

General Biology I

BSCC 1010, Spring 2005

<u>Course Meets:</u>	MW 11:00 am until 1:15 pm (Yount) MW from 6:00 pm until 8:15 pm (Earnest) TR 8:00 am until 10:15 pm (Earnest) TR 11:00 am until 1:15 pm (Earnest)
<u>Instructor:</u>	Dr. James Yount <u>Office:</u> O-228, 207
<u>Advisement:</u>	9:00 – 9:30 am every day, others posted by office door
<u>Telephone:</u>	321 433-5079 (Lab: 433-5082)
<u>Email Address:</u>	yountj@brevardcc.edu
<u>Web Sites:</u>	BCC Home Page: http://www.brevard.cc.fl.us/
<u>Stuff You Need:</u>	<i>Biology</i> (7th ed.) by Raven and Johnson <i>General Biology I Laboratory Manual</i> by J. Yount (in bookstore) Colored pencils (erasable are best – or buy a good separate eraser)

General Course Focus

This is the first of the two semester General Biology sequence whose objective is to provide students with the necessary foundation for understanding the living world. General Biology I is suitable for both biology/science majors and non-majors alike; General Biology II is normally taken only by science majors. General Biology I deals mainly with the basic chemistry of living things, cell structure and function, cell reproduction, genetics of individuals and populations, and human tissues and anatomy.

Grading Policy

The course letter grade (you get one grade that reflects performance in class AND lab) will be determined from the average of 4 unit exams (50%), lab reports (20%), and 3 lab "practicals" (30%). Letter grades will be assigned based on the following system: "A" (superior) is above 90%, 80-89% is a "B" (excellent), 70 - 79% is a "C" (adequate performance), 60 - 69% is a "D" (meeting minimum requirements of class), and a grade below 60% an "F" (failure to meet minimum requirements of class).

Incompletes ("I" grade) must be requested by the student directly, but will be given only in very special circumstances. *Do not assume you will be given an incomplete for missing work.* Please keep track of your exam grades and your course standing. The end of the term is not the time to start worrying about your performance! Any information on final grades may be obtained by seeing me or by giving me a self-addressed envelope at the time of the final exam. Please do not telephone or email for grades.

Please keep in mind that due to new Florida regulations, you will only be permitted to attempt this course twice at the typical credit hour rate. If you attempt this class a third time you must receive a grade (you cannot withdraw) and you must pay almost four times the cost per credit hour.

Note on Academic Honesty

Getting (or giving) answers on tests, turning in lab reports for work you have not done, copying another's answers on any assignment, or any such practice is academically dishonest. Any instance of this in this class will be addressed thoroughly and may result in failing the assignment, exam, or in being expelled from the course with a grade of "F". Please do not be tempted – the risk is not worth it. Besides, whatever grade you get will be on your record forever. Do you really want to be reminded, every time you see it, that you cheated to get it? I truly hope not.

Attendance Requirements

Course attendance will be monitored, but does **NOT** count toward your final grade. While the instructor retains the right to withdraw you for excessive absences, is your responsibility to withdraw if you feel you cannot complete the course. If you do not withdraw and do not complete the requirements of the course, you will receive a failing grade. *Every time you miss class, you will miss something important!*

Exam Grading

Exams will be graded and returned to you in a reasonable time, usually the next class period. Only under unusual circumstances will you wait more than a week to get a test back. All items that you write on exams should be done in ink except the Scan-Tron forms and, in some cases, drawings. Always be extremely careful when filling out Scan-Tron sheets; if you make messy smudges the machine will mark the item incorrect. I can make no adjustment when this happens, so please be careful! Generally, each exam will have up to a 10% extra credit opportunity.

Exam Make-Up Policy

You may be permitted to take make-up exams if you cannot attend the exam when it is scheduled. In the case of any missed exam, I have the option of (a) giving a make-up, (b) filling the gap with the lowest of the other exam grades, or (c) assigning a grade of zero for the missed exam. *There is no extra credit on make-up exams – no exceptions.*

Requests should be made by writing the following on an 3 x 5" index card to me in person:

Name

Class your are in and Unit of the exam you missed

Reason for missing the exam (highly personal reasons need not be detailed)

All make-up written exams are given in the Learning Lab in Building 1, and it is your responsibility to arrange a time for the exam with their staff. Plan on at least a week between your request for an exam and my actually getting it in the Learning Lab. All make-up laboratory practicals must be taken as soon as possible and must be arranged with me.

In exceptional conditions, make-up exams may be requested via telephone or email. Circumstances permitting, make-ups *should* be taken within one week of the originally scheduled administration date. I grade make-up exams in bulk, so you may not receive your grade for several weeks or more after you take it. *All make-up exams (except the final exam) MUST be taken by the last day of*

regular classes before final exam week. Make-up exams taken during final exam week will incur a 10% grade penalty in addition to loss of extra credit.

Laboratory Make-Up Policy

Some laboratory exercises can be made up by arrangement with me if you miss them, especially those that simply require looking at bones, specimens, slides, or models. If the lab deals with live specimens or bacteria, they may be dead if you wait too long, and these sections of labs are impossible to make up once the specimens die. Labs that require constant supervision, such as those dealing with chemicals, stains, electrical equipment, pathogenic organisms, dissecting equipment, or flames can only be made up under very special circumstances.

Don't worry too much if you miss one lab; you can miss one written lab report for free. Any additional missed labs will count against your grade. If you do all of the labs, you will get extra credit. *Missing a lab session does not excuse you from knowing the material presented during that session!* All lab reports MUST be handed in by the last day of regular classes (the Friday before final exam week).

"What do I have to do to succeed?"

READ the BOOK in ADVANCE: All reading assignments should be completed for a thorough *understanding* of the course content. Reading is one of the best learning tools at your disposal, as long as you read with comprehension and interest! It is a good idea to take notes as you read and compare these to classroom notes. Highlighting important concepts and terms is also a good tool. Also, keep track of questions to ask during class.

ATTEND LECTURES and BE ON TIME (AND STAY ALERT!): *All lecture time is important.* There are many points that will be clearer to you if you hear them explained and see the class visuals. I'm sure you will save a lot of time and aggravation if you attend lectures and take good notes. Some students do not know how to take notes well – a course in study skills or even looking over a good book on the subject can be very helpful. If you miss a lecture, it is your responsibility to get notes from a classmate. *Take responsibility for your time!*

SPEND APPROPRIATE TIME IN LAB: Most of the lab time is unstructured, that is, you can leave when you feel you are finished. Completion of lab reports, if any, are important, but reports are only *guides* to what you must learn. It is recommended that you spend all of your lab time profitably, learning as well as writing. Think of the lab time as a study period with equipment!

USE YOUR OBJECTIVE SHEETS: You will get one of these for every unit of the course. These course handouts are your best guide to what you are expected to know. It includes competencies (objectives) as well as lists of terms you must know and other good stuff. All objectives are tested, so don't skip any.

TAKE TESTS AND QUIZZES WHEN THEY ARE SCHEDULED: Missed tests can be made up in most cases, but most people do not do as well on make-ups as they do on regular scheduled tests. (Odd, but true.) Taking your tests on time also means that you get to go over the exam with the class, and it will keep you on a better study schedule. There will be no make-ups on missed quizzes.

How To Get to the Web Site

I maintain a web site on our Blackboard server that you will use to access course documents such as objectives and lecture notes as well as some PowerPoint presentations. To access it, go to BCC's web site at <http://www.brevardcc.edu>. Click on the "Bb" symbol.

At the next page, just "click to proceed". At the next page (Blackboard entry), click "Login". Use your Blackboard login credentials as you would normally. This class should appear in your class list. (If you already have used Blackboard, you have some credentials already. If not, use your B number for both the username and password.)

You can now get syllabi for this course from the Course Information button, and lecture notes and presentations from the Course Documents. Files are loaded in pdf format, and can be read with Adobe Acrobat Reader, a free program you can get from Adobe's web site. Some other files are in Microsoft PowerPoint. Go to the External Links button on the web site to find locations to download free PowerPoint and pdf readers.

"Fifth Credit" Option

Students enrolled in my Microbiology, Anatomy and Physiology, General Biology, or Fundamentals of Biology classes may take part in a Service Learning opportunity for which they may earn one college credit. To earn the credit, you must:

1. Contact a Service Learning staff member (Lynette Kearns, 64315) to learn about the program and fill out the paperwork.
2. Volunteer at least 20 hours of community service at an agency approved by the Service Learning office. This site should be discussed with me prior to beginning, and should relate strongly to the class you are taking. (These hours are not to overlap with other service learning classes.)
3. Submit a Service Learning Reflection Paper to me at least 1 week before the end of the semester. This paper will include: (a) Where you did your volunteer hours? (b) Why you selected this site? (c) How does this work experience relate to your coursework? (d) What are the positive memories from this experience? (e) What did the agency gain from having you as a volunteer? (f) A journal including thoughts from each volunteer session.

ROUGH COURSE OUTLINE (LECTURES/LABS)

The Science of Biology	1
The Nature of Molecules	2
The Chemical Building Blocks of Life	3
The Origin and Early History of Life	4

Lab Exercises 1, 2, 3, and 4

Exam I

Cell Structures	5
Membranes	6
Energy and Metabolism	8
How Cells Harvest Energy	9

Lab Exercises 5, 6, 7, and 8

Exam II & Practical II

How Cells Divide	11
Photosynthesis	10
Organization of the Animal Body	42.1-42.4
Sexual Reproduction and Meiosis	12
Patterns of Inheritance	13

Lab Exercises 9, 10, 12, 13, 14, 15, and 16

Exam III & Practical III

DNA: The Genetic Material	14
Genes and How They Work	15
Genes Within Populations	21
The Evidence for Evolution	22

Lab Exercises 17, 18, 19, and 11

Exam IV & Practical IV (Exam is Comprehensive, Practical is not.)

Detailed Course Outline w/ Labs (Dates are *Tentative!*)

Jan 10	Lectures: The Science of Biology	Chapter 1
Jan 12	Lectures: The Nature of Molecules Labs: Logic and the Scientific Method	Chapter 2 Exercise 1
Jan 17	Martin Luther King, Jr. Holiday	
Jan 19	Lectures: Chemical Building Blocks of Life Labs: Lab Layout and Safety Presentation	Chapter 3
Jan 24	Lecture: Chemical Building Blocks of Life (cont'd) Labs: Basic Chemical Properties	Exercise 2
Jan 26	Lecture: Chemical Building Blocks of Life (cont'd) Labs: Organic Molecular Structure	Exercise 3
Jan 31	Lecture: Origin and Early History of Life	Chapter 4
Feb 2	Labs: Biochemical Testing of Materials	Exercise 4
Feb 7	Lecture: Prokaryote & Eukaryote Cell Anatomy	Chapter 5
Feb 9	EXAM Unit I	
Feb 14	Lectures: Cell Membranes	Chapter 6
Feb 16	Labs: Structure/Use of the Light Microscope	Exercise 5
Feb 21	Lectures: Cell Energy and Metabolism Labs: Extraction of DNA & Action of Enzymes	Chapter 8 Exercise 8
Feb 23	Labs: Plant Cells and Tissues	Exercise 6
Feb 28	Lectures: How Cells Harvest Energy	Chapter 9
Mar 2	Labs: Studies of Protists; One-Celled Eukaryotes	Exercise 7
Mar 7	EXAM Unit II & PRACTICAL Unit II	
Mar 9	Lectures: How Cells Divide	Chapter 11
Mar 14	Lectures: Sexual Reproduction and Meiosis Labs: Animal and Plant Mitosis	Chapter 12 Exercise 9

Mar 16	Lectures: Photosynthesis Labs: Analysis of Plant Photopigments	Chapter 10 Exercise 10
Mar 21	Lectures: Patterns of Inheritance Labs: Genetics of Corn and Chi Square Analysis Exercises in Mendelian Genetics	Chapter 13 Exercise 13 Exercise 14*
Mar 23	Lectures: Patterns of Inheritance (cont'd) Labs: Examination of Animal Tissues	Exercise 11
Mar 28 – Apr 1	Spring Break!!	
Apr 4	Lectures: Patterns of Inheritance (cont'd) Labs: Flower Anatomy & Florida Native Plants Examination of Animal Tissues (cont'd)	Exercise 12
Apr 6	Lectures: Patterns of Inheritance (cont'd) Labs: Human Karyotype Analysis The Genetic Code	Exercise 15* Exercise 16*
Apr 11	EXAM Unit III & PRACTICAL Unit III	
Apr 13	Lectures: DNA: The Genetic Material	Chapter 14
Apr 18	Lectures: Genes and How They Work Genes Within Populations	Chapter 15 Chapter 19, 24
Apr 20	Lectures: Genes Within Populations (cont'd) Labs: Fundamental Human Anatomy/Diseases	Exercise 13*
Apr 25	Lectures: The Evidence for Evolution Labs: Fundamental Human Anatomy/Diseases (cont'd)	Chapter 20
Apr 27	Lectures: The Evidence for Evolution (cont'd)	
May 2	Labs: Examination of Bacteria	Exercise 14
May 4	Labs: Electrophoresis Analysis of Dyes	Exercise 11
May 5	COMPREHENSIVE FINAL EXAMINATION & PRACTICAL Unit IV	

* These labs are primarily done as homework assignments.