

# SYLLABUS - MOLECULAR CELL BIOLOGY - BIOL3314

## CRN 13190 - Fall 2019

**CLASS LOCATION :** Online - using Blackboard Collaborate, through [THIS LINK \(Blackboard Collaborate Participant\)](#). The link is also available through our Blackboard shell for this course (notice that our Blackboard shell for this course will be our main communication tool throughout the semester; therefore, you are expected to check both Blackboard and your UTEP email frequently).

*If local transmission of the virus responsible for COVID-19 (SARS-CoV-2) were to decrease enough to allow full reopening of the campus (OPEN CAMPUS, no local viral transmission for 14 days in a row), we would move on to face-to-face classes using the classroom assigned to us, Undergraduate Learning Center (UGLC), Room 128.*

*To find out the status of our campus, follow this link*  
[UTEP RECOVERY LEVEL](#)

**DAYS & TIME:** Tuesdays & Thursdays, 10:30 AM - 11:50 AM

*We will attempt to hold classes in a **SYNCHRONOUS** manner, meaning the students will be expected to be online during the indicated days and times. The exams will be more flexible in terms of time, but access will be limited to a 6 hour window.*

**INSTRUCTOR:** Germán Rosas-Acosta, MSc, PhD ([grosas3@utep.edu](mailto:grosas3@utep.edu))

For any communication related to this course with the instructor, please indicate “BIOL3314 course” in the subject line. If you don’t follow this, your email may go unanswered.

**OFFICE:** BioSciences Building, Rm.4.148; Office: (915) 747-5122

**OFFICE HOURS:** Tuesdays & Thursdays, 12:15 PM - 1:30 PM, Online - using Blackboard Collaborate, through [THIS LINK \(Blackboard Collaborate Participant\)](#).

*If the pre-set schedule indicated for office hours does not fit your schedule, please feel free to contact the instructor and request separate office hours. To do so, send an email to the instructor and indicate “office hours” in the subject line.*

**TEXTBOOK:** The CELL: A Molecular Approach, Eighth Edition, By - Geoffrey M. Cooper (Sinauer Associates, Oxford University Press)

**OTHER MATERIALS:** *iClicker cloud*: We will use the *iClicker cloud* for all our in-class activities. Registration is FREE to all UTEP students. To register, follow this link: <https://www.iclicker.com/students>. I highly encourage you to use your smart phone for the iClicker activities and your laptop or desktop for the Blackboard Collaborate course interface.

**Respondus LockDown Browser:** We will use the *Respondus LockDown Browser* for EVERY EXAM given throughout the semester. Instructions on how to download and install this browser are provided in this link: [INSTALLING LOCKDOWN BROWSER](#). Within the Respondus LockDown Browser platform, we will use Respondus Monitor as the actual interface for all exams. Respondus monitor requires the use of a camera and a microphone associated to your computer. Respondus LockDown Browser will not run from a smart phone, but you can run it from an iPad.

**YouTube videos produced by the instructor:** You will be expected to watch YouTube videos produced by the instructor. The YouTube videos that correspond to each class are indicated in the course schedule. These videos do not substitute for the material covered in class but instead are expected to supplement the information provided by the online class and the book. The link for the YouTube channel for this course is here [Mol Cell Bio @ UTEP YouTube Channel](#).

**The Molecular Cell Biology Podcast:** The instructor is currently working on developing a series of podcast to complement the content covered in this course. The link to the podcast will become available as soon as it is officially registered and will be announced on Blackboard.

Students are highly encouraged to buy the book. It is up to date, will be essential throughout the course, and will help you prepare for future tests (MCAT, PCAT, DAT, etc). The 7<sup>th</sup> edition of the book can be used in substitution for the 8<sup>th</sup> edition, but whenever there might be differences in content, that in the 8<sup>th</sup> edition will be considered to be correct.

## **I. COURSE CONTENT (What will you learn?):**

This course will give you an integrated view of our current understanding of how EUKARYOTIC cells work at the molecular level. Specifically, the material to be covered is aimed at providing you with a solid understanding of:

1. The basic mechanisms by which the genetic information is organized, maintained, transcribed into RNA, and translated into proteins.
2. How gene expression is regulated at different levels so that cells synthesize the right proteins at the right time in the right amounts.
3. The different mechanisms regulating protein function and localization within the cell.
4. How regulating protein expression and protein activity allows the cell to carry out its functions in an organized manner.
5. How dysregulating the different processes and mechanisms referred above leads to various human diseases.

## **II. COURSE GOALS (What do I want you to be able to do by the time you get out of this course?):**

By the end of this course, students are expected to:

- 1) ***Know the language*** of molecular cell biology.
- 2) ***Understand the most fundamental concepts*** of molecular cell biology.
- 3) Be able to ***apply those fundamental concepts to solve problems*** related to molecular cell biology.
- 4) ***Appreciate*** the application of molecular cell biology to modern medicine.
- 5) ***Realize the extent of our current ignorance*** in some of the most exciting aspects of cell biology and ***appreciate how solving current open questions may greatly advance medicine and our understanding of life*** in general.
- 6) ***Develop a logical, evidence-based approach to your daily experiences*** and to your decision-making processes, one that empowers you to be the driver of your present and the maker of your future.

## **III. COURSE APPROACH:**

I will conduct this course in a combination of **self-teaching**, **in-class activities**, and traditional **lectures**.

- 1) **Self-teaching:** In preparation to each class, you will be expected to read the textbook and utilize the **Blackboard®** site associated with this course. To ensure that you do so, we will use **Readiness Assessment Tests**

(RATs), which are short quizzes given in Blackboard® that you will be required to take up to 1 hour before the class it is due for (YES, this implies that you WILL BE QUIZZED on reading material BEFORE it is covered in class.) The RATs will assess your understanding of the reading material assigned, help you to keep up with the material, and allow you to take charge of your own learning process.

In addition to reading the textbook, for most classes you will also be expected to **view one or several movies** (available through [the instructor's YouTube channel](#)) before coming to class. The likely due dates for watching each movie are indicated in the [tentative schedule](#) given in this syllabus. In-class **iClicker cloud** polling will be used by the instructor to verify that you watched the videos assigned for the class. The use of videos will allow us to decrease the amount of time spent lecturing in class. A series of podcasts will also be offered as an additional source of information. Some of the podcasts will be required. The podcast episodes will be numbered and the episode corresponding to any given class will be announced through Blackboard (the link to The Molecular Cell Biology podcast is not available yet). It is also likely that the instructor may provide additional videos as he may deem necessary throughout the semester. Links to any additional required video will be provided in Blackboard.

- 2) **In-class Activities:** During our class sessions, you will be quizzed with questions posted in the PowerPoint presentations to be shown during class. The questions to be presented are aimed at assessing not just your ability to recall the basic facts related to the information being covered, but also your ability to connect those facts to interpret statements, analyze data, and draw conclusions. **iClicker cloud** polling will be used to collect your answers (see below).
- 3) **Lectures:** Our online synchronous lectures will be aimed at clarifying and solidifying the material that you have read on the book and reviewed in the movies, skipping topics that are not fully relevant, and emphasizing the most relevant points, the ones you should know. For the lectures I will use PowerPoint presentations that **will be posted in Blackboard® the night before each class.**

Our synchronous classes and their associated lectures will be recorded and efforts will be made to make the resulting videos available to all students within a few hours after being recorded. However, students are highly encouraged to participate in the synchronous classes, particularly because the extra credit associated to the **iClicker activities** will not be available in any other format.

#### **IV. DETAILED DESCRIPTION OF THE COURSE:**

The course will be divided into 11 major topics:

- |  |  |
|--|--|
| 1) Chromosome Structure & Genomes  | 7) The Endoplasmic Reticulum, the Golgi apparatus, and protein sorting |
| 2) Replication   | 8) Cell Surface (Plasma Membrane)                                      |
| 3) Transcription   | 9) Cell Cycle  |
| 4) Translation   | 10) Apoptosis & Stem Cells.  |
| 5) Protein Folding, Post-translational modifications, and Regulation of Protein Function | 11) Cancer   |
| 6) The nucleus & nuclear traffic   |  |

**Our class:** In each class we will cover the most important areas related to each topic, and I will emphasize the concepts and ideas that are essential for you to know. So, **class attendance will matter**. Pay attention to the material covered on it. We will interrupt the lectures with some frequency to give you questions and activities aimed at assessing your understanding of the topic at hand and enhancing your mastery of the material. As indicated above, the PowerPoint presentations to be used in class will be posted in Blackboard® the night before the class.

**In-class activities:** In-class activities are geared to promote critical thinking, discussion, and enhanced learning. Most of the in-class activities will follow the form of a mini-quiz with multiple questions. Each question will appear on the screen in the PowerPoint presentation as well as in your **iClicker cloud** device and remain in view for as long as considered appropriate. You will be allowed to submit your answer using **iClicker cloud** polling for as long as the question is shown in the screen. For some in-class activities you will be asked to submit your own personal answer. For others, you will be expected to discuss your thoughts in teams before submitting your answer. Finally, for others you will be expected to submit both, your own response, and a second response after a team discussion. Other formats may also be applied during the semester. All team interactions will be performed following the same online platform we will be using for our lectures, that is **Blackboard Collaborate**.

The activities are designed to help you go over the concepts being covered and apply them. **You will earn points applicable toward the final grade for every correct answer you have in the in-class activities.** Those points are **extra points**; therefore **there is no penalty if you decide not to go for them.** But I highly recommend

you to try to get as many as you can as **THERE WILL BE NO CURVE** at the end of the semester. In addition to earning points for every correct answer, **participation points** will also be awarded every time you answer all questions given in a class (even if you answer incorrectly all of them!).

**RATs:** You will take a total of **15 RATs**, one or more for each topic. Each RAT will be posted at least two days before the class session to cover that topic. **Once you log in to take the RAT you will have only 1 hour (60 minutes) to answer it.** Furthermore, **you will be allowed only one log-in.** The specific pages that you must read in preparation for each RAT are indicated on the [tentative schedule](#). They will also be indicated on Blackboard® within the instructions provided for each RAT.

**What will RATs look like?** RATs will be multiple-choice quizzes. There will be 10 questions per quiz. Some questions will be about vocabulary words, meanings of concepts, and straightforward facts covered in the reading material, while others will be aimed at assessing your understanding of the material and might require more analysis. **IMPORTANT:** Do not start a RAT unless you have already read the pages indicated in the instructions. Also, **make sure that you take ALL RATs using a RELIABLE COMPUTER with a RELIABLE NETWORK CONNECTION.** If the system kicks you out of Blackboard® while taking the RAT, you may **NOT** have the opportunity to log back in, your answers (if you have already provided some) may be lost, and **I will NOT have the ability to grant you access to the RAT for a second try.** Although only 10 out of the 15 RATs given throughout the semester will count toward your final grade (see “Grading Policy” below) I highly recommend that you take ALL RATs given throughout the semester as a way to maximize your odds of doing well in this class.

**Progress assessments (exams):** We will have four (4) progress assessments (i.e., exams) and a **cumulative** final exam. These exams will test your **understanding and your ability to APPLY** all material covered in the classes and videos that preceded the test, but not including the material already tested. **The only cumulative test will be the final exam,** which will cover all the content covered during the semester. All exams will consist of multiple-choice questions that you will answer online **using a computer and the Respondus LockDown Browser application pre-loaded on it.** To allow you to familiarize yourself with the Respondus LockDown Browser, a brief mock exam will be provided on Blackboard at least a week before the first exam. See the [tentative schedule](#) for this course for the expected dates of the exams. If you choose not to take the mock exam and then have issues during the exam related to not having properly installed the Respondus LockDown Browser in your laptop before the exam, you may see your exam time substantially decreased and you will not be given a time extension or have the right to re-schedule the exam.

## **V. GRADING POLICY:**

Your grade will be determined on the basis of a comprehensive assessment of your skills using the following elements.

- 1) **Progress assessments:** A total of four exams will be administered throughout the semester, each worth 100 points. **Your best scoring exam will count double** (i.e., 200 points) toward your final grade. Take advantage of this great opportunity and aim really high, in at least one of your exams. **Note:** Be aware that **by far the main focus of the exams will be on material covered in class or in the videos,** including any material not covered in the book. Your lowest scoring exam will be replaced by your score in the final exam unless you score lower in the final exam than in all other exams, in which case no replacement will occur. **Important:** see class policies about missing exams.
- 2) **RATs:** A total of **15 RATs will be administered** on Blackboard®, of which **only 10 will be counted toward your grade. The 5 lowest scores will be dropped.** The [tentative schedule](#) indicates when RATs will be administered; however, keep in mind that such schedule is subject to change. The RATs will be posted 2 days prior to the class session in which the topic will be covered and **will become inaccessible 1 hour before class.** **You will have access to the RAT only once and you will have only 60 minutes to take the quiz.** Your score will become available after the deadline for the RAT. **RAT BONUS POINTS:** If at the end of the semester you have at least 10 RATs with a score of 5 or more, you'll automatically receive 100 points toward the final grade (see [GRADING SYSTEM](#) below). Your RAT score will be the total of the 10 highest RAT scores multiplied by 2, for a maximum total of 200 points.
- 3) **In-class activities:** As indicated above, in-class activities will give you **extra points** toward your final grade and your answers will be collected using **iClicker cloud** polling. The maximum number of points to be given for the in-class activities will be set at 100 and will be given to the student (or students) who score the highest number of points. The points given to all other students will correspond to the fraction of their score as compared to the points achieved by the top scorers. For instance, if John Doesgreat is the student with the highest number of points, and he gets 400 points in the in-class activities (every correct answer can be worth anywhere

between 1 and 5 points, as decided by the instructor based on the level of difficulty associated to the question), then John Doesgreat gets 100 points toward his final grade for in-class activities. If Peter D'Slacker only gets 100 points in the in-class activities, which corresponds to 1/4<sup>th</sup> of the points obtained by John Doesgreat, then he would only get 25 points toward his final grade for in-class activities. A direct conclusion derived from this system is that it will be pretty much impossible for you to know how many points toward your final grade you have at any given point. It is also obvious that your best bet to maximize the number of points you get out of the in-class activities is to try your best at answering correctly every question presented. However, your main concern during the in-class activities should be directed toward fully understanding the questions and figuring out the best approach to answer them correctly, not the number of points obtained (i.e. you should focus on learning & understanding the material, not on getting a good grade; if you UNDERSTAND the material, KNOW the main concepts and the details required, and know how to approach the questions, YOU WILL GET A GOOD GRADE).

- 4) **Final Examination:** A cumulative final exam worth 200 points will be administered during finals week at the date and time indicated on page 11. This exam will be taken by everyone (***EVEN IF YOU HAVE OBTAINED OUTSTANDING GRADES IN EVERY EXAM*** throughout the semester) and can be used to replace your lowest exam grade. If your grade on the final is lower than your lowest exam grade, no replacement will occur.

The laboratory component for this class is **fully independent** and will be graded independently from the lecture.

Therefore, the **GRADING SYSTEM** is as follows:

Exams	400 points (4 exams/100 points each)
Best Scoring Exam	100 points
RATs	200 points (15 quizzes/20 points each, 5 lowest scores dismissed)
Final Exam	200 points
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<b>Subtotal:</b>	<b>900 Points</b>
10 RATs with score $\geq 5$	100 points (50 points for 9 RATs with score of 5 or more, no points given below that)
In-class activities	100 points maximum (These are EXTRA points.)
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<b>Actual total:</b>	<b>1100 Points</b>

The final grade equivalency will be as follows:

A = 896 points and above	(90-100%)
B = 796 - 895 points	(80 - 89%)
C = 696 - 795 points	(70 - 79%)
D = 596 - 695 points	(60 - 69%)
F = 595 points and less	(59% and below)

Please note that a student must earn a grade of C or better to receive credit toward graduation and **no curves will be applied.**

I do round off. That's why 896 points is an "A" but 895 points is a "B". I do not push 895 points to an "A" because you have several opportunities to improve your grade (the 5 lowest RATs are dropped, your best scoring exam counts twice, the final can replace your lowest exam grade, and you can earn up to 100 extra points toward the final grade in in-class activities). This same policy is true for all other grades (i.e., 795 is C, 695 is D, and 595 is F).

Grades are **not** based on a curve. Everyone will receive a grade that is reflective of the effort put into the course, the knowledge learned during the course, and the skills acquired during the course. **You EARN your grade; I don't give you a grade.**

## **VI. CLASS POLICIES:**

**MISSING EXAMS:** If you know ahead of time that you will not be available to take an exam because of your required participation in a school-related activity, notify me and I will schedule you to take the exam **one day before the scheduled date with no penalty** (important: No earlier dates will be offered without exception). However, you may have a slightly different exam from that offered to the rest of the class. **If you can't take the exam the day before, then the next exam will count double toward your grade but you will lose the right to have your lowest exam grade substituted with the final exam.** If you miss an exam and you can provide justification (with PROOF) for your absence, **the next exam will count double toward your final grade. However, doing so will prevent you from having your lowest scoring test replaced by the final exam. If you miss the following exam (the one that should count double), then your grade in both exams will be zero. If you miss an exam and**



**cannot provide justification, then you will get a ZERO in that exam and this grade will NOT be replaced by the final exam.** Each exam grade will be posted in Blackboard® right after you submit it or soon thereafter (the day of the exam). If you don't see a grade associated to your exam by the day after, you must contact the instructor to inquire about your exam within the following five days. If you don't, it will be understood that you missed the exam and the policies indicated above related to missing exams will be followed. **IMPORTANT:** The network system to be used for your exams matters. If you must go to a location to take the exam (such as the library), be sure to follow their health and safety requirements. Also, be aware that the Respondus Monitor to be used within the Respondus Lockdown Browser platform for all of our exams **will require the use of a camera and a microphone.** Please make sure that you address this need well ahead of our first exam. No one will be allowed to take the exam without using the Respondus Monitor.

**ATTENDANCE:** Synchronous online class attendance will **not** be required. However, **it will be required if you want to be able to participate in the in-class activities and accumulate the extra points associated to them.** The activities conducted in class **cannot** be made up at a later date. Also keep in mind that exams will be based mostly on the material covered in class and in the movies, and special attention will be given to the in-class activities.

**iCLICKER CLOUD POLLING:** iClicker cloud polling, the polling system we will use this semester, allows you to answer the in-class activities using any "smart" personal device you may have at hand (smartphone, laptop, or tablet). **We will use iClicker polling starting on day one of this course,** so please register for the course ahead of time. To find our course, you can use either "Rosas-Acosta" or "Molecular" as queries for your search once you have entered the UTEP iClicker portal online.

**NETIQUETTE:** As we know, sometimes communication online can be challenging. It's possible to miscommunicate what we mean or to misunderstand what our classmates mean given the lack of body language and immediate feedback. Therefore, please keep these netiquette (network etiquette) guidelines in mind. Failure to observe them may result in disciplinary action.

- Always consider audience. This is a college-level course; therefore, all communication should reflect polite consideration of other's ideas.
- Respect and courtesy must be provided to classmates and to the instructor at all times. No harassment or inappropriate postings will be tolerated.
- When reacting to someone else's message, address the ideas, not the person. Post only what anyone would comfortably state in a face-to-face situation.
- Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on in these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space.

**HONORS CREDIT:** At this point, it is not clear to the instructor whether there will be an option to take this class for honors credit. If you are interested in exploring this possibility, please contact the Honors Program and, if available, give me a signed Honors Contract form as soon as possible. Honors students will be required to get a final grade of A in the course, to participate in one additional activity to be scheduled during the semester, and to take an additional test with open-ended questions. There is no penalty whatsoever for honors students who fail to meet the requirements to receive honors credit.

**ACADEMIC DISHONESTY:** It is the policy of the University of Texas at El Paso that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. To prevent dishonesty during our online exams, you will be required to use the Respondus Monitor within the Respondus Lockdown Browser platform for all of our exams. Respondus Monitor use **will require your to have a functional camera and a microphone.** Your face must be clearly visible while taking an exam. You should not move your arms away from the visible area for the camera and you should avoid substantial changes in your posture. Any suspicious movement or activity will trigger your exam to be flagged, which will be followed by a close review of the full recording associated to your exam. If it is apparent that you attempted to use extra non-allowable material while taking an exam (such as a cell phone, or by talking to someone), you may be sanctioned for academic dishonesty. Potential consequences of this include receiving a grade of zero in the exam in which the misconduct occurred.

**DISABILITIES:** The University is committed to providing reasonable accommodations and auxiliary services to students, staff, faculty, job applicants, applicants for admissions, and other beneficiaries of University programs, services and activities with documented disabilities in order to provide them with equal opportunities to participate in programs, services, and activities in compliance with sections 503 and 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act (ADA) of 1990 and the Americans with Disabilities Act Amendments Act (ADAAA) of 2008. Reasonable accommodations will be made unless it is determined that doing so

would cause undue hardship on the University. Students requesting an accommodation based on a disability must register with the UTEP Center for Accommodations and Support Services (CASS). Contact the Center for Accommodations and Support Services at 915-747-5148, or email them at [cass@utep.edu](mailto:cass@utep.edu), or apply for accommodations online via the CASS portal.

**CLASS RECORDINGS:** The use of recordings will enable you to have access to class lectures, group discussions, and so on in the event you miss a synchronous or in-person class meeting due to illness or other extenuating circumstance. Our use of such technology is governed by the Federal Educational Rights and Privacy Act (FERPA) and UTEP's acceptable-use policy. A recording of class sessions will be kept and stored by UTEP, in accordance with FERPA and UTEP policies. Your instructor will not share the recordings of your class activities outside of course participants, which include your fellow students, teaching assistants, or graduate assistants, and any guest faculty or community-based learning partners with whom we may engage during a class session. You may not share recordings outside of this course. Doing so may result in disciplinary action.

**COVID-19 PRECAUTIONS:** Although this course does not require you to come to campus, in the event that you may want to come to campus you must follow the precautions below:

- You must STAY AT HOME and REPORT if you (1) have been diagnosed with COVID-19, (2) are experiencing COVID-19 symptoms, or (3) have had recent contact with a person who has received a positive coronavirus test. Reports should be made at [screening.utep.edu](http://screening.utep.edu). If you know of anyone who should report any of these three criteria, you should encourage them to report. If the individual cannot report, you can report on their behalf by sending an email to [COVIDaction@utep.edu](mailto:COVIDaction@utep.edu).
- For each day that you attend campus—for any reason—you must complete the questions on the UTEP screening website ([screening.utep.edu](http://screening.utep.edu)) prior to arriving on campus. The website will verify if you are permitted to come to campus. Under no circumstances should anyone come to class when feeling ill or exhibiting any of the known COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, and alternative instruction will be provided. Students are advised to minimize the number of encounters with others to avoid infection.
- Wear face coverings when in common areas of campus or when others are present. You must wear a face covering over your nose and mouth at all times in this class. If you choose not to wear a face covering, you may not enter the classroom. If you remove your face covering, you will be asked to put it on or leave the classroom. Students who refuse to wear a face covering and follow preventive COVID-19 guidelines will be dismissed from the class and will be subject to disciplinary action according to Section 1.2.3 Health and Safety and Section 1.2.2.5 Disruptions in the UTEP Handbook of Operating Procedures.
- (classes with on-campus meetings) Please note that if COVID-19 conditions deteriorate in the City of El Paso, all course and lab activities may be transitioned to remote delivery.

**GENERAL RESOURCES AND ASSISTANCE:** UTEP provides a variety of student services and support:

- Technology Resources  
Help Desk: Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.
- Academic Resources  
UTEP Library: Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.  
University Writing Center (UWC): Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.  
Math Tutoring Center (MaRCS): Ask a tutor for help and explore other available math resources.  
History Tutoring Center (HTC): Receive assistance with writing history papers, get help from a tutor and explore other history resources.  
RefWorks: A bibliographic citation tool; check out the RefWorks tutorial and Fact Sheet and Quick-Start Guide.
- Individual Resources  
Military Student Success Center: Assists personnel in any branch of service to reach their educational goals.  
Center for Accommodations and Support Services: Assists students with ADA-related accommodations for coursework, housing, and internships.  
Counseling and Psychological Services: Provides a variety of counseling services including individual, couples, and group sessions as well as career and disability assessments.

**COPYRIGHT STATEMENT FOR COURSE MATERIALS:** All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of

this course, unless otherwise determined by the instructor. Dissemination of any of the materials developed by the instructor by anyone other than himself is prone to legal prosecution and monetary liability.



**VII. TENTATIVE SCHEDULE:** *Please be aware that this schedule is subject to change*

Session	DATE	Topics to be covered	Book pages (8 <sup>th</sup> Edition) to be covered in class	Book pages (8 <sup>th</sup> Edition) you MUST READ for the RATs*	RATs	Movies**
1	Aug 25	Introduction, syllabus and background check (quiz)				
2	Aug 27	Chromosomes & Chromatin	205-213	205-213	RAT#1	
3	Sep 1	Cellular Genomes	187-205	187-205	RAT#2	M1
4	Sep 3	DNA Replication - Basic processes	215-232	215-232	RAT#3	M2
5	Sep 8	DNA Replication - Basic processes (continuation) & replication of telomeres	215-232 (continuation)			
6	Sep 10	DNA Repair	232-242	232-242	RAT#4	M3
7	Sep 15	DNA Repair (continuation) & Recombination & Rearrangements	232-250			M4&5
8	Sep 17	<b>EXAM 1 (Make sure to install Responds LockDown Browser in your computer ahead of time; make sure you have a functional camera and a microphone attached to your computer)</b>				
9	Sep 22	Transcription - Basic Mechanisms	253-265	253-265	RAT#5	M6
10	Sep 24	Transcription - Regulation in Eukaryotes	288-312	288-312	RAT#6	M7
11	Sep 29	Transcription - Chromatin Structure & Methylation	288-312 (continuation)			
12	Oct 1	Transcription - RNA Processing & Turn-over	265-282	265-282	RAT#7	M8
13	Oct 6	Translation - Players, Process, & Regulation	315-331	315-331	RAT#8	M9
14	Oct 8	Translational Regulation (continuation); Protein Folding & Post-Translational Modifications of Proteins	315-331 (continuation), 141-142, & 331-349	141-142 (antibodies & immunoblotting) & 331-349	RAT#9	
15	Oct 13	Post-translational Modifications of Proteins (continuation)	331-349 (continuation)			
16	Oct 15	<b>EXAM 2 (follow the same guidelines as for Exam 1)</b>				
17	Oct 20	The Nucleus - Nuclear Envelope, Nuclear Pores, Nuclear Import & Export Nuclear organization & compartments	355-369	355-369	RAT#10	M10 & 11
18	Oct 22	Protein Targeting & Insertion into the ER, Folding & Processing	383-412	383-412	RAT#11	M12 & 13
19	Oct 27	The ER & Golgi - Lipid & Protein Sorting Vesicular Transport	383-412 (continuation)			M14, 15 & 16
20	Oct 29	Plasma Membrane - Constituents & Transport of Small Molecules	501-528	501-528	RAT#12	M17
21	Nov 3	Plasma Membrane - Facilitated Diffusion & Active Transport	501-528 (continuation)			M18 & 19
22	Nov 5	Plasma Membrane - Endocytosis & the LDL Receptor	528-535			M20
23	Nov 10	<b>EXAM 3 (follow the same guidelines as for Exam 1)</b>				
24	Nov 12	Cell Cycle - Phases, Regulation & Regulators	603-631	603-631	RAT#13	M21

25	Nov 17	Cell Cycle - Cyclins, Cdks, Check Points, & M Phase	603-631 (continuation)			M22
	Nov 19	Apoptosis & Stem Cells	637-667	637-667	RAT#14	M23
26	Nov 24	Stem Cells	637-667 (continuation)			
	Nov 26	THANKSGIVING	No class - Thanksgiving break! Enjoy your well-deserved break 😊			
28	Dec 1	Cancer - General Properties and Definitions; Oncogenes & Tumor Suppressorts	669-697	669-697	RAT#15	M24
29	Dec 3	EXAM 4 (follow the same guidelines as for Exam 1)				
	Dec 10	Final Exam (10:00 AM-12:45 PM) - follow the same guidelines as for Exam 1 BE AWARE - THIS EXAM IS CUMULATIVE				

\*The specific pages covered in each RAT correspond to the pages in “The Cell: A Molecular Approach”, 8<sup>th</sup> edition. Those pages don’t correspond to the pages in previous editions of the book and substantial changes have taken place during the years. In case of disagreement related to any question found on a RAT between the 8<sup>th</sup> edition and any previous edition of the textbook, the information contained in the 8<sup>th</sup> edition will be considered to be correct.

\*\*The movies correspond to the movie numbers given to the different movies available at [the instructor’s YouTube channel](#). All of those movies were specially created by the instructor for this class and are fully available to you free of charge. To speed up your access to the movies, you may want to subscribe to the instructor’s YouTube channel, although this is not required at all.