Massasoit Community College
Biological Principles BIOL121-16 (CRN 20334)
Spring 2009, Room S216

Instructor: Mark Stephansky
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Required text: Campbell & Reece, Biology, 8th Ed. Pearson/Benjamin Cummings, 2008, Custom Version for Massasoit Community College. (The full version text is also acceptable)
Additional: http://web.whrsd.org/faculty/Stephansky_Mark/MCC_Bio/MCCindex.html

There is no required lab manual. Laboratory handouts will be provided by the instructor.

Course Description: This course introduces basic principles of biology. Topics include: the scientific method, evolution, cellular and sub-cellular structure, basic cell chemistry, transport across cell membranes, mitosis, meiosis, metabolism, photosynthesis, DNA structure and replication, protein synthesis, and patterns of inheritance. This course is required as a prerequisite for all other four-credit biology courses.

Lecture: 2 hours
Laboratory: 3 hours

This class meets for five hours each Thursday night from 5:15pm – 10:15pm.

Course Objectives:
At the successful completion of this course each student will have a basic understanding of cell structure and function and of genetics. Each student will also develop the following laboratory skills: laboratory safety procedures, understanding the scientific method as a problem solving technique and the use of a compound microscope as an observation tool.

Attendance:
You are expected to attend all classes and laboratory sessions. Each Thursday night class is the equivalent of almost a week's worth of weekday classes. Students find that missing just one class becomes very difficult to make up. Attendance will be taken each week. Please note that the attendance policy as stated in the Massasoit Community College catalog will be followed. **There are no make-up lab sessions. Furthermore, there are no scheduled make-up lecture exams.**

Teaching Methods:
Students are expected to come to class prepared to actively participate in classroom discussion. Students should spend a minimum of two study hours for each hour of class per week (therefore, **a minimum of 10 hours of home study per week**). Students are encouraged to seek additional help, if necessary, from the instructor or by using the resources of the ARC. The ARC, 508-588-9100 ext 1801, provides free tutors and study groups. Class lectures may be augmented by the use of handouts, transparencies and videotapes/DVDs.

Course Policy and Requirements:
- During the course three hourly exams will be given. See the syllabus for specific dates. Guided reading will also be assigned. **Late Guided Reading assignments are not accepted.**
- Exams will cover material from the lectures, textbook, and outside readings. Each exam is worth 20% of your final grade. **There are no scheduled make-up lecture exams.**
- You will participate in laboratory sessions. These labs may follow lecture or may be integrated within the lecture. Labs are worth 25% of your grade. **There are no make-up lab sessions.**

Your grade will be distributed as follows:

In Class Tests (Best 2 out of 3)	40%
Laboratory Work (Lowest dropped)	25%
Guided Reading Assignments	10%
Final Exam	25%

Letter grades are assigned as designated below

A	94-100	C	74-76
A-	90-93	C-	70-73
B+	87-89	D+	67-69
B	84-86	D	64-66
B-	80-84	D-	60-63
C+	77-79	F	< 60

Day	Chapter	Topic
Jan. 22	Introduction	
	Chapter 1	Exploring Life
	Lab	Scientific Measurements
Jan. 29	Chapters 2-3	The Chemical Context of Life; Water and the Fitness of the Environment
	Lab	The Water Molecule
Feb. 5	Chapters 4-5	Carbon and the Molecular Diversity of Life; The Structure and Function of Macromolecules
	Lab	Molecular Modeling
Feb. 12	**Test 1**	**Chapter's 1-5**
	Lab	Introduction to the Microscope
Feb. 19	Chapter 6	A Tour of the Cell
	Lab	Cell Diversity
Feb. 26	Chapter 7	Membrane Structure and Function
	Lab	Diffusion & Osmosis
March 5	Chapters 8-9	An Introduction to Metabolism; Cellular Respiration: Harvesting Chemical Energy
	Lab	Aerobic Respiration – version A
March 12	Chapter 10	Photosynthesis
	Lab	Photosynthesis
	Test 2	**Chapter's 6-9 – (Take home exam--due on March 26)**
March 26	Chapters 11-12	Cell Communication, The Cell Cycle
	Lab	Cell Cycle & Mitosis
April 2	Chapter 13	Meiosis and Sexual Life Cycles
	Lab	Meiosis
April 9	Chapter 14-15	Mendel and the Gene Idea, The Chromosomal Basis of Inheritance
	Lab	Mendelian Genetics Problem set, Human Variation (take home Lab—Due Dec. 1)
April 16	**Test 3**	**Chapter's 10-15**
	Chapter 16-17	The Molecular Basis of Inheritance, From Gene to Protein
	Lab	Protein Synthesis
April 23	Chapters 18-20	The Genetics of Viruses and Bacteria; Eukaryotic Genomes: Organization, Regulation, and Evolution; DNA Technology and Genomics
	Lab	Gel Electrophoresis
April 30	Chapter's 22-23	Descent with Modification: A Darwinian View of Life, The Evolution of Populations
	Lab time	Final Exam Review

May 7	**Final Exam**	**Cumulative, but with emphasis on Chapters 16-23**