INSTRUCTOR  
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OFFICE HOURS
W. & Th. 11:00 -12:00 AM, or by appointment.

Class time:  T.R. 9:30-10:50 AM  
Class Location: BEP 218

Required Text:  
Karp, Cell and Molecular Biology 8th Edition

Paperback ISBN: 9781118886144  

Required Online Workbook:

SimBio Custom Modules: Due: Oct 25, 2018

Action Potentials Explored  
Cellular Respiration Explored

Please follow the instructions on Canvas to subscribe to SimUText for  
Cell Biology at University of Texas, Tyler - Cost is $18 for 3 modules that are  
assigned for Cell Biology lecture and lab.

Upon completion of your module, please check the “My Work.” All  
questions that you have completed will show up in a darker color with a  
check box. If it remains white, it has not recorded your work. Please verify  
that your work has been recorded, as it is your responsibility. Only the graded  
section will be recorded for you grade.

Problems or questions? Visit SimUText Support to search our Knowledge  
Base and view Video Tutorials.
If you are not able to find the answer to your question, you can submit a support request from the support page (http://simbio.com/support/simutext)

If you do not have a computer, SimBio can provide you a link to download the software to a USB drive, so you can run the program on any public computer.

**Course Description:**

This course provides an overview of cell biology, both at the structural and functional level, highlighting medical implications. This is an **intensive course with a lot of material**, so it will be critical that you keep up with reading, studying, and understanding the material.

**Course Objectives:**

Biology 3334 is an upper division course that investigates the molecular basis for cellular function, and assumes prior exposure to General Biology I (1306 or equivalent), and Organic Chemistry I. The course will build on the cellular concepts introduced in General Biology, and complements the introductory course by providing a more thorough presentation of some of the major aspects of cellular functioning.

1) Our understanding of Cell Biology has grown rapidly over the past fifty years fueled by evolving technologies including recombinant DNA technology, antibody production, cell culture, 2nd and 3rd generation sequencing, site-directed DNA Modification, and the incorporation of systems and synthetic biology. These techniques allow for a desired piece of DNA to be isolated, transferred, and utilized within the cell for a variety of applications. The *first objective* of this class is to recognize these advancements and understand their effects on Cell Biology.

2) Inherent within the scientific method is a constantly evolving knowledge base. Scientist routinely form hypotheses based on the existing knowledge base, and then proceed to strengthen the support for or negate the initial fact that was the focus of the study; therefore, the *second goal* of the class is to understand the current knowledge base of Cell Biology.

3) The course will explore conceptual questions that will provide a framework for understanding modern Cell Biology, and discuss classical experiments that illustrate how researchers have approached these problems in the past.

4) The last objective is that the students will be able to distill this knowledge and communicate it to the general public.
**Grading Policy:**
The final grade will be determined as follows:

- **Pre-test**: 10 points upon completion
- **Three exams (M/C)**: 100 points each (Total 300 points)
- **Comprehensive final (M/C)**: 150 points
- **Online quizzes**: Total 100 points
- **SimBio: Action Potentials Explored**: 25 points
- **SimBio: Cellular Respiration Explored**: 25 points
- **Extra Credit: Seminars (4) & Articles (4)**: 40 points

**Total**: 650 points

**Letter Grades** will be assigned based on the following point levels.

- **A**: 570 ---- 640
- **B**: 505 ---- 570
- **C**: 435 ---- 505
- **D**: 320 ---- 435
- **F**: Under 320

**Exam Policy:**
You must take the exams on the scheduled dates. Please check your calendars now, so that you do not have conflicts. If an absence cannot be avoided, the professor must be notified in advance. If a student is unable to take an exam when scheduled, following appropriate documentation of the absence, the professor will arrange a make-up exam.

**Please note - cell phones are not allowed to be out during any of the exams in this class. The usage of a phone during the exam is grounds for an automatic 0.**

No late work will be accepted! All assignment due dates are listed. Part of learning to be a scientist/professional is learning time management as Deadlines are final when you are in a job or working on grants. Therefore, this will be good practice for your future career.

**Documentation**
- University Note: Have your professor or coach email me a letter explaining the reason for the absence due to a prescheduled University excused absence.
- Doctors Note: If you are sick, please bring proof of your appointment, and have the doctor explain that you were indeed sick, and should not or could not attend class.
- Civil documentation: If there are other extenuating circumstances, please provide the obituary, police report, court documents, or other evidence explaining the absence.
The Final Exam
The final exam will cover the material between exam 3 and the end of the class; as well as comprehensive material, meaning that it will cover all material from the class. Final Exam date and room will be scheduled by the registrar and, will be confirmed closer to the exam date.

Regarding Policy:
If you feel that an error was made on the grading of your exam, please attach a typed statement that explains the error, and turn it in to your professor within 2 days of when the exam is returned. Oral arguments are not accepted. Please note, the entire exam will be assessed for errors; therefore, your score may increase or decrease.

Quizzes
Online quizzes will be based on previous lecture material and reading in your text (specially “The Human Perspective”). Each quiz will be 10 multiple choice questions. You can take the quiz as many times as you like and the scores averaged; however, whatever score is present as of the closure date will be recorded as the final grade. Closure dates and time will be noted for each quiz.

Extra Credit
There will be an opportunity to receive up to 40 points extra credit for:

1) Attending 4 Biology Department’s Seminars on Fridays at 1:00-2:00 PM (Seminar Schedule will be posted on Canvas).
2) Analysis of 4 original articles posted on Canvas.

For each posted article of your choice and Biology Department’s Seminar Presentation related to Biomedical Sciences, you must write a short 2-paragraph essay. The first paragraph should summarize the topic, and the second paragraph should focus on something that you found interesting. The second paragraph should conclude with a question that you had based on or inspired by the presentation. Each Essay is worth 5 points, and you can upload them in the Extra Credit discussion threads on Canvas.

Deadline for these essays is December 8, 2018. I suggest that you submit your reports right after each seminar that you attended. As for the reading assignments, please choose an article related to the chapter/topic of your interest and write your report at the conclusion of that particular chapter.

Class Expectations
- Students will be expected to follow the University of Texas at Tyler Honor Code. Cheating will not be tolerated, and will be dealt with harshly, i.e. a zero on the assignment, exam or project at the minimum.
- Be Courteous and on time.
• Silence cell phones and other electronic devices, and do not answer your phone while in class. Cell phone usage during an exam will result in an automatic 0 on the exam.
• Discussion is welcomed during the lecture, so please feel free to ask(answer questions, seek clarification, etc. If you need extra help, or we are pressed for time during class, please see me during office hours.
• Participate: Staying actively engaged in the lectures will increase your retention. Therefore, please volunteer to answer if you think you know it. I will move around the room and randomly call on students when I see the same people are answering the questions.
• You are strongly urged to read the material ahead of time and attend class as this is a fast-paced class and we will be covering a large amount of material. It is your responsibility to keep up with the material. Staying on top of the material will be critical to do well in this class. Tradition dictates 3 hours of study time per hour of classroom time. Therefore, you should plan to spend at least 9 hours a week outside of class time on this course.
• Questions over lecture material are welcomed in class and during office hours. If I am meeting with someone please wait for your turn. Do not just walk in, and sit down. In some instances, we are discussing grades or other private matters, and it is unprofessional to interrupt.

GENERAL:
If you have disability, including a learning disability, for which you request an accommodation, please contact Disability Support Services offices (https://www.uttler.edu/disabilityservices/), so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. For more information, call or visit the Student Services Center located in the University Center 3150.

If you are worried about your writing, The University Writing Center at The University of Texas is a place for undergraduate students to work on their writing projects and writing skills. They will work with you on documents, for example your final paper, to clean up writing deficiencies, it is recommended that you make an appointment with one of their tutors. They can assist with a variety of concerns at almost any level (writingcenter@uttler.edu).

Non-Native Speakers: For those that are non-native speakers, and would like to improve their English Skills; the Office of International Studies offers several levels of Intensive English Language Courses. If you are having difficulty feel free to contact them (oip@uttler.edu). If having trouble with vocabulary specific to cell Biology feel free to stop by during my office hours, and we can work on this specifically.

Student Absence due to Religious Observance: Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second-class meeting of the semester.
**Student Absence for University-Sponsored Events and Activities:** If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

**Social Security and FERPA Statement:** It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

**Emergency Exits and Evacuation:** Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

**UT Tyler a Tobacco-Free University:** All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors. Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kretexks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products. There are several cessation programs available to students looking to quit smoking, including counseling and group support. For more information on cessation programs please visit www.uttyle.r.edu/tobacco-free

**Withdrawal Policy:**
From the first day of classes through the Census Date, students may submit a partial withdrawal on a registration form found on our forms site with the "Drops Only" section completed.
After the Census Date, and before the Last Day to Withdraw, students may submit a partial withdrawal on a Course Drop or Withdrawal Request Form to the Enrollment Services Center (ESC); this form is available only at the Enrollment Services Center.
Note: Instructor signature will be required for all partial withdrawals; the department chair or the student's major college dean may sign in cases where an instructor is unavailable. Students are encouraged to meet with their academic advisor to discuss options before dropping courses.

**Grade Replacement/Forgiveness and Census Date Policies:**
If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to file an intent to use grade forgiveness will result in both the original and repeated grade being used to calculate your overall grade point average. A student will receive grade...
forswenn (grade replacement) for only three (undergraduate student) or two (graduate student) course repeats during his/her career at UT Tyler. (2006-08 Catalog, p. 35). Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at http://www.uttoyler.edu/registrar. Each semester’s Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date is the deadline for many forms and enrollment actions that students need to be aware of. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a “W” grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy: Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Helpful Links:

Pubmed: A resource for accessing biomedical literature.

Genome browsers: These websites are repositories for genetic information. You can look at an entire chromosome using the genome browser, or focus on more detailed information for a specific gene.

- European Genome Browser: [http://www.ensembl.org/index.html](http://www.ensembl.org/index.html)
- DNA Data Bank of Japan: [http://www.ddbj.nig.ac.jp/](http://www.ddbj.nig.ac.jp/)
- UC Santa Cruz genome browser: [http://genome.ucsc.edu/](http://genome.ucsc.edu/)

Gene-specific informatics: These websites provide more detailed information on genes and genetic disorders.


Selected Animal Specific Informatics: These websites focus on the most popular genetic animal models.

- Zebrafish (Danio rerio) Informatics: [http://zfin.org/](http://zfin.org/)
- Fly (Drosophila melanogaster) Informatics: [http://flybase.org/](http://flybase.org/)
- Saccharomyces cerevisiae informatics: [http://www.yeastgenome.org/](http://www.yeastgenome.org/)

Programs to look at DNA sequence: Sanger sequencing produces chromatograms, as a readout. This readout can be viewed using a number of programs. These will covert the data into a string of nucleotides that can be analyzed further.

- A Plasmid Editor (ApE) - [http://biologylabs.utah.edu/jorgensen/wayned/ape/](http://biologylabs.utah.edu/jorgensen/wayned/ape/)
- FinchTV - [http://www.geospiza.com/Products/finchtv.shtml](http://www.geospiza.com/Products/finchtv.shtml)

General Science Resources:

- CSHL DNA interactive: [http://www.dnai.org](http://www.dnai.org)
- Science Friday Life Science Education: [http://www.sciencefriday.com/teacher-resources/index.html?subject=3#page/full-width-list/1](http://www.sciencefriday.com/teacher-resources/index.html?subject=3#page/full-width-list/1)
- Cell and Molecular Online: [http://www.cellbio.com/education.html](http://www.cellbio.com/education.html)
  - Cells Alive: [http://www.cellsalive.com](http://www.cellsalive.com)
  - Khan Academy: [https://www.khanacademy.org/science/biology](https://www.khanacademy.org/science/biology)
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