COURSE OVERVIEW:
Although this is an independent study course, it is designed as a formal course and students will attend the class with graduate students and complete all requirements. This course is designed for graduate students with a thorough background in biology and cell biology. Therefore, this course provides students with a greater understanding of molecular mechanisms of cellular function. Emphasis will be placed on internal organization and cooperative functions of cellular organelles. Understanding of basic methodologies used in cell biology will be sought.

STUDENT LEARNING OUTCOMES (SLO):
At the end of this course students will be able to:
1. Differentiate the key differences between prokaryotic and eukaryotic gene regulation.
2. Understand various molecular mechanisms that control gene transcription and translation.
3. Learn how to critically read, interpret, present and summarize the important findings of gene regulation research articles.

TEXTBOOKS:
Although this is a required book, reading of additional materials and journal articles will be required for the successful completion of this course.

ATTENDANCE & PARTICIPATION IN ONLINE DISCUSSION:
Attendance and active participation in class discussions are expected in all classes. Because we will discuss materials outside of text book, it is important to attend classes. Your regular attendance and participation in discussions will be taken in account while grading discussion and presentation assignments. You are responsible for all material and assignments covered in class whether you attend classes or not.
Lecture Materials:
Power Point slides that I use for delivering lectures will be available at eCompanion site for this course at eCollege. Power Point slides are meant for me to deliver the lectures. You may use it as a guide to read the book and/or other reading materials but it is not the study material.

Exams and Grades:
The lecture part of the course will weigh 60%, and assignments, presentation, and discussions will weigh 40% the total. For the lecture part there will be three exams including a cumulative final (200 points each) throughout the term.

The exam will consist of multiple choice (50% of total score) and descriptive type (50% of total score) and bonus questions (for 10% of total score). Exam questions will test critical thinking, analytical ability, and the understanding of subject matter. Bonus questions may be chose from assignments.

Grading Policy:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>3 exams including the final</td>
<td>750</td>
</tr>
<tr>
<td>Online Quizzes</td>
<td>150</td>
</tr>
<tr>
<td>Research paper discussion I</td>
<td>50</td>
</tr>
<tr>
<td>Research paper discussion II</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>1000</td>
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</table>

Grading Scale:
A = 850 to 1000 points (>85%)
B = 750 to 849 points (75% to 84.9%)
C = 650 to 749 points (65% to 74.9%)
D = 550 to 649 points (55% to 64.9%)
F = 549 or fewer (<59%)

Overview of Assignments:
**Online quizzes:** Throughout the term of this course, several quizzes will be assigned online and you need to complete them in eCollege. These quizzes will consist of either T/F, multiple choice, matching and/or short answer questions. Once you complete them on review date you will be able to see answer key. Quizzes are submitted on or before the due date will be graded. After the due date you won't be able to access quizzes and if you miss them there won't be any make up quizzes.

**Research Paper Discussion:** Active and Socratic Method of learning are better ways to learn molecular and cellular biology. So in this course, each student will be assigned two seminal research papers on gene expression. While student assigned with the research paper act as the discussion leader for that particular paper, all other students must be prepared thoroughly to discuss the experimental procedures and results of the paper on discussion. The leader of discussion may use PowerPoint to provide the background and significance the topic as well as to show the figures of the research article. In order to stimulate our thinking, the discussion leader also needs to post questions for discussion in eCollege, at least three days before in-class discussion. In order to lead and participate actively in discussion, each one has to clearly understand the paper assigned for discussion. Your participation in discussion, presentation and how effectively you lead discussion will
weigh towards your grade.

**To calculate where you stand:** You can find out up-to-date information from the gradebook available at the eCompanion site. To manually calculate, find the average of your exam score. To this add your final score of assignments, which will be your total score in 1000. Calculate the percentage. This will be your grade.

**Course Calendar/Exam Schedule**

<table>
<thead>
<tr>
<th>Units</th>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1</td>
<td>Aug 29–Sept 2</td>
<td>Various levels of gene expression control</td>
</tr>
<tr>
<td>Unit 2</td>
<td>Sept 5–Sept 9</td>
<td>Methods in gene regulation</td>
</tr>
<tr>
<td>Unit 3</td>
<td>Sept 12 – Sept 16</td>
<td>RNA polymerases and Eukaryotic Gene Transcription</td>
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<tr>
<td>Unit 4</td>
<td>Sept 19 – Sept 23</td>
<td>Transcriptional control in prokaryotes - operons</td>
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<tr>
<td>Unit 5</td>
<td>Sept 23 – Sept 30</td>
<td>Transcriptional control in eukaryotes</td>
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<tr>
<td>Exam I – October 4</td>
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<tr>
<td>Unit 6</td>
<td>Oct 3 – Oct 14</td>
<td>Post transcriptional processes – RNA splicing and processing</td>
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<tr>
<td>Unit 7</td>
<td>Oct 17 – Oct 21</td>
<td>Post transcriptional regulation – Regulatory RNAs</td>
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<tr>
<td>Unit 8</td>
<td>Oct 24 – Oct 28</td>
<td>Structure of chromatin</td>
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<tr>
<td>Unit 9</td>
<td>Oct 31 – Nov 4</td>
<td>Chromatin structure and gene regulation</td>
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<td>Exam II – November 7</td>
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<tr>
<td>Uni 10</td>
<td>Nov 7 – Nov 18</td>
<td>Gene control and Cell Signaling</td>
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<tr>
<td>Uni 11</td>
<td>Nov 21 – Nov 25</td>
<td>Tissue specific gene regulation</td>
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<tr>
<td>Uni 12</td>
<td>Nov 28 – Dec 2</td>
<td>Gene regulation on cancer cells</td>
</tr>
<tr>
<td>Exam III – Final Exam – Tuesday, December 13, 10.30 AM to 12.30 PM</td>
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</table>

**ALL DATES AND ASSIGNMENTS ARE TENTATIVE AND MAY SUBJECT TO CHANGES**

**Academic Integrity:** A Texas A&M Commerce student does not lie, cheat, steal, and does not tolerate those who do. A violation of the Texas A&M honor code and academic integrity involves any of the following offenses: cheating, fabrication, falsification, multiple submissions, plagiarism, and complicity in any of these offenses. The first instance of cheating will result in “**ZERO**” on the exam and/or on the assignment. The second instance of cheating will result in “**ZERO**” on the course. Cheating involves copying information from another student, non-allowable materials or source and plagiarism. Once again, violations of academic integrity will not be tolerated. This class will be conducted in strict observance of the Honor Code. Refer to your Student Handbook for details.

**Conduct Policy:** All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See Student's Guide Handbook, Policies and Procedures, Conduct).
Cell Phones/Pagers/Laptop/Tablets: Please turn your cell phone and/or pager (and other electronic devices) off during class. If you are on-call for your work, please place the cell phone or page on silent mode.
If you utilize a laptop to take class notes, please be aware of potentially distracting others around you and seat yourself accordingly. Additionally, you may be asked to leave the class if it is determined you are utilizing a computer to do outside work, surf the web inappropriately or communicate personal conversations. Texting is prohibited and devices will be collected and kept until the end of class. All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment (See Students’ Guide Handbook, Policies and Procedures).

Tapes and Notes: Prior permission are required to make recordings of this class for personal use, recordings may not be sold or distributed to others. While you may make copies of these notes for your personal use, no copy of these notes may be distributed to anyone other than persons who are currently enrolled in the class; nor may any copies be sold.

ACCESS AND NAVIGATION

Pearson LearningStudio (eCollege) Access and Log in Information
This course will be facilitated using Pearson LearningStudio, the learning management system used by Texas A&M University-Commerce. To get started with the course, go to myLeo and from the top menu ribbon select eCollege. Then on the upper left side of the screen click on the My Courses tab. http://www.tamuc.edu/myleo.aspx
You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu.

Note: It is strongly recommended you perform a “Browser Test” prior to the start of your course. To launch a browser test login to Pearson LearningStudio, click on the My Courses tab, and then select the Browser Test link under Support Services.

Pearson LearningStudio Student Technical Support Texas A&M University-Commerce provides students technical support for the use of Pearson LearningStudio. Technical assistance is available 24/7 (24 hours, 7 days a week). If you experience LearningStudio (eCollege) technical problems, contact the LearningStudio helpdesk at 1-866-656-5511 (toll free) or visit Pearson 24/7 Customer Support Site http://247support.custhelp.com/

The student help desk may be reached in the following ways:

Chat Support: Click on ‘Live Support’ on the tool bar within your course to chat with a Pearson LearningStudio Representative.

Phone: 1-866-656-5511 (Toll Free) to speak with Pearson LearningStudio Technical Support Representative.
Accessing Help from within Your Course: Click on the ‘Tech Support’ icon on the upper left side of the screen inside the course. Then you will be able to get assistance via online chat or by phone.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend’s home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc. Should students encounter Pearson LearningStudio based problems while submitting assignments/discussions/comments/exams, the following procedure must be followed:

Students must report the problem to the help desk. You may reach the helpdesk at 1-866-656-5511.

Students must file their problem with the helpdesk and obtain a helpdesk ticket number.

Once a helpdesk ticket number is in your possession, students should email me to advise me of the problem and provide me with the helpdesk ticket number.

I will call the helpdesk to confirm your problem and follow up with you.

PLEASE NOTE: Your personal computer and internet access problems are not a legitimate excuses for filing a ticket with the Pearson LearningStudio Help Desk. Only Pearson LearningStudio based problems are legitimate reasons to contact the Help Desk.

You strongly are encouraged to check for your internet browser compatibility BEFORE the course begins and take the Pearson LearningStudio tutorial offered for students who may require some extra assistance in navigating the Pearson LearningStudio platform.

myLeo Support

Your myLeo email address is required to send and receive all student correspondence. Please email helpdesk@tamuc.edu or call us at 903-468-6000 with any questions about setting up your myLeo email account. You may also access information at myLeo, https://leo.tamuc.edu

Learner Support

The One Stop Shop was created to serve you by providing as many resources as possible in one location. http://www.tamuc.edu/admissions/onestopshop/

The Academic Success Center provides academic resources to help you achieve academic success. http://www.tamuc.edu/campusLife/campusServices/academicSuccessCenter/

FREE MobilE APPS

The Courses apps for phones have been adapted to support the tasks students can easily complete on a smaller device. Due to the smaller screen size course content is not presented.

The Courses app is free of charge. The mobile Courses Apps are designed and adapted for different
Once downloaded, search for Texas A&M University-Commerce, and it should appear on the list. Then you will need to sign into the myLeo Mobile portal.

The Courses App for Android and iPhone contain the following feature set:

View titles/code/Instructor of all Courses enrolled in online
View and respond to all discussions in individual Courses
View Instructor Announcements in individual Courses
View Graded items, Grades and comments in individual Courses
Grade to Date
View Events (assignments) and Calendar in individual Courses
View Activity Feed for all courses
View course filters on activities
View link to Privacy Policy
Ability to Sign out
Send Feedback

**LearningStudio Notifications**

Students can be alerted to course activities via text on their mobile phones or up to two email addresses.
Based on their preferences, students can automatically receive a push notification with every new course announcement, threaded discussion post, grade, and/or assignment without having to login to the course. Enrolled students will automatically receive email notifications for announcements and can opt out of this feature. To receive text notifications, students must opt in.

To begin setting up notifications, go into your course in LearningStudio and click on the bell-shaped Notifications icon on the main menu ribbon.

By default the student’s university email address will appear. This cannot be changed in LearningStudio. Additional email addresses may be added by clicking the Add button. After all of the other selections are completed be sure to click the Save and Finish button.

COMMUNICATION AND SUPPORT

All e-mail received during normal business hours will be replied within 48 hrs and e-mails received during weekends will be responded on the following Monday.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.


Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette

http://www.albion.com/netiquette/corerules.html

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01. http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

Graduate Student Academic Dishonesty 13.99.99.R0.10

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

**Office of Student Disability Resources and Services**

Texas A&M University-Commerce Gee Library- Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: Rebecca.Tuerk@tamuc.edu

Website: Office of Student Disability Resources and Services

http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

**Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun.

Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url: http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf
Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

**Early Intervention:**

Early intervention for freshmen is designed to communicate the University's interest in their success and a willingness to participate fully to help students accomplish their academic objectives. The university through faculty advisors and mentors will assist students who may be experiencing difficulty to focus on improvement and course completion. This process will allow students to be knowledgeable about their academic progress early in the semester and will provide faculty and staff with useful data for assisting students and enhancing retention. Grade reports will be mailed by the end of the sixth week of the semester. Additional information about first time undergraduates is available at

http://www.tamuc.edu/academics/universityCollege/successCoaches/default.aspx

**Behavior:** All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment.” (See Student’s Guide Handbook, Policies and Procedures, Conduct).

**Plagiarism:** Plagiarism is a criminal activity. You must cite all sources of information. Unreferenced copying of material, whether parts of sentences, whole sentences, paragraphs, or entire articles can result in a score of zero for your assignment and may result in further disciplinary action. If you are copying material and citing references, you are expected to paraphrase and rewrite the sentences in your own words.