BSC 515, Advanced Cell Biology (CRN: 50507 & 50508)
Summer II, 2015

Instructor:	**Dr. Venu Cheriyath**
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Webinars:	**Tuesday and Thursday Nights 7:00 PM to 9:00 PM CST**
Electronic Office hours:	Wednesdays 7:00 PM

COURSE OVERVIEW
This course is designed for graduate students with a background in biology and cell biology in order to provide a greater understanding of molecular mechanisms of cellular function. Emphasis will be placed on internal organization and cooperative functions of cellular organelles. An understanding of basic methodologies used in cell biology also will be sought.

STUDENT LEARNING OUTCOMES (SLO)
At the end of this course students will be able to:

1. Give a broad overview of the chemical basis of life and cellular mechanisms of protein functions regulation.

2. Understand the organization and protein and vesicular transport processes in cells.

3. Describe cytoskeleton and its role in cell migration and adhesion.

4. Describe cell cycle and various cellular death process including necrosis, apoptosis and autophagy

TEXTBOOK
MOLECULAR BIOLOGY OF CELL by Alberts, 6th Edition, ISBN: 9780815344322
While you may use this as a reference book, readings of additional materials such as journal articles (will be provided) are necessary for the successful completion of this course.

INSTRUCTION METHOD
This syllabus is a suggested outline. It represents the minimum material that we will cover in this course. Dates are approximate and subject to change. If there is any major changes to the syllabus it will be posted in e-College and the syllabus will be updated accordingly. You are responsible for keeping up with

any changes made to the syllabus Additional topics and materials may be discussed as our webinar discussions warrant. You may be tested on any material listed in the syllabus, on your class page and discussed in class.

Web-Based Course: The structure of this course is predicated at student attending the webinars, watching recording sessions and learning of the materials posted in Docsharing. You are expected to look at all materials discussed in webinars and posted in Docsharing. Since it is a summer course it will be rather intense and 2 chapters of reading will be required per week. I will also include animations, videos and PowerPoint slides to help your learning.

Webinars: This course has a twice weekly 2 hr webinars offered on Tuesday and Thursday nights from 7:00 pm CST to 9:00 pm CST. You are required to participate live or watch the recorded session. The webinar is your opportunity to have a live and interactive session with me and to check and extend your knowledge in this course. You can access to webinar through by clicking "Chat", then "Class Live." You will need the following accessories to participate in webinars.

1) A Highspeed Internet Connection: To connect you must have a cable, DSL, or a high speed modem connection. Dail-up connection will not work and is not sufficient.

2) Web Camera and a Head Set with a microphone: Since we are using Voice-Over-IP (VOIP), you will need a head set with earphone and microphone and a good web camera. The headset combo may be purchased for less than $20.00 at any electronic shops.

How to Succeed in the Class: As an online class on Advanced Cell Biology, I expect that you have a basic ground in cell biology and chemistry. You must read chapters prescribed for each week and go through additional PowerPoint slides and videos. Attend webinars and/or watch recordings of the webinars to enhance your understandings or clear any doubts that you may have. From my prior experience, online-discussions and exchanging e-mails are poor strategies of online learning.

Since a lot of materials are covered in 5 weeks, you need to spend a considerable amount of time in studying and integrating the materials on your own. Progress in the class can monitored using Gradebook in eCollege

Class Policies:
In an online class students are required to be self learners and self-directed. The fact that you might be taking several online classes and working full time may put additional pressure on you, but would not be considered as a reason for diluting the rigor of this course. This class will keep the rigor, time line, and standards of a face-to-face class.

E-mail and Communication: If you are e-mailing me please use your university e-mail account and put BSC 515, Advanced Cell Biology in subject line. If you use an e-mail account without ".edu" extension, it may end up in my spam folder. During work days, I will respond to e-mails that I receive within 24 hrs. Since I check e-mails occasionally on weekends, e-mails received on weekends will be responded on the next working day. Most of the correspondence will be announced on the course homepage, therefore check course homepage as-often-as possible.

Electronic Office Hours: You may access office hours on Wednesdays at 7 pm CST through the "Chat"

feature in e-College. I strongly suggest you to use electronic office hours rather than e-mailing me. This is a live and interactive way for you to talk with me. If no students are in office hours by 7.15 pm CST; I will go offline

Lecture Materials:
PowerPoint slides that I use for delivering online lectures will made available in eCollege. However, I would like to stress the point that **PowerPoint slides are meant for me to deliver lectures and must not be treated as lecture notes. You may use it as a reference or guide to read the book but not as study material.** If you just use the PowerPoint slides for study, you may not perform good in tests.

Overview of Assignments:
1) Weekly Quizzes (20% of Total):
After covering each unit, there will be a quiz which needs to be taken online in eCollege. Quizzes are due @11.59 PM on every Monday. Each quiz will contain 10 - 20 questions and worth of 20 points. **If you miss a quiz or perform poorly, there won't be any makeup quiz.**

2) Problem Solving Assignments (20% points of total): At the beginning of each unit/chapter, a set of problem solving questions will be assigned, usually on Mondays, which are due in the next week (Mondays). During this period you may discuss these questions with your colleagues or solve them as a group. However, you have to write answers in your own words. Answer key of problem sets will be available in eCollege after their due date. While, some of these problems will be reviewed in the class, I encourage all of you to go through the answer keys and discuss any questions or doubts that you may have during e-office hours. Since quizzes and exams are based on the concepts covered in lectures and problem sets it works for your advantage to solve these problems by yourself as you go along the week. Additionally, solving problems will augment concepts covered in lectures and help you retain them.

For completing the assigned problems **on time** you will earn 100% of this assignment grade. It is mandatory that you submit your solved problems in the respective drop box available in eCollege. **Late submissions of problem sets are not allowed and will receive "0" points for late submissions. The problem sets submitted by any other means such as E-mail or printed copy won't be evaluated.**

Exams and Grades:
There will be two exams including the final (40% each of the total). The exam will consist of two parts, multiple choice (20% of the total) and essays/short answers (20% of total). Exam questions will test critical thinking, analytical ability, and the understanding of subject matter. Therefore, it is important to understand the concepts to perform well in this course. **If you miss an exam other than the reasons of university-approved emergencies make up exams would not be allowed. In the event of a make up examination, it may be provided only in the TAMUC campus that means you need to travel to the campus.**

Grading Policy:

Weekly Quizzes	= 100 points (20%)
Weekly ProblemSets	= 100 points (20%)
Exam I - Multiple Choice	= 25 points (15%)
Exam I - Short Answers	= 25 points (15%)
Final Exam - Multiple Choice	= 25 points (15%)
Final Exam - Short Answer	= 25 points (15%)

Total	**= 200 points**

Grading Scale:
A = ≥90%
B = ≥80%
C = ≥70%
D = ≥58%
F = ≤58%

To calculate where you stand:

Your up to date scores and percentage will be available in the grade book of eCollege. Add your 3 exam scores, scores in assignments, and your final score of lab and assignment plus any extra credit points that you have, which will be your total score in 1000. Calculate the percentage. This will be your grade.

Course Calendar and Exam Schedule:

Date	**Topic**
Unit 1, Week 1 (July 13 - 17)	Review of Cell Biology and Cell Organelles
Unit 2, Week 1 (July 13 - 17)	Review of macromolecules of cells
Unit 3, Week 2 (July 20 - 24)	Regulation of Protein Function
Unit 4, Week 2 (July 20 - 24)	Genetic Code and Translation
Unit 5, Week 3 (July 21 - 25)	Membrane structure and membrane proteins
Exam I	
Unit 6, Week 3 (July 21 - 25)	Protein Targeting
Unit 7, Weeks 4 (Jul 27 – July 31)	Vescicular Transport and Secretion.
Unit 8, Weeks 4 (July 27 – July 31)	Cell-Cell and Cell-Matrix adhesion
Unit 9, Week 5 (Aug 3 - Aug 7)	Cell Cycle
Unit 10, Week 5 (Aug 3 - Aug 13)	Cell Death
Unit 11, Week 5 (Aug 3 - Aug 13)	Cell Death
Final Exam	

ALL DATES AND ASSIGNMENTS ARE TENTATIVE AND MAY SUBJECT TO CHANGE

Sample Study Week:

While I will be available live during webinars, electronic office hours and scheduled one-on-one's, these are few steps that you may employ for self-directed study,

Step 1 - Download reading and supporting materials from DocSharing.

Step 2 - **Critically** read chapters and supporting materials, make notes; simply going through the materials are not going to be enough, focus on concepts, molecular mechanisms etc..

Step 3 - **Attend webinars**, ask questions during webinars and office hours to clear any concepts that you didn't understood.

Step 4 - Review materials and your notes from webinars.

Step 5 - Take online quizzes in e-College when they are due.

Step 6 - Review again before the test due date and take online tests.

Academic Integrity:

A Texas A&M University-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 results in "**ZERO**" on the exam and/or on the assignment. The second instance of cheating will results 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).

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. Referenced or 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.

Students with Disabilities/Reasonable Accommodation: *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
StudentDisabilityServices@tamuc.edu

If you have not taken a course in e-College before, please use the tutorial provided for students. It will save you a lot of time and frustration and a lot faster than trial and error.