

General Biology I – Attributes of Living Systems
BIOL 1306 - 3 credits
Texas A&M University San Antonio, College of Arts and Sciences
Fall 2024 Syllabus

Dr. Utpal Smart

Office: SciTech 311B

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

Walk-in Office hours: Monday/Wednesday 1:00-3:00 p.m.

We can also schedule an online meeting or in-person meeting as needed.

Class Meeting Times and Location(s):

Lecture: MWF 9:00-9:50; SciTech 143

“This course is part of Learning Community (LC) linked with First Year Seminar and College Algebra. Several of the reading and assignments in this class will be integrated with the work you do for the other course.”

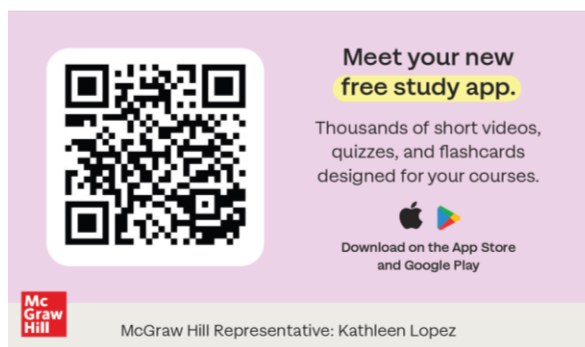
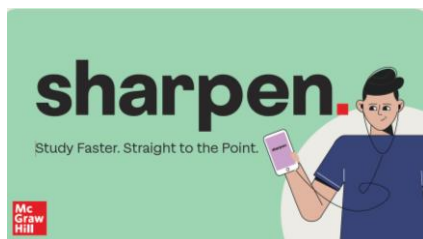
Textbook for Lecture *REQUIRED***:**

Biology – Raven et al. – 13th edition McGraw Hill – ****BOOK FEE ASSESSED-SHOULD HAVE ACCESS ON FIRST DAY OF CLASS****

**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:

- **Lab: MUST BE ENROLLED IN BIOL 1106 LAB CONCURRENTLY (unless already taken)**
- **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.
- **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:

1. Students will develop critical thinking skills, communication skills, and empirical and quantitative skills.
2. Students will understand and apply the scientific method to novel questions to develop a strategy to answer those questions.
3. Students will understand the role of the scientific method in scientific discovery.
4. Students will summarize the laws of matter and energy as they apply to living organisms
5. Students will classify the organic and inorganic components that make up living organisms
6. Students will explain the role of water in the fitness of the environment
7. Students will demonstrate an understanding of the differences between eukaryotic and prokaryotic cells.
8. Students will identify components of plant and animal cells, including the structure and function of cell organelles.
9. Students will understand cellular membranes as they relate to transportation of molecules into and out of cells.
10. Students will understand the energy transforming principles of photosynthesis and cellular respiration.
11. Students will understand the cellular cycles of mitosis and meiosis
12. Students will understand the basic principles of gene to protein
13. Students will apply the principles of Mendelian genetics to the 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. Students will be able to discuss recent advances in modern genetics considering the medical, social, and economic impacts of the new findings.

Course Content

4 Regular Exams

- Each exam will have 35-50 questions ranging from multiple choice, short answer, true/false, drawing, matching, fill-in-the-blank, etc. Not all types of questions will be on every exam.
- 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 (see scaling policy on FINAL GRADES below).
- 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

- This project will encompass the last unit of the semester – including concepts on DNA replication, transcription and translation.

1 Cumulative Final Exam

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

10 Online Homeworks

- Online homework assignments are a way to guide you through sections of your book and help you to assess whether you are understanding the material. These will be completed as per the deadlines listed on the schedule – deadlines are strict so plan ahead to make sure you complete these in time. Your 3 lowest grades will be dropped.

In-Class Assignments and Quizzes

- There will be hands-on activities and pop quizzes 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.

In college, it is expected that for every credit hour you spend in class, you spend 3 hours working on that material at home. Thus, in the class, it is expected that in addition to coming to class, you also spend 9 hours a week outside school pertaining to this class. 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 – 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 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.

In which case make a buddy: _____

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 warning about 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.** There is a 5-day grace period for turning in these assignments; however, you will lose points per day late. 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, you have forfeited the right to make up the assignment or quiz.

Homework and 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.

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 Breakdown

Your final grade in this course will be determined based on the following components:

Exams and Project – 60% of Final Grade

This includes four regular exams and one cumulative exam, and one project. Each exam and the project will contribute equally to this portion of your grade.

Homework – 15% of Final Grade

All homework assignments combined will account for 15% of your total grade.

In-class Assignments and Quizzes – 25% of Final Grade

This portion includes all assignments and quizzes, which together will make up 25% of your total grade.

Final Grade Calculation

To calculate your final grade, use the following steps:

Exams:

Calculate your average percentage across all exams and the project: _____%

Multiply by 0.60: _____%

Homework:

Calculate your average percentage for all homework: _____%

Multiply by 0.15: _____%

In-class Assignments and Quizzes:

Calculate your average percentage for all assignments and quizzes: _____%

Multiply by 0.25: _____%

Final Grade:

Add the results from each category:

Exams (60%): _____%

Homework (15%): _____%

Assignments and Quizzes (25%): _____%

Final Percentage = _____%

This final percentage will be converted into a letter grade based on the standard grading scale.

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 a 79.7%, but I will **NOT** scale up for a 79.49% or less

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

D = 60-69%..... I will *consider* scaling up if you earn a 59.7%, but I will **NOT** scale up for a 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, Dr. Smart, Professor Smart, Hello Dr. Smart, etc.) with a coherent message and the name of the course in the subject line.

For example:

Subject: Question about Gen. Biol. Class

Professor Smart,

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 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. 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/or 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.

Crisis support is available 24/7 by calling the SCC at 210-784-1331 (after-hours select option ‘2’). For more information and self-help resources, please visit www.tamusa.edu/studentcounseling

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/campus-information/safety/university-police-department/documents/emergency-operations-plan.pdf> and <https://www.tamusa.edu/about-us/campus-information/safety/university-police-department/documents/emergency-action-plan.pdf>

Download the SafeZone App 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://bit.ly/WLDCCenter>.

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 contact the Dean of Students (DOS@tamusa.edu) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to provide any resources they may possess.

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 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, 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; 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:

August 26

First day of class

September 2	Labor Day – No classes
September 11	Census Day
October 7-18	Midterm grading period
November 11	Last day to drop with “W”
November 19	Last day to withdraw from the university
November 27	Study Day – No classes
November 28-29	Thanksgiving Holiday – No classes
December 5	Last day of scheduled weekday classes
December 6	Study Day – No classes
December 7-13	Final Exams
December 17	Commencement

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

Please be advised that this schedule is provisional and may be modified at the instructor's discretion

August						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
25	26 Go over syllabus/expectations	27	28 Ch. 1 – Scientific Method	29	30 Ch. 1 – Scientific Method	31
September						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 LABOR DAY – NO CLASSES	3	4 Chapter 2 - Atoms Molecules & Water	5	6 Chapter 2 - Atoms Molecules & Water HW1 due by 9AM	7
8	9 Chapter 3 – Organic Molecules	10	11 Chapter 3 – Organic Molecules (Census Date)	12	13 Exam Review HW2 due by 9AM	14
15	16 EXAM I – Chapters 1-3	17	18 Chapter 4 – General Features of Cells	19	20 Chapter 4 – General Features of Cells	21
22	23 Chapter 26 – Non- living Particles	24	25 Chapter 5 – Membrane Structure, Synthesis & Support	26	27 Chapter 5 – Membrane Structure, Synthesis & Support HW3 due by 9AM	28
October						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY

29	30 Exam II Review	1	2 Exam II Review	3	4 EXAM II - Chapters 4, 5, 9, 26	5
6	7 Chapter 6 – Energy & Metabolism	8	9 Chapter 6 – Energy & Metabolism	10	11 Chapter 7 – How Cells Harvest Energy	12
13	14 Chapter 7 – How Cells Harvest Energy	15	16 Chapter 8 – Photosynthesis	17	18 Chapter 8 - Photosynthesis HW4 due by 9AM	19
20	21 Exam III Review	22	23 Exam III – Chapters 6-8	24	25 Chapter 10 – How Cells Divide HW5 due by 9AM	26
November						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
27	28 Chapter 10 – How Cells Divide	29	30 Chapter 11 Sexual Reproduction & Meiosis	31	1 Chapter 11 Sexual Reproduction & Meiosis HW6 due by 9AM	2
3	4 Chapter 12 – Patterns of Inheritance	5	6 Chapter 12 – Patterns of Inheritance	7	8 Chapter 13 – The Chromosomal Basis of Inheritance	9

					HW7 due by 9AM	
10	11 Chapter 13 – The Chromosomal Basis of Inheritance (Last day to drop with a “W”)	12	13 Exam IV Review	14	15 Exam IV Review HW8 due by 9AM	16
17	18 EXAM IV– Chapters 10-13	19	20 Chapter 14 – DNA: The Genetic Material	21	22 Chapter 15 – Genes and How They Work HW9 due by 9AM	23
24	25 Chapter 15 – Genes and How They Work	26	27 NO CLASSES – STUDY DAY	28	29 NO CLASSES – THANKSGIVING BREAK HW10 due by 9AM	30
DECEMBER						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 Chapter 15 – Genes and How They Work	3	4 Chapter 16 – Control of Gene Expression	5 (Last Day of Regular Classes)	6 NO CLASSES – STUDY DAY	7
8	9 Final Exams	10 Final Exams	11 Final Exams	12 Final Exams	13 Final Exams	14

FINAL EXAM DATE – TBD**