Texas A&M University-Texarkana
Spring 2011; BIOL 310: Genetics

Course Syllabus

Contact Information
Instructor: Nurul Alam, Ph. D.
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Office Hours*:   Tuesdays: 12:30 pm-2:30 pm; 4:00 pm-6:00 pm Wednesdays:
                       10:30 am- 2:30 pm; Thursdays: 4:00 pm-6:00 pm.
                       *Subject to change
Course Website: www.tamut.edu Go to Web Courses (Blackboard)

Course Description
This course deals with the principles of heredity and variation and their application to plants, lower animals and man. Prerequisites: Two semesters of biology.

Textbook
Brooker, Robert J. 2005. Genetics- analysis and principles. 2nd Edition. McGraw-Hill. ISBN: 0-07-283512-5.

Course Objectives
This course will guide students into background concepts of genetics and inheritance. At successful completion of this course the student should have an understanding of the following concepts:

- Patterns of inheritance
- Molecular structure and replication of genetic material
- Molecular properties of genes
- Genetic analysis of individuals and populations
- Genetic technologies

Methods of Instruction
- Lecture
- Demonstration
- Outside assignments
- Class discussion
- A-V Media/Computer
- Laboratory work

Attendance Policy and Course Withdrawal

Regular and punctual attendance is of paramount importance. You are expected to attend all meetings of the class, to arrive at the designated beginning time for the class, and to remain until the designated dismissal time for the class. Authorized absences are granted for students who are approved by the appropriate administrator of the University. Examples of authorized absences include class field trips, University-sponsored workshops, musical performances, and intercollegiate sports participation. Daily quizzes, if administered, are given promptly at the beginning of class and cannot be made up and will not be given if you are not in your seat when they are handed out. The final drop/withdrawal date for the fall semester is published in the University Calendar. Please also see University catalog procedure for dropping a course. Instructor may also use the administrative drop for students missing three or more classes.

Lecture and Laboratory Rules

Attendance will be taken daily, either by students signing an attendance sheet or by the roll being called verbally. Each lecture will begin with announcements (if needed) followed by a brief review of information from, and/or questions about, the previous lecture. The roll will be taken immediately after the review, usually no more than 5 minutes into the class period. A student is responsible for the content of any missed laboratory period. Laboratory material will be tested on both lecture and laboratory exams. There will be no make-up laboratories. Anyone not present or not answering the roll call will be considered absent except as follows. Students arriving after the roll is called will be allowed to enter and participate. However, it is their responsibility to sign the tardy sheet that will be available. Three times on the tardy sheet will be considered an un-excused and un-authorized absence. ***Once you have entered the lecture classroom, do not leave or you will be considered absent. Use the facilities before coming to class. Cell Phones: Cell phones are to 'turned off' or "turned to vibrate" during both lecture and laboratory and during all tests and exams. No exceptions!***

Course Evaluation and Grading

Three lecture exams each worth 100 points will be given. Exams will be multiple choice and problem-solving format incorporating concepts and activities introduced in class. Make-up exams may be made available in the event that the instructor receives notification prior to the scheduled examination time. 15 points will be given for attendance and timely completion of each laboratory session. Quizzes, structured in a variety of ways, will be given at the beginning of each class meeting. Any reasonable resource may be used on the quizzes, however if you are not in attendance when a quiz is given you will not be able to make it up. One quiz grade will be dropped. There may also be unannounced pop-quizzes, some homework assignments, class projects, journals, and take-home exams. Your grade on late work may be reduced by 10 points per day.

Average of quizzes, homework, and assignments	….	150 points
Average of lab attendance & activities, lab report/exam	….	150 points
Three lecture exams (3X100)	….	300 points
		_____
	Total	600 points

Grading scale

>= 90 = A
>= 80 - < 90 = B
>= 70 - < 80 = C
>= 60 - < 70 = D
< 60 = F

Make-up exams
Each student is required to take all examinations. Make-up examinations will be given only if the student has an excused or authorized absence, but students must contact the instructor no later than one week after the missed exam, or after return to campus, to indicate why they were absent and to request to take a make-up. It is the responsibility of the student to inquire as to the procedure for making up an exam. A grade of zero (0) will be recorded if the make-up is not taken in a timely manner. There are no make-ups on pop-quizzes, other class assignments.

Course Outline
Note: The following schedule is subject to change at any time during the semester. The lecture sequence may change and topics may end sooner or later than noted. The exact date of each of the three lecture exams will be announced not later than one week before the exam.

Week 1	Chapter 1	Introduction; History of Genetics; The Relationship between Genes and Traits; Fields of Genetics
Week 2	Chapters 2 &7	Mendelian and non-Mendelian Inheritance
Week 3	Chapter 3	General Features of Chromosomes; Cellular Division; Sexual Reproduction; Chromosomal Theory of Inheritance
Week 4	Chapter 4	Extensions of Mendelian Inheritance
Week 5	Chapter 9	*Exam 1;* Molecular Structure of DNA and RNA
Week 6	Chapter 11	DNA Replication
Week 7	Chapter 12	Gene Transcription and RNA Modifications
Week 8	Chapter 13	Genetic Code and Translation of messenger RNA (mRNA)
Week 9	Chapter 14-15	Gene Regulation in Prokaryotes and Eukaryotes
Week 10	Chapter 16	*Exam 2;* Gene Mutation and DNA Repair
Week 11	Chapter 18	Recombinant DNA Technology And Gene Cloning

Week 12	Chapter 19	Use of Microbes in Biotechnology; DNA Fingerprinting; Human Gene Therapy
Week 13	Chapter 21	Functional Genomics; Proteomics; Bioinformatics
Week 14	Chapter 23-24	Developmental and Evolutionary Genetics
Week 15-16		Reviews and *Exam III*

Disability Accommodations
Students with disabilities may request reasonable accommodations through the A&M-Texarkana Disability Services Office by calling 903-223-3062.

Academic Integrity
Academic honesty is expected of students enrolled in this course. Cheating on examinations, unauthorized collaboration, falsification of research data, plagiarism, and undocumented use of materials from any source constitute academic dishonesty and may be grounds for a grade of 'F' in the course and/or disciplinary actions. For additional information, see the university catalog.

Statement on email usage
Upon application to Texas A&M University-Texarkana an individual will be assigned an A&M-Texarkana email account. This email account will be used to deliver official university correspondence. Each individual is responsible for information sent and received via the university email account and is expected to check the official A&M-Texarkana email account on a frequent and consistent basis. Faculty and students are required to utilize the university email account when communicating about coursework.

Student Technical Assistance

- Solutions to common problems and FAQ's for your web-enhanced and online courses are found at this link:
  http://www.tamut.edu/webcourses/index.php?pageid=37

- If you cannot find your resolution there, you can send in a support request detailing your specific problem here:
  http://www.tamut.edu/webcourses/gethelp2.php

- Blackboard Helpdesk contacts:

Office hours are: Monday - Friday, 8:00a to 5:00p
Kevin Williams (main contact) 903-223-1356 kevin.williams@tamut.edu
Frank Miller (alternate) 903-223-3156 frank.miller@tamut.edu
Nikki Thomson (alternate) 903-223-3083 nikki.thomson@tamut.edu