and students. For persons with a disability, the Office develops individualized ADA letters of request for accommodations. Other services include learning style inventories, awareness workshops, accessibility pathways, webinars, computer laboratory with adapted hard and software, adapted furniture, proctoring non-standardized test administrations, ASL interpreters, ALDs, digital recorders, Livescribe, and a comprehensive referral network across campus and the broader community. Location: Hobart Taylor, Rm. 1D128; Phone: 936-261-3583; [Disability Services Website](#)

Center for Instructional Innovation and Technology Services (CIITS)

Distance Learning, also referred to as Distance Education, is the employment of alternative instructional delivery methods to extend programs and services to persons unable to attend classes in the traditional manner. CIITS supports student learning through online, hybrid, web-assist, and 2-way video course delivery. For more details and contact information, visit [CIITS Student Website](#). Phone: 936-261-3283 or email: ciits@pvamu.edu.

Veteran Affairs

Veteran Services works with student veterans, current military, and military dependents to support their transition to the college environment and continued persistence to graduation. The Office coordinates and certifies benefits for both the G.I. Bill and the Texas Hazlewood Act. Location: Evans Hall, Rm. 102; Phone: 936-261-3563; [Veteran Affairs Website](#)

Office for Student Engagement

The Office for Student Engagement delivers comprehensive programs and services designed to meet the co-curricular needs of students. The Office implements inclusive and accessible programs and services that enhance student development through exposure to and participation in diverse and relevant social, cultural, intellectual, recreational, community service, leadership development, and

campus governance. Location: Memorial Student Center, Rm. 221; Phone: 936-261-1340; [Student Engagement Website](#)

Center for Careers & Professional Development

This center supports students through professional development, career readiness, and placement and employment assistance. The center provides one-on-one career coaching, interview preparation, resume and letter writing, and career exploration workshops and seminars. Services are provided for students at the Northwest Houston Center and College of Nursing in the Medical Center twice a month or on a requested basis. Distance Learning students are encouraged to visit the center website for information regarding services provided. Location: Anderson Hall, 2nd floor; Phone: 936-261-3570; [Center for Careers & Professional Development Website](#)

UNIVERSITY RULES AND PROCEDURES

Academic Misconduct

Academic dishonesty is defined as any form of cheating or dishonesty that has the effect or intent of interfering with any academic exercise or fair evaluation of a student's performance. The college faculty can provide additional information, particularly related to a specific course, laboratory, or assignment.

You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with the University Administrative Guidelines on Academic Integrity, which can be found on the [Academic Integrity webpage](#). Students who engage in academic misconduct are subject to university disciplinary procedures. As listed in the University Administrative Guidelines on Academic Integrity, the University Online Catalog, and the Student Code of Conduct, the following are examples of prohibited conduct. This list is not designed to be all-inclusive or exhaustive. In addition to academic sanctions, any student found to have committed academic misconduct that is also a violation of criminal law may also be subject to disciplinary review and action by the Office of Student Conduct (as outlined in the Student Code of Conduct).

Forms of Academic Dishonesty:

1. **Cheating**: Deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not learned, giving or receiving aid unauthorized by the instructor on assignments or examinations. Examples: unauthorized use of notes for a test; using a "cheat sheet" on a quiz or exam; any alteration made on a graded test or exam which is then resubmitted to the teacher;
2. **Plagiarism**: Careless or deliberate use of the work or the ideas of another; representation of another's work, words, ideas, or data as your own without permission or appropriate acknowledgment. Examples: copying another's paper or answers, failure to identify information or essays from the internet and submitting or representing it as your own; submitting an assignment which has been partially or wholly done by another and claiming it as yours; not properly acknowledging a source which has been summarized or paraphrased in your work; failure to acknowledge the use of another's words with quotation marks;
3. **Collusion**: When more than one student or person contributes to a piece of work that is submitted as the work of an individual;
4. **Conspiracy**: Agreeing with one or more persons to commit an act of academic/scholastic dishonesty; and
5. **Multiple Submission**: Submission of work from one course to satisfy a requirement in another course without explicit permission. Example: using a paper prepared and graded for credit in one course to fulfill a requirement and receive credit in a different course.

PVAMU's General Statement on the Use of Generative Artificial Intelligence Tools in the Classroom

Generative Artificial Intelligence (GAI), specifically foundational models that can create writing, computer code, and/or images using minimal human prompting, are increasingly becoming pervasive. Even though ChatGPT is one of the most well-known GAIs currently available, this statement includes any and all past, current, and future generations of GAI software. Prairie View A&M University expects that all work produced for a grade in any course, be it face-to-face or virtual, will be the sole product of a student's endeavors to meet those academic goals. However, should an instructor permit their students to use artificial intelligence as a resource or tool, students must not substitute the substance of their original work with the results of using such GAI tools. This clearly violates the [University's Administrative Guidelines on Academic Integrity](#) and its underlying academic values.

Nonacademic Misconduct

The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor's ability to conduct the class, (2) the ability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. The Office of Student Conduct will adjudicate such incidents under nonacademic procedures.

Sexual Misconduct

Sexual harassment of students and employees at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating the university's sexual harassment policy will be subject to disciplinary action. In accordance with the Texas A&M University System guidelines, your instructor is obligated to report to the Office of Title IX Compliance (titleixteam@pvamu.edu) any instance of sexual misconduct involving a student, which includes sexual assault, stalking, dating violence, domestic violence, and sexual harassment, about which the instructor becomes aware during this course through writing, discussion, or personal disclosure. The faculty and staff of PVAMU actively strive to provide a learning, working, and living environment that promotes respect that is free from sexual misconduct, discrimination, and all forms of violence. If students, faculty, or staff would like assistance or have questions, they may contact the Title IX Coordinator, Dr. Zakiya Brown, at 936-261-2144 or titleixteam@pvamu.edu. More information can be found at [Title XI Website](#), including confidential resources available on campus.

Protections and Accommodations for Pregnant and Parenting Students

The U.S. Department of Education's Office for Civil Rights (OCR) enforces, among other statutes, Title IX of the Education Amendments of 1972. Title IX protects people from discrimination based on sex, sexual orientation, and gender identity in education programs or activities that receive federal financial assistance. This protection includes those who may be pregnant and parenting. Title IX states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." Students seeking accommodations related to pregnancy or parenting should contact the Office of Title IX for information, resources, and support at titleixteam@pvamu.edu. Additional information and/or support may be provided by the Office of Disability Services or the Office of the Dean of Students.

Non-Discrimination Statement

Prairie View A&M University does not discriminate on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, or gender identity in its programs and activities. The University is committed to supporting students and complying with The Texas A&M University System non-discrimination policy. It seeks to establish an environment that is free of bias, discrimination, and harassment. If you experience an incident of discrimination or harassment, we encourage you to report it. If you would like to speak with someone who may be able to afford you privacy or confidentiality, there are individuals who can meet with you. The Director of Equal Opportunity & Diversity has been designated to handle inquiries regarding the non-discrimination policies and can be reached at Harrington Science Building, Suite 109, or by phone at 936-261-1744 or 1792.

Class Attendance Policy (See the University Online Catalog for Full Attendance Policy)

Prairie View A&M University requires regular class attendance. Attending all classes supports the full academic development of each learner, whether classes are taught with the instructor physically present or via distance learning technologies such as interactive video and/or the Internet. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in the assignment of a grade of "F." Absences are accumulated beginning with the first day of class during regular semesters and summer terms. Each faculty member will include the University's attendance policy in each course syllabus.

Makeup Work for Legitimate Absences

Prairie View A&M University recognizes that there are a variety of legitimate circumstances in which students will miss coursework and that accommodations for makeup work will be made. If a student's absence is excused, the instructor must either provide the student an opportunity to make up any quiz, exam, or other work contributing to the final grade or provide a satisfactory alternative by a date agreed upon by the student and instructor. Students are encouraged to work with instructors to complete makeup work before known scheduled absences (University-sponsored events, administrative proceedings, etc.). Students are responsible for planning their schedules to avoid excessive conflicts with course requirements.

Absence Verification Process

All non-athletic absences (e.g., Medical, Death/Funeral, Court/Legal-related, etc.) for which a student seeks to obtain a valid excuse must be submitted to the Dean of Students/Office of Student Conduct, with supporting documentation, for review and verification. Please use the [Online Reporting Forms](#) to access/complete/submit the Request for a University Excused Absence form for an excuse. Upon receipt, a staff member will verify the documentation and provide an official university excuse, if applicable. The student is responsible for providing the official university excuse issued by the Office for Student Conduct to the professor(s). Questions should be directed to the Dean of Students via email: deanofstudents@pvamu.edu or phone: (936) 261-3550 or Office for Student Conduct via email: studentconduct@pvamu.edu or phone: (936) 261-3524.

Student Academic Appeals Process

Authority and responsibility for assigning grades to students rest with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the University Online Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

Technical Considerations

Minimum Recommended Hardware and Software:

- Intel PC or laptop with Windows 10 or later version; Mac with OS Catalina
- Smartphone or iPad/tablet with wi-fi*
- High-speed internet access
- 8 GB memory
- Hard drive with 320 GB storage space
- 15" monitor, 1024 x 768, color
- Speakers (internal or external)
- Microphone and recording software
- Keyboard & mouse
- Most current version of Google Chrome, Safari, or Firefox

Note: Be sure to enable Java & pop-ups in the web browser preferences

* Some courses may require remote proctoring. At this time only Chromebooks, laptops, and desktops running Windows or Mac work with our proctoring solution, but iPads are not compatible. Most other applications will work with Android or Apple tablets and smartphones.

Participants should have a basic proficiency of the following computer skills:

- Sending and receiving email
- A working knowledge of the Internet
- Microsoft Word (or a program convertible to Word)
- Acrobat PDF Reader
- Windows or Mac OS
- Video conferencing software (Zoom)

Netiquette (online etiquette)

Students are expected to participate in all discussions and virtual classroom chats as directed. Students are to be respectful and courteous to others on discussion boards. Foul or abusive language will not be tolerated. Do not use ALL CAPS for communicating to others AS IT CAN BE INTERPRETED AS YELLING. Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you." Limit and possibly avoid the use of emoticons. Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post, and the message might be taken seriously or sound offensive.

Video Conferencing Etiquette

When using Zoom, WebEx, or other video conferencing tools, confirm the visible area is tidy, clear of background clutter, inappropriate or offensive posters, and other distractions. Ensure you dress appropriately and avoid using high traffic or noisy areas. Stay muted when you are not speaking and avoid eating/drinking during the session. Before the class session begins, test audio, video, and lighting to alleviate technology issues.

Technical Support

Students should go to [Password Reset Tool](#) if they have password issues. The page will provide instructions for resetting passwords and contact information if login issues persist. For other technical questions regarding eCourses, call the Center for Instructional Innovation and Technology Services at 936-261-3283 or email ciits@pvamu.edu.

Communication Expectations and Standards

Emails or discussion postings will receive a response from the instructor, usually in less than 48 hours. Urgent emails should be marked as such. Check regularly for responses.

Discussion Requirement

Online courses often require minimal to no face-to-face meetings. However, conversations about the readings, lectures, materials, and other aspects of the course can occur in a seminar fashion. The use of the discussion board will accomplish this. The instructor will determine the exact use of discussion boards.

It is strongly suggested that students type their discussion postings in a word processing application such as Word and save it to their PC or a removable drive before posting to the discussion board. This is important for two reasons: 1) If for some reason your discussion responses are lost in your online course, you will have another copy; 2) Grammatical errors can be greatly minimized by the use of the spell-and-grammar check functions in word processing applications. Once the post(s) have been typed and corrected in the word processing application, copy and paste to the discussion board.

COVID-19 Campus Safety Measures

In accordance with the latest guidelines from the PVAMU Health Services, the following measures are in effect until further notice.

- Students who are ill will be asked to adhere to best practices in public health, such as masking, handwashing, and social distancing, to help reduce the spread of illness across campus.
- Mandatory self-reporting will no longer be required by students. Students will be responsible for communicating with their professors regarding COVID, similarly to any other illness.
- There will be no mandatory isolation. Students who are too ill to engage in classroom activities will be responsible for securing the appropriate documentation to support the absence.
- Students who self-isolate will be responsible for communicating with their professors and securing an excuse from Student Conduct.
- All students will have access to [TimelyCare](#), a telehealth platform that provides virtual medical care 24/7 and by appointment in the Student Health Clinic. Students are encouraged to enroll with TimelyCare at the beginning of the semester, at timelycare.com/pvamu.
- Students will have access to COVID testing in the Student Health Clinic by appointment. Testing is for students who are symptomatic ONLY.

- Personal Illness and Quarantine - Students required to quarantine are to participate in courses and course-related activities remotely and must not attend face-to-face course activities. Students should notify their instructors of the quarantine requirement. Students under quarantine are expected to participate in courses and complete graded work unless they have symptoms that are too severe to participate in course activities. Students experiencing personal injury or illness that is too severe for the student to attend class qualify for an excused absence. To receive an excused absence, students must provide appropriate documentation to the Office for Student Conduct, studentconduct@pvamu.edu.

TENTATIVE SEMESTER CALENDAR

(This schedule is subject to change at the discretion of the instructor)

| WEEK | TOPICS | CHAPTER(S) | RESEARCH PROJECT |
|------|---|------------|--|
| 1/16 | Introduction to Embryology <ul style="list-style-type: none"> • Overview of the course structure and objectives. • Lecture: Basics of developmental genetics and key concepts. • Group discussion: Current trends and breakthroughs in developmental biology. | 1,2 | CURE: The Effects of Teratogens on <i>Drosophila melanogaster</i> Embryogenesis <ul style="list-style-type: none"> • Class Research Project • Study Abroad extension in Turrialba, Costa Rica |
| 1/22 | Principles of Gene Expression in Development <ul style="list-style-type: none"> • Lecture: Mechanisms of differential gene expression in development. • Lab: Introduction to gene expression analysis techniques. • Group activity: Analyze case studies on gene expression. | 1,3 | |
| 1/29 | Genetic Regulation of Development <ul style="list-style-type: none"> • Lecture: Genetic control mechanisms in development. • Lab: CRISPR-Cas9 demonstration and discussion. | 3 | |
| 2/5 | Cell Signaling Pathways <ul style="list-style-type: none"> • Lecture: Overview of cell signaling in development. • Lab: Experiment on identifying signaling pathways in model organisms. | 4 | |
| 2/12 | Embryogenesis <ul style="list-style-type: none"> • Lecture: Stages of embryonic development. • Lab: Observation of embryogenesis in model organisms. • Group project: Start a weekly journal documenting embryogenesis observations. | 8 | Introduction to <i>Drosophila Melanogaster</i> and Teratogens <ul style="list-style-type: none"> • Introduction to handling of <i>Drosophila</i>. • Overview of teratogens and their effects on development. • Setting up a basic <i>Drosophila</i> breeding setup. |

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|------|---|----------|---|
| 2/19 | <p>Pattern Formation and Morphogenesis</p> <ul style="list-style-type: none"> Lecture: Concepts of pattern formation and body plan establishment. Lab: Experiments on morphogen gradients. <p>Group activity: Presentation on a specific case of morphogenesis.</p> | 10 | <p>Basic Drosophila Genetics and Breeding</p> <ul style="list-style-type: none"> Understanding Drosophila genetics and life cycle. Observing and categorizing Drosophila phenotypes. Selecting appropriate strains for teratogen exposure experiments. |
| 2/26 | <p>Environmental Influences on Development</p> <ul style="list-style-type: none"> Lecture: Impact of external factors on animal development. Group activity: Research and presentation on teratogens and their effects. Discussion: Global issues and developmental biology. | 14, 25 | <p>Introduction to Teratogens</p> <ul style="list-style-type: none"> Detailed study of teratogens and their mechanisms of action. Preparing teratogen solutions at different concentrations. Hypothesizing the effects of teratogens on Drosophila development. |
| 3/4 | <p>Midterm Project Proposal</p> <ul style="list-style-type: none"> Lecture: Developing proposals for the research project. Lab: Peer review session for project proposals. | | <p>Research Project Proposal: Design a small-scale experiment or model related to developmental biology.</p> |
| 3/19 | <p>Stem Cells and Regeneration</p> <ul style="list-style-type: none"> Lecture: Role of stem cells in development and regenerative biology. Lab: Stem cell culture and differentiation practices. Discussion: Ethical considerations in stem cell research. | 5 | <p>Teratogen Exposure Experiment Setup</p> <ul style="list-style-type: none"> Exposing Drosophila embryos to teratogens. Setting up a schedule for daily observation and care. Beginning a lab journal for detailed observations and data recording. <p>Observing Early Developmental Stages</p> <ul style="list-style-type: none"> Daily monitoring of Drosophila embryos and larvae. Documenting changes and abnormalities in development. Discussion: Analyzing early-stage developmental changes due to teratogens. |
| 3/25 | <p>Organogenesis</p> <ul style="list-style-type: none"> Lecture: Process of organ development in animals. Lab: Observing organ development in model organisms. Group discussion: Challenges in organogenesis research. | 15,16,19 | <p>Larval Development and Analysis</p> <ul style="list-style-type: none"> Continuation of larval monitoring and data collection. Learning to identify and categorize developmental abnormalities in larvae. Seminar: Guest speaker on developmental biology research methods. |

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|------|---|----------|---|
| 4/1 | <p>Organogenesis</p> <ul style="list-style-type: none"> • Lecture: Process of organ development in animals. • Lab: Observing organ development in model organisms. • Group discussion: Challenges in organogenesis research. | 20,21,22 | <p>Adult Emergence and Phenotypic Analysis</p> <ul style="list-style-type: none"> • Observing the emergence of adult flies and assessing phenotypes. • Detailed documentation of adult phenotypes post-teratogen exposure. • Presentation: Preparing a report on findings |
| 4/8 | <p>Final Project Development</p> <ul style="list-style-type: none"> • Dedicated time for final project work. • Instructor consultations for individual guidance. • Peer reviews for feedback on project progress. | | <p>Quantitative Analysis of Teratogenic Effects</p> <ul style="list-style-type: none"> • Introduction to quantitative analysis methods in developmental biology. • Quantifying phenotypic abnormalities in Drosophila. • Workshop: Data analysis using statistical software. |
| 4/15 | <p>Final Project Development</p> <ul style="list-style-type: none"> • Dedicated time for final project work. • Instructor consultations for individual guidance. • Peer reviews for feedback on project progress. | | <p>Preparing for Final Analysis</p> <ul style="list-style-type: none"> • Final data collection and organization. • Group meeting: Discussing data interpretation and implications. • Preparation: Starting to draft the final lab report. |
| 4/22 | <p>Final Project Development</p> <ul style="list-style-type: none"> • Dedicated time for final project work. • Instructor consultations for individual guidance. • Peer reviews for feedback on project progress. | | <p>Data Analysis and Interpretation</p> <ul style="list-style-type: none"> • Workshop: Advanced data analysis and interpretation techniques. • Finalizing data analysis for the final report. • Peer review: Sharing initial findings and receiving feedback. |
| 4/29 | <p>Final Project Presentations and Course Wrap-Up</p> <ul style="list-style-type: none"> • Presentation of final projects. • Group feedback and discussion. • Course reflection and evaluation session. | | <p>Report Finalization and Presentation Preparation</p> <ul style="list-style-type: none"> • Submit lab reports and preparing for presentations. • Rehearsal: Practice presentations in lab groups for feedback. • Peer review: Final round of feedback and revisions. |
| 5/5 | <p>Final Project Presentations and Course Wrap-Up</p> <ul style="list-style-type: none"> • Presentation of final projects. • Group feedback and discussion. • Course reflection and evaluation session | | |

