Dr. Venu Cheriyath
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Web page: http://faculty.tamu-commerce.edu/vcheriyath/
eCompanion Site: eCollege @ MyLeo
Mon, Wed, Thu, 9.00 AM – 9.50 AM

Mon, Wed, Fri, 11.00 AM – 1.00 PM
Or by appointment, include BSC 303 in subject line.

Wednesdays, one 3 hr lab, 1 PM or 4 PM

This course will provide a rigorous foundation in principles of genetics that governs the biological functions at the level of molecules and cells in organisms, including humans. The topics include: basic and extension of Mendelian inheritance, structure and function of genes, chromosomes and genomes, biological variation resulting from recombination, mutation, and selection, population genetics, use and application of genetic methods and genomics to analyze biological function and inherited disease.

At the completion of this course students will be able to:

1. Conceptualize principles of Mendelian genetics.

2. Understand how genetic information for biological functions are maintained in chromosomes and altered during evolution and under disease causing conditions.

3. Recognize applications of molecular genetics techniques to genomics, genetic engineering and molecular medicine.

4. Isolate, analyze, and amplify genetic material (DNA) from bacteria.

The textbook is:

We will cover part of the subject matter presented in this book, but not necessarily in order. Chapter assignments are listed on the Course Schedule.
on facts and concepts covered in BSC 303 Cell Biology, especially the molecular genetics part. If you do not remember that material you should review it from the book. Those who haven’t finished BSC 303 Cell Biology may find this course difficult.

**Attendance:**
I expect your attendance in all classes and labs. You need to sign the attendance sheet at the beginning of class. **Because we will not strictly follow the text, it is important to come to class,** if for no other reason than to determine what material we expect you to know and at what level we expect you to know it. **Additionally, if you make more than 5 (Five) unexcused absences you won’t be able to drop your lowest test grade (Also see exams and grades).** You are responsible for all material and assignments covered in class whether you are present or not. You are responsible for all material and assignments covered in class whether you are present 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 lectures and not be treated as lecture notes. You may use it as a reference to read the book but not as a study material.**

**Overview of Assignments:**

**Problem Solving Assignments (75 points of total):**
At the end of each unit/chapter, a set of problem solving questions will be assigned, which are due in a week and will be worth of 5 points. Based on the above questions and lectures there will be weekly quizzes (multiple choice) for 5 points. Therefore, it works for your advantage to solve these problems by yourself as you go along the week, which will increase your success in weekly quizzes and later in exams. Bonus questions (10%) of exams will be chosen from weekly problem sets with some modification. While solving problems will augment concepts covered in lectures and help you retain them. Also, some of these questions may serve as the basis for multiple choices and for short answer questions of exams.

For completing the assigned problems in time **you will earn 70% (3.5 points) of the problem solving assignment grade and 30% (1.5 points) of the grade will be awarded for correct answers with detailed steps.** Before the beginning of each lab, each questions of the problem set will be discussed and will be evaluated. Therefore, it is mandatory to bring the solved problem set for each lab for receiving completion grades. **Problem sets submitted by any other means (E-mail or by eCollege) won’t be evaluated.**

**Exams and Grades:**
The lecture part of the course will weigh 75% and lab part will weigh 25% of the total. For the lecture part there will be three exams (200 points each) throughout the term and a cumulative final exam (200 points). Your lowest exam score will be dropped.

The exam will consist of three parts, multiple choice (50% of total score), essays (50% of total score) and bonus questions (for 10% of total score). Multiple choice questions will test critical thinking, analytical ability, and the understanding of subject matter. Essay questions will be chose from weekly essays, whereas bonus questions will be chose from problem sets.
**Grading Policy:**

**3 term exams including the final** = 600 points (60%)
(after dropping your lowest score)

**Assignments**

Weekly Quizzes = 75 points (7.5%)
Weekly Problem Solving = 75 points (7.5%)

**Lab** = 250 points (25%)

**TOTAL** = 1000 points (100%)

**Grading Scale:**

A = 900 to 1000 points (>90%)
B = 800 to 899 points (>80%)
C = 700 to 799 points (>70%)
D = 580 to 679 points (>58%)
F = 579 or fewer (<58%)

**To calculate where you stand:**

Add your 3 exam scores and multiply by two. To this add 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/Exam Schedule**

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<th>Lecture Materials</th>
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<td>Introduction to Genetics</td>
<td>Chapter 1</td>
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<td>Unit 2, Week 2</td>
<td>Basic Mendelian Inheritance, Contd.</td>
<td>Chapter 2</td>
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<td>Unit 3, Week 3</td>
<td>Reproduction and Cell Division</td>
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<td><strong>EXAM 1 – Week of Feb 11</strong></td>
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<td>Unit 5, Week 5</td>
<td>Gene Linkage and Gene Mapping</td>
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<td>Unit 6, Week 6</td>
<td>Chromosome structure &amp; Organization</td>
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<td>DNA Mutation and Repair</td>
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<td>Unit 10, Week 11</td>
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<td>Genomic DNA Analysis</td>
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<td><strong>FINAL EXAM</strong></td>
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<td>❖ ALL DATES AND ASSIGNMENTS ARE TENTATIVE AND MAY SUBJECT TO CHANGE</td>
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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 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:
While recordings of this class may be made 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.

Lab Behavior:
If handled improperly, some chemicals used in the lab become dangerous. Drinking and eating are PROHIBITED in the lab! Disruptive behavior in lab that could be considered a hazard to another student will result in immediate removal from the lab. Intentionally damaging lab equipment may result in a ZERO for the class and possibly severe financial penalties as many pieces of equipment we will be using are expensive. SEEK HELP If you do not know how to use some instruments (see laboratory syllabus for details).

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@tamu-commerce.edu

**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.

**Early Intervention for First Year Students:** 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.