Cell Biology Lecture spring 2019

**Cell Biology - 60794 - BIOL 3412 - 02**

Associated Labs: A-F

Lecture: (Section-01): Tuesdays and Thursdays 8:00 a.m. – 9:15 a.m. SCIENCE BUILDING 2.108.

Instructor: Megan Keniry, Ph.D.

e-mail: megan.keniry@utrgv.edu

Office: ESCNE 4.633 (new building)

Phone: 956-665-7463

Office hours: Tuesdays and Thursdays 1-2 pm and 6:05-7:05pm in ESCNE 4.633 and by appointment.

**How to Get In Touch:**

I can be reached by email: megan.keniry@utrgv.edu. Do not use non-UTRGV email accounts such as Gmail or Yahoo- as per federal law.

“I don’t get this.” If you are thinking this, get to office hours or make an appointment! Don’t wait to get help! If you score below 75 percent on any exam, come to office hours.


**Course Description:** A study of cell structure and function with emphasis on bioenergetics, membranes, genes, and genetic control, cell division and its regulation, and cellular differentiation.

**Prerequisites:**

(Undergraduate level **BiOL 1406** Minimum Grade of D or Undergraduate level **BiOL 1306** Minimum Grade of D or Undergraduate level **BiOL 1401** Minimum Grade of D or Undergraduate level **BiOL 1487** Minimum Grade of D or Undergraduate level **BiOL 114** Minimum Grade of D or Undergraduate level **BiOL 1305** Minimum Grade of D or Undergraduate level **BiOL 1311** Minimum Grade of D or Undergraduate level **BiOL 1405** Minimum Grade of D) and (Undergraduate level **BiOL 1407** Minimum Grade of D or Undergraduate level **BiOL 1307** Minimum Grade of D or Undergraduate level **BiOL 1402** Minimum Grade of D or Undergraduate level **BiOL 1488** Minimum Grade of D or Undergraduate level **BiOL 124** Minimum Grade of D or Undergraduate level **BiOL 1306** Minimum Grade of D or Undergraduate level **BiOL 1312** Minimum Grade of D or Undergraduate level **BiOL 1406** Minimum Grade of D) and (Undergraduate level **CHEM 2123** Minimum Grade of D or Undergraduate level **CHEM 2102** Minimum Grade of D) and (Undergraduate level **CHEM 2323** Minimum Grade of D or Undergraduate level **CHEM 2302** Minimum Grade of D)
Course Objectives:
- Learn about cellular architecture and how it facilitates cellular processes
- Develop critical thinking skills for interpreting experimental results and designing new experiments
- Work on a group project (in lab class)
- To learn basic differences between prokaryotic and eukaryotic cells
- To learn about the most basic eukaryotic organelles (their composition and functions)
- To learn about DNA replication, transcription and translation within a cellular context
- To learn about chromosomal structure and how it facilitates eukaryotic gene regulation
- To learn about membrane composition and function
- To learn about membrane transport
- To learn about the cytoskeleton and how it interacts with the rest of the cell
- To learn about cellular signal transduction
- To learn about the cell cycle in detail
- To learn about how cells comes together to form a tissue

Course Expectations:
- Students need to come to class on time and take notes
- Please, contact me if you need help with anything.
- Students should take an active role in learning by doing assignments and asking questions

Learning Objectives for Core Curriculum Requirements
BIOL 3412 satisfies Texas Higher Education Coordinating Board (THECB) for the core areas of Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, and Personal Responsibility.

Special Class Requirement: Participation using TOPHAT: Please, join TOPHAT using Join Code: 247458. Please, let me know if you have any problems with joining the class as soon as possible. Each class will have a certain number of points that you can earn through the TOPHAT interactive program. The most points that you can earn is 100 points for the term, which will equal 10% of your lecture grade.

We will be using the Top Hat (www.tophat.com) classroom response system in class. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. An email invitation will be sent to you soon, but if don’t receive this email, you can register by simply visiting our course website below. The join code for your course is the last 6 digits in the URL.

Course link: https://app.tophat.com/e/247458

Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in app support button, or by calling 1-888-663-5491.
Grading policy (lecture and lab contribute 75% and 25% of overall grade respectively)

Lecture Grade (75% of overall grade):
Exams 1-4 =72% of lecture grade
**MANDATORY** Final Exam =18% of lecture grade
**TOP HAT Participation** =10% of lecture grade
= 100% of lecture grade

Lab Grade (25% of overall grade):
Weekly quizzes =60% of lab grade
Lab Midterm =15% of lab grade
Lab Final =15% of lab grade
Poster =10% of lab grade
=100% of lab grade

Grading Scale:
90 - 100 points A
80 – 89 points B
70 – 79 points C
60 – 69 points D
Below 60 points F
### Calendar of Activities
**Tentative Lecture Schedule:**

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>January 15</td>
<td>Chapters 1&amp;3 Intro and Protein Structure</td>
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<tr>
<td>2</td>
<td>January 17</td>
<td>Chapter 4 DNA/chromosomes</td>
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<tr>
<td>3</td>
<td>January 22</td>
<td>Chapter 5 DNA replication</td>
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<tr>
<td>4</td>
<td>January 24</td>
<td>Chapter 5 DNA repair &amp; recombination</td>
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<td>5</td>
<td>January 29</td>
<td>Chapter 6 Transcription</td>
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<tr>
<td>6</td>
<td>January 31</td>
<td>Chapter 6 Translation</td>
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<tr>
<td>7</td>
<td>February 5</td>
<td>Exam I Chapters 1, 3-6</td>
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<td>8</td>
<td>February 7</td>
<td>Chapter 7 Transcriptional Regulation</td>
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<td>9</td>
<td>February 12</td>
<td>Chapter 8 DNA/RNA Technology</td>
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<tr>
<td>10</td>
<td>February 14</td>
<td>Chapter 8 and membranes</td>
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<tr>
<td>11</td>
<td>February 19</td>
<td>Chapter 10 Membrane Structure</td>
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<tr>
<td>12</td>
<td>February 21</td>
<td>Chapters 10-11 Membrane Structure and Transport</td>
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<td>February 26</td>
<td>Chapter 11 Membrane Transport</td>
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<td>14</td>
<td>February 28</td>
<td>Exam II Chapters 7-8, 10-11</td>
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<td>15</td>
<td>March 5</td>
<td>Chapters 12 Membrane enclosed organelles</td>
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<td>16</td>
<td>March 7</td>
<td>Chapters 13 Cellular sorting pathways</td>
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<td>17</td>
<td>March 19</td>
<td>Chapter 14 Mitochondria and chloroplasts</td>
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<td>18</td>
<td>March 21</td>
<td>Chapter 14 Special Assignment in lecture hall</td>
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<td>19</td>
<td>March 26</td>
<td>Chapter 15 Cellular communication pathways (general)</td>
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<td>20</td>
<td>March 28</td>
<td>Chapter 15 Receptor Signaling</td>
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<tr>
<td>21</td>
<td>April 2</td>
<td>EXAM III Chapters 12-15</td>
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<td>22</td>
<td>April 4</td>
<td>Chapter 16 Cytoskeleton</td>
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<td>23</td>
<td>April 9</td>
<td>Chapter 16 Cytoskeleton</td>
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<td>24</td>
<td>April 11</td>
<td>Chapter 17 Cell cycle</td>
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<td>25</td>
<td>April 16</td>
<td>Chapter 17 and 18 Cell cycle &amp; apoptosis</td>
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<td>26</td>
<td>April 18</td>
<td>Chapter 19 Extracellular Matrix, cell junctions stem cells</td>
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<tr>
<td>27</td>
<td>April 23</td>
<td>Chapters 19 Extracellular Matrix, cell junctions stem cells</td>
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<tr>
<td>28</td>
<td>April 25</td>
<td>EXAM IV Chapters 16-19</td>
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<tr>
<td>29</td>
<td>April 30</td>
<td>Chapter 20</td>
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</tbody>
</table>

**Important Dates:**

- **First Day of classes:** January 15th
- **Final Exam:** May 7th at 8am
Make-up Exams

Make-up exams are **ONLY** for official university events such as a member of the band for a concert, an athlete for a contest, an approved holy day or major illness **with** signed Dr.’s excuse. **You need to make up any missed exam within one week.** If you miss an exam, schedule the make up with Dr. K. as soon as possible. Thank you!

Calendar of Activities
Include in this section a table or list that provides information for students regarding important dates, assignments or activities. The UTRGV academic calendar can be found at [https://my.utrgv.edu/home](https://my.utrgv.edu/home) at the bottom of the screen, prior to login. Some important dates for spring 2019 include:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>January 14</td>
<td>First day of classes</td>
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<tr>
<td>January 17</td>
<td>Last day to add a course or register</td>
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<td>January 21</td>
<td>Martin Luther King Jr. Day – NO classes</td>
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<tr>
<td>April 10</td>
<td>Last day to drop a course; will count toward the 6-drop rule</td>
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<td>April 19-20</td>
<td>Easter Holiday – NO classes</td>
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<tr>
<td>May 2</td>
<td>Study Day – NO classes</td>
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<tr>
<td>May 3-9</td>
<td>Final Exams</td>
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<tr>
<td>May 10-11</td>
<td>Commencement Exercises</td>
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</tbody>
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Other Course Information
In this section, please provide any other information that is pertinent to your course and your expectations for students.

**UTRGV Policy Statements [next page]**

*The UTRGV disability accommodation, mandatory course evaluation statement and sexual harassment statement are required on all syllabi.* Additional policy statements are optional, such as those covering attendance, academic integrity, and course drop policies.

**STUDENTS WITH DISABILITIES:** *Required on all syllabi.* Do not modify.

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact **Student Accessibility Services (SAS)** as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services.

**Pregnancy, Pregnancy-related, and Parenting Accommodations**
Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to contact Student Accessibility Services for additional information and to request accommodations.
Student Accessibility Services:
Brownsville Campus: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at ability@utrgv.edu. Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at ability@utrgv.edu.

MANDATORY COURSE EVALUATION PERIOD: Required on all syllabi. Do not modify. Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available on or about:

Module 1 February 13 – 19
Module 2 April 10 – 16
Full Fall Semester April 10 – May 1

ATTENDANCE: Recommended on all syllabi; may be modified by the instructor as long as it is not inconsistent with UTRGV policy.
Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

SCHOLASTIC INTEGRITY: Recommended on all syllabi.
As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE: Required on all syllabi. Do not modify.
In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student's time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect that is free from sexual misconduct and discrimination.

COURSE DROPS: Recommended on all syllabi; may be modified by the instructor as long as it is not inconsistent with UTRGV policy.
According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas...
law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

**STUDENT SERVICES:** Recommended on all syllabi.
Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:
- Learning center: BSTUN 2.10 (Brownsville) or ELCTR 100 (Edinburg)
- Writing center: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)
- Advising center: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)
- Career center: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)