



TEXAS A&M UNIVERSITY
SAN ANTONIO

Cellular Biology
BIOL 2431 - 4 credits
Texas A&M University San Antonio, College of Arts and Sciences
Fall 2024 Syllabus

Ms. Gabrielle Vaughn

e-mail: gvaughn@tamusa.edu (BEST way to contact me)

Drop in Virtual Office hours: Wed/Fri 2:00-3:00PM, and by appointment
We can also schedule an in-person meeting as needed.

Class Meeting Times and Location(s):

Lecture: Mon/Wed/Fri 10:00-10:50am SciTech 231

Textbook for Lecture *REQUIRED***:**

Essential Cell Biology 6th edition. Alberts et al. W.W. Norton & Company. ISBN 9781324033356

- (5th edition will also work!)

Other Required Materials:

- **Lab: MUST BE ENROLLED IN BIOL 2431 LAB SECTION**
- **Blackboard – this is where you will go for lectures, grades, and weekly announcements**
 - Power-point versions of lectures will be posted on Blackboard
 - Announcements regarding lectures or labs may be posted on Blackboard
 - Grades for individual assignments/labs etc... will be posted on Blackboard as we go along.
- **iClicker**
 - Join code: <https://join.iclicker.com/HKKU>
 - Create free student account & register iClicker remote that will be assigned to you all semester (will be assigned during first class meeting)
 - Answer questions during lecture (also marks your attendance) or to take quizzes

Catalog Description and Prerequisites:

Course Description: This course is the study of how different biochemical, metabolic, and molecular pathways of the cell work together to produce the many functions of cells such as movement, response to hormones, growth, protein synthesis, etc. Topics of signal transduction pathways, protein targeting, secretion and endocytosis, and cellular organization and motility are covered. Cell-cell interactions and tissue formation will be discussed, including the loss of cell division control leading to cancer. With laboratory section. Prerequisites: BIOL 2411, BIOL 2431, CHEM 2323

Learning Outcomes:

1. Students will be able to describe the function of cellular organelles and cell membranes.

2. The students will also be able interpret cell theory and the endosymbiotic theory.
3. The students will be able to discuss cell basic functions of the cell including cell to cell signaling, motility, protein synthesis, and biochemical processes.
4. Students will be able to describe the mechanisms utilized by a cell to convert DNA into protein.

Course Content

4 Regular Exams – (100 points each; each exam = 10% of your final grade)

- Each exam will have 35-40 questions worth 2 pts each. The remaining points of the exam will be short-answer essays and fill-in-the blanks.
- Exams **will not be scaled**, however you will be informed of the class average on that exam and thus it will give you an idea of your standing in the class.
- If you feel that your exam was graded incorrectly, I would be happy to discuss it with you **within 1 week of taking the exam.**

1 Cumulative Final Exam – (100 points = 15% of your final grade)

- The format of the final exam has yet to be determined.

Class Activities/Quizzes – (Point Value Varies but will be included in the “Assignments” part of your grade)

- These activities may be in-class OR outside of class assignments.
- There will be short pop “quizzes” throughout the semester to help assess where you are in terms of the concepts being taught. Quizzes will be printed but answered using the iClicker remote. There is no need to write on the quizzes as answers will be uploaded and directly graded in iClicker Cloud (depends if short answer questions are given).
- There will be hands-on activities throughout the semester that will help demonstrate concepts, practice word problems, and reinforce concepts that you will be responsible for completing in class.
- These in-class assignments should help assess where you are in terms of the concepts being taught. If you struggle with these activities, this should help identify where you need to focus your studying or where you need to ask for more help.

Dos & Do Nots

- Do come to class regularly and on time – it affects your grade, not because of points assessed, but because of understanding the material.
- Do take notes on the print outs of my lectures
- Do ask questions in class
- Do seek out help from me and your peers
- Do NOT have your cell phone out during class unless asked to do so.
- Do NOT check social media sites on your laptop during my lecture feigning that you are taking notes
- Do NOT come in late or miss class and ask me to be caught up
- Do NOT leave early without talking to me prior to class beginning

ATTENDANCE POLICY:

Lecture Attendance: Attendance will be taken daily via iClicker answer submissions however you will not be assessed points. However, keep in mind that attendance may be used at the end of the semester as an additional evaluation of your performance (i.e. if your grade is borderline and you have attended

class regularly I will be more inclined to bump you up to the next grade). If you must miss a class, you are responsible for obtaining what you missed (announcements, class notes, handouts, etc...) from a fellow classmate, not me.

Exam Day Attendance: Mandatory – If you arrive late, you have only until the end of the period to take it. So, my advice: show up early.

Random Mandatory Attendance: Occasionally there will be a topic, guest speaker, or an activity that will occur in class. These days will be mandatory. You will have prior warning to when these days occur.

MAKE UP POLICIES:

Homework Assignments: Because these are on-line and because they will be open and available for more than one day, you should have ample opportunity to complete these. Thus – there are no make-ups. If there is an emergency that is considered a university-excused reason that prevents you from taking a quiz or completing an assignment in the allotted timeframe, you must contact me **within one day of the due date**. If I do not hear from you within that time period, you have forfeited the right to make up the assignment or quiz.

Quizzes & Exams:

- You may make up a quiz or an exam only if:
 - you contact me within **one** day (24 hours) of the scheduled exam
 - your absence is one approved by TAMUSA policies (illness, death in the family, other immediate-family emergencies). Documentation will be required.
 - **Again – if I do not hear from you within 24 hours of the scheduled exam, you have forfeited the right to make up the exam.**
 - **Students must complete make up quizzes or exams no later than 1 week after they've occurred**

In-class activities – as mentioned above, any hands-on activities we conduct in class cannot be made up as they require your presence and will usually be conducted as a group. However, if you miss for an excused reason, we can discuss the reason why and then you will be exempt from the points given in class.

Grading

EXAMS = 55% of your grade (take total points earned / total points available X 0.55) = A

QUIZZES & ASSIGNMENTS = 20% of your grade (take total points earned / total points available X 0.10) = B

LAB GRADE = 25% of your grade (earned score in lab X 0.25) = C

(A + B + C) x 100 = FINAL COURSE PERCENTAGE

****NOTE ABOUT BLACKBOARD TOTAL POINTS**** - Blackboard is strictly a way of reporting your scores to you before assignments are returned. Please pay attention to these percentages – even if you have an “A” based on points earned, doesn’t necessarily mean you have an “A” in the course.

Final Grade:

A = 90-100%.....I will *consider* scaling up if you earn an 89.7%, but I will **NOT** scale up for an 89.49% or less

B = 80-89%..... I will *consider* scaling up if you earn an 79.7%, but I will **NOT** scale up for an 79.49% or less

C = 70-79%..... I will *consider* scaling up if you earn an 69.7%, but I will **NOT** scale up for an 69.49% or less

D = 60-69%..... I will *consider* scaling up if you earn an 59.7%, but I will **NOT** scale up for an 59.49% or less

F = below 60%

Email Etiquette

Professional email etiquette is a requirement when communicating with me (or anyone) online. A proper greeting (e.g. Professor, Mrs. Vaughn, Gaby, Professor Vaughn, Hello Mrs. Vaughn, etc.) with a coherent message and the name of the course in the subject line.

For example:

To: gvaughn@tamusa.edu

Subject: Question about Gen. Biol. Class

Ms. Vaughn,

My name is “your name here” and I was wondering what format the midterm will be in.

Best,

“your name here”

Emails that do not satisfy these conditions will be ignored. * Please do not write emails as you would text or include the entire email body in the subject heading, and please be respectful to all.

Please allow 24 hours for a response during the regular week and 72 hours for a response over the weekend. I will not regularly be answering e-mails sent after 6:00 p.m. so please plan accordingly.

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. 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.

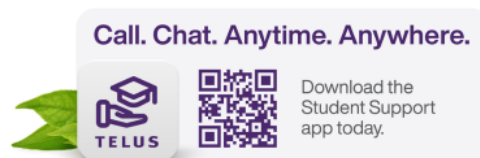
Academic Learning Center: The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing tutoring@tamusa.edu, 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

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 including 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. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended the first week of class. Any student receiving federal financial aid who does not attend 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.

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 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 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, 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.

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, 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 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, 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>).

No Use of Generative AI Permitted

[Insert Course Number] assumes that all work submitted by students will be generated by the students themselves, working individually or in groups. Students should not have another person/entity do the writing of any portion of an assignment for them, which includes hiring a person or a company to write assignments and/or using artificial intelligence (AI) tools like ChatGPT. Use of any AI-generated content in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

Important Dates:

August 26	First day of class
September 2	Labor Day Holiday
November 11	Last day to drop with an automatic “W”
November 19	Last day to drop a course or withdraw from the University
November 27	Study Day – No classes
November 28-30	Thanksgiving Holiday – No classes
December 5	Last day of classes
December 6	Study Day – No classes
December 7-13	Final exams

The complete academic calendar is available online: <https://www.tamusa.edu/academics/academic-calendar/index.html>.

TENTATIVE SCHEDULE (next page)

AUGUST/ SEPTEMBER

<u>SUNDAY</u>	<u>MONDAY</u>	<u>TUESDAY</u>	<u>WEDNESDAY</u>	<u>THURSDAY</u>	<u>FRIDAY</u>	<u>SATURDAY</u>
25	26 NO in-person meeting Syllabus posted	27	28 Register iClicker remotes Ch. 1- Cells: The Fundamental units of life	29	30 Chp. 1 cont'd	31
1	2 Labor Day NO CLASSES	3	4 Ch. 1 cont'd	5	6 Ch. 2- Chemical components of cells	7
8	9 Ch. 2 cont'd	10	11 Ch. 2 cont'd	12	13 Ch. 3- Energy, Catalysis & biosynthesis	14
15	16 Ch. 3 cont'd	17	18 Ch. 3 cont'd	19	20 Ch. 3 cont'd EXAM I REVIEW	21
22	23 EXAM I (Ch. 1-3)	24	25 Ch. 4- Protein Structure & function	26	27 Ch. 4 cont'd	28
29	30 Ch. 4 cont'd	1	2 Ch. 4 cont'd	3	4 Ch.5 – DNA & Chromosomes	5

OCTOBER

<u>SUNDAY</u>	<u>MONDAY</u>	<u>TUESDAY</u>	<u>WEDNESDAY</u>	<u>THURSDAY</u>	<u>FRIDAY</u>	<u>SATURDAY</u>
6	7 Ch. 5 cont'd	8	9 Ch. 5 cont'd	10	11 Ch. 6- DNA Replication & repair	12
13	14 Ch. 6 cont'd	15	16 Ch. 6 cont'd EXAM II REVIEW	17	18 EXAM II (Ch. 4-6)	19
20	21 Ch. 7- From DNA to protein: How cells read the genome	22	23 Ch. 7 cont'd	24	25 Ch. 7 cont'd	26
27	28 Ch. 8- Control of gene expression	29	30 Ch. 8 cont'd	31	1 Ch. 8 cont'd	2

NOVEMBER

<u>SUNDAY</u>	<u>MONDAY</u>	<u>TUESDAY</u>	<u>WEDNESDAY</u>	<u>THURSDAY</u>	<u>FRIDAY</u>	<u>SATURDAY</u>
3	4 Ch. 8 cont'd	5	6 EXAM III REVIEW	7	8 EXAM III (Ch. 7-8)	9
10	11 Ch. 9- How genes and genomes evolve	12	13 Ch. 9 cont'd	14	15 Ch. 9 cont'd	16
17	18 Ch. 10- Analyzing the Structure & function of genes	19	20 Ch. 10 cont'd	21	22 EXAM IV REVIEW	23
24	25 EXAM IV (Ch. 9-10)	26	27 STUDY DAY NO CLASSES	28 -30 THANKSGIVING BREAK NO CLASSES		

DECEMBER

<u>SUNDAY</u>	<u>MONDAY</u>	<u>TUESDAY</u>	<u>WEDNESDAY</u>	<u>THURSDAY</u>	<u>FRIDAY</u>	<u>SATURDAY</u>
1	2 (TBD)	3	4 FINAL EXAM REVIEW	5 LAST DAY OF SCHEUDLED CLASSES	6 STUDY DAY NO CLASSES	7 FINAL EXAMS (Dec.7-13)
8	9 NO CLASSES	10	11 NO CLASSES	12	13 FINAL EXAM 8:00-9:50am	14