

**General Biology I – Attributes of Living Systems**  
**BIOL 1306 - 3 credits**  
**Texas A&M University San Antonio**  
**Department of Natural Sciences**  
**Spring 2025 Syllabus**

**Course Instructor:** Dr. Thiya Mukherjee

**Contact:** Email: [tmukherjee@tamusa.edu](mailto:tmukherjee@tamusa.edu) (\*\* best way to contact me)  
Phone: 210-784-2192  
Office: SciTech/STEM 311N  
Walk-in Office hours: Monday 2:00-4:00 p.m  
We can also schedule an online or in-person meeting as needed.

**Class Location, Day and Time:** SciTech/STEM 145, M/W/F- 9.00 -9.50 AM

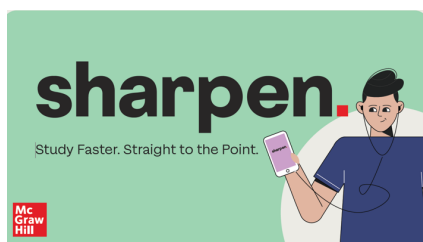
**Textbook for Lecture \*\*\*REQUIRED\*\*\*:**

Biology – Raven et al. – 13th edition McGraw Hill

*\*\*You may also purchase a loose copy at a special rate from the publisher. This is a great option if you know you will need a physical copy of the text.*

**Other Required Materials:**

- Must be enrolled in a lab section (unless taken already)
- Blackboard – this is where you will go for lectures, grades, and weekly announcements
  - Lecture PowerPoints
  - Any announcement related to lecture, exam etc
  - All grades
- On-Line Learning System Components
  - We will be using “McGraw Hill Connect” which is an on-line tool for learning and studying modules. You will have access to this via blackboard. It will require a one-time set-up



**Catalog Description and Prerequisites:**

**Course Description:** This course examines the fundamental molecular, cellular, and genetic principles characterizing living organisms including the role of the scientific method in the discovery of these principles. Specific concepts include the chemical basis for life, energy transformations, cell structure and function, the metabolic processes of respiration and photosynthesis, cell reproduction, and basic concepts of heredity and genetics. This course is designed for students majoring in science fields. This course meets the standards for the life and physical Sciences category of courses under the core curriculum.

**Learning Outcomes:**

By the end of this course students will:

1. Develop critical thinking skills, communication skills, and empirical and quantitative skills.
2. Understand and apply the scientific method to novel questions to develop a strategy to answer those questions.
3. Understand the role of the scientific method in scientific discovery.
4. Summarize the laws of matter and energy as they apply to living organisms
5. Classify the organic and inorganic components that make up living organisms
6. Explain the role of water in the fitness of the environment
7. Demonstrate an understanding of the differences between eukaryotic and prokaryotic cells.
8. Identify components of plant and animal cells, including the structure and function of cell organelles.
9. Understand cellular membranes as they relate to transportation of molecules into and out of cells.
10. Understand the energy transforming principles of photosynthesis and cellular respiration.
11. Understand the cellular cycles of mitosis and meiosis
12. Understand the basic principles of gene to protein
13. Apply the principles of Mendelian genetics to solution of basic genetics problems to better understand inheritance patterns and be able to discuss how they can contribute to the solution of medical and social dilemmas.
14. Discuss recent advances in modern genetics considering the medical, social, and economic impacts of the new findings.

## Course Content

### 4 Regular Exams (150 points)

- Each exam will have 25-50 questions including multiple choice, short answer etc
- Each exam will have a total of 50 points
- For your grade, you will be able to drop the lowest exam score.
- Thus, total points will be **(50 \*3= 150 points)**.
- 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 project (120 points)

- The project will be open book and will cover basic concepts of DNA replication, transcription and translation etc.

### 1 Cumulative Final Exam (150 points)

- The final exam will cover material discussed throughout the semester.

### 10 Quizzes (10\*10=100 points)

- Over the course period there will be 10 quizzes. Each with 10 questions/quiz with 1 point /question

### 5 Homework Assignments (5\*20=100 points)

- On-line homework assignments are a way to guide you through sections of your book and help you to assess whether or not you are understanding the material. These will be completed as per the deadlines listed on the schedule provided– deadlines are strict so plan to make sure you complete these in time. You will have up to 5 days after the initial due date to complete the assignment with a 10% deduction in points per day late.

### Attendance (80 points)

- I will take attendance every day. 10- minutes late in class will be considered. After that you will be early for next day, as you will miss your attendance for that day.

- Complete attendance will earn you 80 points, 50% attendance will earn you 40 points and anything below that will earn you 0 points

In college, it is expected that for every credit hour you spend in class, you spend 3 hours working on that material at home. This of course takes time-management skills. Please take this into consideration when planning your semester activities.

### **Dos & Do Nots**

- Do come to class regularly and on time
- 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 is must and will be taken daily. Please discuss with me ahead of time if you must miss a class. Do not ask me for make-up material. Make a class buddy for that

**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.

### **Make up policies:**

**Homework Assignments:** Because these are on-line and because they will be open and available for more than one day, there are no make-ups. There is a 5-day grace period for turning in these assignments; but you will lose points per day late. If there is 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 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.

**Grading Scale:** (in percentage) (\*\* Scaling up of grade will be done for the next round number if it is 0.5 or above e.g., if your percent score is 79.5 or above, you will get 80%)

- 90-100% = A
- 80-89%= B
- 70-79%= C
- 60-69%= D
- <60% =F

### **Email Etiquette**

Professional email etiquette is a requirement when communicating with me (or anyone) online. 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 5:00 p.m. so please plan accordingly.

## IMPORTANT POLICIES AND RESOURCES

Academic Accommodations for Persons 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, please contact Disability Support Services in the Central Academic Building, Suite 210, or at (210) 784-1335 or visit <https://www.tamusa.edu/index.html> or email us at [dss@tamusa.edu](mailto:dss@tamusa.edu). Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability-related needs with Disability Support Services and their instructors as soon as possible.

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

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

All mental health services provided by the SCC are free and confidential (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services. For more information on SCC services visit [tamusa.edu/studentcounseling](http://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 communicate, in advance if possible, and special circumstances (e.g., upcoming deployment, drill requirements, disability accommodations). You are also encouraged to visit the Patriots’ Casa in-person room 202, or to contact the Office of Military Affairs with any questions at [military.va@tamusa.edu](mailto:military.va@tamusa.edu) or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or 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, equality of 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 or sexual violence, or other related misconduct, the faculty member must share that information with the university’s Title IX Coordinator ([titleix@tamusa.edu](mailto:titleix@tamusa.edu), 210-784-

2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

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

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

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

#### *Students' Rights*

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, sexual orientation, 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, University Catalog and to comply with them, as well as 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 an environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notification.

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. Behaviors that infringe 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](#).

#### Use of Generative AI Permitted Under Some Circumstances or With Explicit Permission

There are situations and contexts within this course where you may be asked to use artificial intelligence (AI) tools to explore how they can be used. Outside of those circumstances, you should not use AI tools to generate content (text, video, audio, images) that will end up in any student work (assignments, activities, discussion responses, etc.) that is part of your evaluation in this course. Any student work submitted using AI tools should clearly indicate with attribution what work is the student's work and what part is generated by the AI. In such cases, no more than 25% of the student work should be generated by AI. If any part of this is confusing or uncertain, students should reach out to their instructor for clarification before submitting work for grading. Use of AI-generated content without the instructor's permission and/or proper attribution in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity.

#### Important Dates:

January 21	MLK Jr. Day – No classes
January 22	First Day of Classes
February 5	Census Day
Feb. 24-March 7	Midterm grading period
March 10-15	Spring Break – No classes
April 18	Study Day – No classes
April 21	Last day to drop with an automatic "W"
April 28	Last day to withdraw from the university
May 5	Last day of scheduled weekday classes
May 6	Study Day – No classes
May 7-13	Final Exams
May 20	Commencement

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



TENTATIVE SCHEDULE – Subject to Change with notification

JANUARY						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
19	20 MLK day-no class	21	22 Syllabus/Expectation	23	24 Ch.1- Scientific method	25
26	27 Ch.1- Scientific method	28	29 Ch.2-Atoms Molecules & Water  SB 1 assigned	30	31 Ch.2-Atoms Molecules & Water	1
FEBRUARY						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2	3 Ch.3- Organic molecules  SB 1 due	4	5 Ch.3-Organic molecules (census date)  SB 2 assigned	6	7 Exam 1 review	8
9	10 Exam 1 (Ch1-3)  SB 2 due	11	12 Ch.4-general features of cells	13	14 Ch.4-general features of cells  Quiz 1	15
16	17 Ch.26- Non-living particles  SB 3 assigned	18	19 Ch.5/9-Membrane structure synthesis and support	20	21 Ch.5/9-Membrane structure synthesis and support  Quiz 2/ SB 3 due	22
23	24 Exam II review	25	26 Exam II (Ch 4,5,9,26)	27	28 Ch.6-Energy and metabolism SB 4 assigned	1
MARCH						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2	3 Ch.6-Energy and metabolism  Quiz 3	4	5 Ch.7-How cells harvest energy  SB 4 due	6	7 Ch.7-How cells harvest energy  Quiz 4	8
9	10 Spring Break – No Class	11 Spring Break – No Class	12 Spring Break – No Class	13 Spring Break – No Class	14 Spring Break – No Class	15



TENTATIVE SCHEDULE – Subject to Change with notification

16	17 Ch.8-Photosynthesis SB 5 assigned	18	19 Ch.8-Photosynthesis  Quiz 5	20	21 Exam III review SB5 due	22
23	24 Exam III (Ch 6-8)	25	26 Ch.10-Cell division	27	28 Ch.10-Cell division Quiz 6	29
APRIL						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31 Ch.11-Sexual reproduction	1	2 Ch.11-Sexual reproduction  Quiz 7	3	4 Ch.12-Patternof inheritance	5
6	7 Ch.12-Patternof inheritance Quiz 8	8	9 Ch.13-Chromosomal basis of inheritance	10	11 Ch.13-Chromosomal basis of inheritance  Quiz 9	12
13	14 Exam IV review	15	16 Exam IV (Ch10-13)/ project assigned	17	18 Study day-no class	19
20	21 Ch.14-DNA-the genetic material Last day to drop with a 'W'	22	23 Ch.15-Genes and how they work Quiz 10	24	25 Ch.15-Genes and how they work	26
May						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28 Ch.15-Genes and how they work	29	30 Ch.16-Control of gene expression	1	2 Project due	3
4	5 Last day of Class	6 Study day-no class	7 Final exam	8 Final exam	9 Final exam	10
11	12 Final exam	13 Final exam	14	15	16 Grades due	17

## TENTATIVE SCHEDULE – Subject to Change with notification

### **Notes:**

Register for Connect to complete assignments in this course by clicking on the first assignment and logging in with your existing account or creating a new one. Use this link to view the registration process:

o [Connect Registration through Blackboard LTIA \(IA\)](#)

**McGraw Hill offers two apps that will be helpful for you if you choose to use them.**

- *ReadAnywhere App- this app is your mobile eBook where you can access the book offline and complete your adaptive reading assignments on the go: [Video](#) | [Link](#)*
- *Sharpen. <https://app.studysharpen.com/> or download Sharpen from app store on your device. Sharpen is a new study app that goes with our textbook. You will use it to study, take practice quizzes, and stay on track. It's fast and easy to use. Register using your school email address After registering on this site, you can download Sharpen in the App Store (iPhone) or Google Play (Android) to study on-the-go. (The basic version of Sharpen is free. To unlock more content, subscribe and gain access to over 100 titles, thousands of quiz questions, practice problems, and flashcards. OPTIONAL: use code STUDYVIBES to upgrade your Sharpen experience.*