

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](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. (Exceptions will be made for students experiencing symptoms from the novel H1N1 virus. We will discuss this at our opening meeting.)**

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, PowerPoint Slides and videotapes.

Course Policy and Requirements:

- During the course three hourly exams will be given. See the syllabus for specific dates. Outside reading, usually from secondary literature sources will also be assigned. This reading material will be discussed in class.
- 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:

Letter grades are assigned as designated below

In Class Tests (Best 2 out of 3)	40%	A	94-100	C	74-76
Laboratory Work (Lowest dropped)	25%	A-	90-93	C-	70-73
Guided Reading Assignments	10%	B+	87-89	D+	67-69
Final Exam	25%	B	84-86	D	64-66
		B-	80-84	D-	60-63
		C+	77-79	F	< 60

<u>Day</u>	<u>Chapter</u>	<u>Topic</u>
Sept. 10	Introduction Chapter 1 Lab	Nature of Science/Exploring Life Scientific Measurements
Sept. 17	Chapters 2-3 Lab	The Chemical Context of Life; Water and the Fitness of the Environment The Water Molecule
Sept. 24	Chapters 4-5 Lab	Carbon and the Molecular Diversity of Life; The Structure and Function of Macromolecules Molecular Modeling
Oct. 1	<b>Test 1</b> Lab	<b>Chapter's 1-5</b> Introduction to the Microscope
Oct. 8	Chapter 6 Lab	A Tour of the Cell Cell Diversity
Oct. 15	Chapter 7 Lab	Membrane Structure and Function Diffusion & Osmosis
Oct. 22	Chapters 8-9 Lab	An Introduction to Metabolism; Cellular Respiration: Harvesting Chemical Energy Aerobic Respiration – version A
<b>Oct. 29</b>	Chapter 10 Lab <b>Test 2</b>	Photosynthesis Photosynthesis <b>Chapter's 6-9 – (Take home exam--due on Oct. 30)</b>
Nov. 5	Chapters 11-12 Lab	Cell Communication, The Cell Cycle Cell Cycle & Mitosis
Nov. 12	Chapter 13 Lab	Meiosis and Sexual Life Cycles Meiosis
Nov. 19	Chapter 14-15 Lab	Mendel and the Gene Idea, The Chromosomal Basis of Inheritance Mendelian Genetics Problem set, Human Variation (take home Lab – Due Nov. 20)
<b>Dec. 3</b>	<b>Test 3</b> Chapter 16-17 Lab	<b>Chapter's 10-15</b> The Molecular Basis of Inheritance, From Gene to Protein Protein Synthesis
Dec. 10	Chapters 18-20 Lab	The Genetics of Viruses and Bacteria; Eukaryotic Genomes: Organization, Regulation, and Evolution; DNA Technology and Genomics Gel Electrophoresis, Final Exam Review
<b>Dec. 17</b>	<b>Final Exam</b>	<b>Cumulative, but with emphasis on Chapters 16-20</b>