

BIOLOGY 1308 - INTRODUCTORY CELL AND MOLECULAR BIOLOGY
Syllabus, Spring 2004
Dr. Jon A. Baskin

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Office Hours: 2-4 M, W; 10:30-11:30, 2-4 T, or by appointment. University duties, such as committee meetings, may prevent me from being in my office. If you have any questions or concerns, please talk to me before or after class or phone me at the office for an appointment.

THE INTERNET: You should visit the course website regularly for further information, outlines, handouts, and links to other sites of interest. http://users.tamuk.edu/kfjab02/Biology/IntroCell/b1308_tamuk.htm
[Or search using Google for Baskin 1308 syllabus; then bookmark the web page]

Course Description: Introduction to the cellular and molecular basis of biology. Key molecular concepts such as cell theory and structure, energy transformations, reproduction, and genetic variability are covered. Concurrent enrollment in BIOL 1108 is recommended.

Objectives: Biology 1308 is an introduction to the characteristics of life, scientific methods, basic chemistry, cell biology, metabolism, mitosis and meiosis, classical genetics, human genetics, molecular genetics, recombinant DNA, and genetic engineering. The course consists of a 3 hour per week lecture component. As noted from the text book website, this book is "intended for non-majors Biology courses in higher education... In this text, the authors include characteristics of life, scientific methods, basic chemistry, cell biology, metabolism, mitosis and meiosis, classical genetics, human genetics, molecular genetics, recombinant DNA, and genetic engineering. You'll also find the useful back matter (glossary, index, etc.) included from the main text, a customized table of contents, and a student CD-ROM packaged with every copy of the text."

The laboratory (1113), although separate from the lecture, is designed to provide practical experience and reinforcement of the material discussed in the lecture, although lecture and laboratory material will usually will not be concurrent.

Required Text: Starr and Taggart: *Cell Biology and Genetics*. Ninth or Tenth Edition with CD-ROM: Interactive Concepts in Biology, Version 3.0

Grading: Your grade will be determined in the following manner:

Exam 1	100 points
Exam 2	100 points
Exam 3	100 points
Exam 4	100 points
Comprehensive Final	200 points
Total	600 points

Please keep all of your tests and assignments, in case there is a question concerning your grade in the course. Grades will be awarded according to the regulations on page 60 of the 2002-2004 catalog. The last day to drop the course with an automatic grade of Q is March 29. After March 1, you must talk to me before dropping the course. The last day to drop the course with a Q if you have a passing grade is April 26. It is up to you to take care of all the necessary paperwork.

Learning outcomes: When you have finished this course, if you have come to class regularly and taken complete and understandable notes and have studied for at least an hour a night, including reading the textbook and utilizing all the learning resources that are on the CD that comes with the book and are presented on the text book website, you should have an adequate understanding of everything in the textbook and be able to earn a passing grade on the exams. See the section on objectives and the schedule for the material you will be expected to know.

Lecture Exams: The FOUR mid-semester lecture exams and the FINAL exam will cover notes given in class and pertinent information from the textbook. Some notes will come from sources other than the text. The examinations will consist mainly of multiple-choice questions, with additional short answer questions, definitions, and characterizations. The first four exams will be over material covered during the exam period. These four exams will be given during the first 50 minutes of the class period and will be followed by 25 minutes of lecture. If you require more time, arrange to show up earlier. The final lecture exam is COMPREHENSIVE, giving you the opportunity to synthesize various topics covered during the semester. Multiple-choice questions will be machine graded. Students must buy their scantron sheets from the bookstore, one for each exam. Bring a Number 2 pencil and your Texas A&M-Kingsville ID to each examination. The scantron sheet and the examination sheets MUST be turned in together, or else you will be given an incomplete (I) grade for the course and a zero (0) for the examination.

MAKE UP POLICY There will be NO make-ups for missed lecture exams. If you miss one lecture examination, the percent score on the final will be substituted for the missed test. You will receive a zero for each additional missed exam. In the case of crises and emergencies (that you can document and that are considered a valid excuse by your instructor), talk to me (or phone me) before the exam and more flexible arrangements can be scheduled.

BONUS: If you take all four lecture exams, you may substitute your lowest grade with the final exam (percent) grade, if the final exam grade is better.

OTHER: There is no policy of required attendance. However, it is unlikely that you will earn an acceptable grade if you do not attend class regularly. Attendance will be considered in the final grade, especially in borderline cases. Attendance alone does not guarantee a passing grade. It is important that you take complete and comprehensive notes of the lecture material. It is also essential that you study regularly. Reading the material in the textbook beforehand will help you better understand the lecture material. Shortly after each lecture you should reread and/or rewrite your notes and read the material in the textbook to make sure that you correctly took the notes and fully understand the material that was covered. At this point, use the online study guide to assess whether you have learned the material. Do not use the study guide only as quick way to cram for the exams. The university may offer special workshops for students who need to improve their note taking and study skills. Visit the Study Suggestions for Introductory Biology from other universities sites linked to on the course web page. I expect no less from you.

Talking or other disruptive behavior during lecture will not be tolerated.

Academic dishonesty includes giving, receiving, or using unauthorized aid on any academic work. This includes a person who has taken a test discussing what was on a test with a person who has not taken the test. Any student guilty of cheating or plagiarism will receive a grade of F.

Supplemental Instruction: A weekly review session may be offered.

Students with disabilities, including learning disabilities, who wish to request accommodations in this class should notify the Services for Students with Disabilities Office early in the semester so that appropriate arrangements can be made.

General Education Requirement: Both Biology 1308 and Biology 1108 must be taken to satisfy 4 hours of the Natural Sciences requirement as noted on page 69 of the 2002-2004 TAMUK Undergraduate catalog.

Tentative Schedule

Week of	Topic	chapter
Jan. 12	Methods and Concepts in Biology The Characteristics of Life The Nature of Scientific Inquiry	1
21	Chemical Foundations for Cells Matter, Chemical Bonds, & Water	2
26	Carbon Compounds in Cells Organic Chemistry Proteins, Carbohydrates, Lipids, & Nucleic Acids	3
Feb. 2	Cell Structure and Function Prokaryotes & Eukaryotes Organelles, the Cytoskeleton, & the Cell Surface EXAM 1	4
9	A Closer Look at Cell Membranes The Fluid Mosaic Model Transportation Across Cell Membranes	5
16	Ground Rules of Metabolism Energy, Enzymes, & ATP	6
23	Energy Acquiring Pathways Photosynthesis and Carbon Fixation Energy Releasing Pathways Aerobic and Anaerobic Metabolism EXAM 2	7 8
March 1	Cell Division and Mitosis chromosome numbers interphase, prophase, metaphase, anaphase, & telophase Meiosis sexual reproduction and the formation of gametes	9 10
8	SPRING BREAK	
15	Observable Patterns of Inheritance Mendelian genetics monohybrid crosses, dihybrid crosses, & continuous variation	11
22	Chromosomes and Human Genetics Autosomal and Sex-linked inheritance Human Genetic Disorders EXAM 3	12
29	DNA Structure and Function Replication	13
April 5	From DNA to Proteins Transcription & Translation	14
12	Control of Gene Expression Gene Control in Prokaryotic Cells	15
19	EXAM 4 Control of Gene Expression Gene Control in Eukaryotic Cells Evidence of Gene Control and Cancer	15
26	Recombinant DNA and Genetic Engineering Restriction Enzymes, PCR, and RFLP's cDNA Biotechnology	16
May 5	8 A.M. FINAL EXAM	