

MAYLAND COMMUNITY COLLEGE
Welcomes You To:

Bio 111.50
4 credit hours, 6 Contact hours

Spring 2007

Course Description

The course introduces the concepts and connections within biology including basic biological chemistry, cell structure and function, metabolism and energy transformation, genetics and evolution. Upon completion of 111, students should be able to demonstrate an understanding of life at the molecular and cellular levels. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

Prerequisites: RED 090

Corequisites: None

This course is an accelerated AP biology course covering the first year of college biology in a single semester. This section is offered only at Mountain Heritage High School.

Instructor Information

Instructor:	Woody McKay, MD
Office Location:	MHHS room 315
Telephone Number:	828 682-6103
E-mail Address:	wmckay@yanceync.net
Office Hours:	13:30-15:30 Monday thru Friday, before and after school hours by previous arrangement

Course Information

This course meets from 8:15 – 9:45 Monday thru Friday for class and lab at MHHS room 316.

Required Text: **Campbell, Reece, Mitchell, Taylor. Biology: Concepts and Connections. Fourth edition. Benjamin Cummings 2003**

Required supplies: Text and laboratory supplies are provided by MHHS

Course Objectives/Competencies:

The primary reason stated for teaching biology in the College Transfer curriculum is to increase your knowledge of yourself and your environment. Factual knowledge is important and necessary, but you must also learn to apply this knowledge and think critically. You must learn to observe carefully; to evaluate what you see; to draw objective, non-emotional conclusions; to analyze, synthesize, and reason; to question; to think for yourself. Therefore, the College Transfer objectives of a biology course are:

1. You will develop the ability to think critically by comparison and contrast of living systems and by the keen, objective evaluation of natural phenomena.
2. You will develop an understanding and appreciation of the many varied relationships between organisms and their total environment.
3. You will gain an appreciation of the contributions of science to thinking and technology.
4. You will become sensitive to the opportunities for applying biological principles to the solution of both social and personal problems.
5. You will form a basis for continued study in related fields.

Mission Statement and Competencies for the General Education Core

Mission:

Mayland Community College's General Education core courses will provide the essential body of knowledge and skills that enable all degree-level students to perform competently as employees and as contributing members of society.

Graduates of all degree programs at Mayland Community College will have completed the general education core. That core encompasses the essential knowledge and skills that enable all degree-level students to perform competently as employees and as contributing members of society. Upon completion of the general education core, students will be able to demonstrate the following:

1. Effective communication in speaking and listening situations needed for college, personal, and work successes
2. Effective communication in writing and reading situations needed for college, personal, and work successes
3. Logical, critical, and creative thinking to evaluate evidence and reach a conclusion
4. Application of basic computer use skills
5. Application of fundamental math skills
6. Basic awareness of the diversity of various world groups from both historical and contemporary contexts

This course directly supports the learning competencies for the General Education core courses of the Biology Department in the Arts and Sciences Division.

1. Improve communication in speaking and listening situations needed for college, personal, and work successes
2. Improve communication in writing and reading situations needed for college, personal, and work successes
3. Improve logical, critical, and creative thinking to evaluate evidence and reach a conclusion
4. Increase application of basic computer use skill
5. Increase awareness of the diversity of various world groups from both historical and contemporary contexts

Attendance Policy/Tardiness/Make-Up Work:

You are expected to attend every scheduled lecture and lab. If you miss more than 10 class/lab sessions, you will not receive credit for the course. If you miss tests, you are expected to make them up on your own time during my office hours or before and after regular school hours by special arrangement. If you miss a lab, you will not be able to make up the lab points, but you will still be responsible for the material covered in the lab.

Grading Criteria/Tests/Projects:

Test points - 350 - I will give a test at the end of every major unit (every week or two). Class time is so precious that I will try to minimize the number of tests to just eight total. That means they will average about five chapters and 50 questions per test.

Essay points - 170 - There will be points given for writing and grading essays, and sometimes bonus points for test day essays.

Lab points - 170 - appropriate participation is worth 10 points per lab. There will also be a take home lab test based on your lab notes and the concepts worth 50 points.

Class work/homework points - may be earned by turning in chapter worksheets, extra topic informal essays, and by outside reading and reports. Unless you are a perfect test taker and essay writer, you will need these points. Besides, doing the worksheets will help you do well on the tests. They may be added to any other point category. I used to call them extra credit points, but some students thought they didn't have to do them and failed the course.

Once I have graded and handed back an essay or test, it is too late to turn it in for credit.

I will divide your total number of points by the total number possible to get your pre AP exam grade.

Grading Scale:

A = 93-100.

B = 85-92

C = 77-84

D = 70-76

F = <70

Inclement Weather Procedures:

We will adhere to the Yancey County Schools Weather Closing decisions.

Administrative Withdrawal statement:

If a student has not been in contact with the instructor and has not attended class for a consecutive two-week period, an administrative withdrawal will be submitted by the instructor.

The following ADA statement: Any student requesting special accommodations for this course due to a disability should apply for services through the SOAR Office or the Counseling Center, which will document the disability. A counselor

will then help determine which accommodations, if any, the student needs for success in this course.

Course Outline/Weekly Topics:

Week	Chapters	Labs and Tests
1	1. Biology: Exploring Life	
I. THE LIFE OF THE CELL		
	2. The Chemical Basis of Life	
	3. The Molecules of Cells	TEST 1
2	4. A Tour of the Cell	
	5. The Working Cell	Lab 1 – Diffusion and Osmosis
3	6. How Cells Harvest Chemical Energy	Lab 2 – Cell Respiration
	7. Photosynthesis: Using Light to Make Food	TEST 2
II. CELLULAR REPRODUCTION AND GENETICS		
4	8. The Cellular Basis of Reproduction and Inheritance	Lab 3 – Enzyme Catalysis
	9. Patterns of Inheritance	
5	10. Molecular Biology of the Gene	Lab 4 – Mitosis and Meiosis
	11. The Control of Gene Expression	
6	12. DNA Technology and the Human Genome	TEST 3
		Lab 5 – Genetics of Organisms
III. CONCEPTS OF EVOLUTION		
7	13. How Populations Evolve	Lab 6 – Population Genetics
	14. The Origin of the Species	
8	15. Tracing Evolutionary History	TEST 4
IV. THE EVOLUTION OF BIOLOGICAL DIVERSITY		
9	16. The Origin and Evolution of Microbial Life	Lab 7 – Animal Behavior
	17. Plants, Fungi, and the Colonization of Land	