

BIOLOGY 103 Section 229 - Basic Ideas of Biology
Section 229: Summer 1 (6 Week) May 8 – June 19, 2012

SYLLABUS

TIME

Section 229 is ONLINE: go to: MyUK and log into Blackboard using your LINK BLUE username and password.

PROFESSOR INFORMATION

*Professor: **Brent Palmer***

Office: 204 Multidisciplinary Research Building 3

Phone: 257-5824

E-mail: bpalmer@uky.edu

*CPR Instructor: **Jiffin Paulose***

Office: Room 302 Thomas Hunt Morgan Building

Phone: 257-2289

E-mail: j.paulose@uky.edu

VIRTUAL OFFICE HOURS

Generally **the fastest way to contact me is through e-mail. All e-mails must have "BIO 103" in subject line and must identify who you are by having your name somewhere in the message.**

I check my e-mail regularly during the day (M-F). E-mails received before 5pm on a weekday will be responded to on that day. E-mails received after 5pm will be responded to by 10am the following morning. E-mails received after 5pm on Friday will be responded to within 24 hours. For face-to-face or telephone appointments, e-mail me to set up a meeting time.

OVERVIEW

Biology 103 is an introductory biological science course designed for non-science majors. It satisfies the general education requirement for intellectual inquiry in the natural, physical and mathematical sciences. Science is a major human activity and influence in the world. Whether you are a scientist or not, science affects you - the way you live, the nature of your society, the way you think, and the way that you perceive the universe. Consequently, it is important that the non-scientist understand the nature of this activity called "science" and something of the subject matter with which science is involved. The biological sciences have become particularly important and newsworthy at the beginning of the 21st century given the research in and implications of environmental and biotechnology research. A scientifically literate citizen will need basic biological information and an understanding of how science operates to interpret news stories and make intelligent personal, economic, and political decisions.

I hope you find this course challenging, exciting and interesting. I hope the topics pique your curiosity, enrich your understanding of science, intrigue you, and most of all, make you think! Life is all around you as well as within you. You are a part of the whole global web of life. In some ways, you are unique. In many ways, you share common features with all living things. We will explore the nature of science and life in this course.

COURSE GOALS

- 1) To provide knowledge about --
 - a) The nature of science to include: its assumptions, characteristics, goals, and limitations; how models are built and modified to explain and predict natural phenomena; the distinction between scientific research and pseudoscience; and the difference and similarities of scholarship in science versus other fields of inquiry
 - b) Biological concepts and terminology including facts, laws, and theories concerning characteristics of life, genetics, cell biology, physiology, evolution, behavior, ecology and conservation
 - c) The historical development of biological ideas
 - d) New biological theories and areas of research such as in molecular genetics and genetic engineering
 - e) Science/society interactions including the ethical, legal, and economic implications of areas such as biotechnology and environmental research
- 2) To enhance skills in communicating ideas and critically evaluating sources of information, arguments, and issues such as genetic manipulation and global warming
- 3) To promote the values of curiosity, openness to new ideas, skepticism, and science as a way of knowing

LEARNING OUTCOMES

By the end of the course, you should be able to:

1. Describe methods of inquiry that lead to scientific knowledge and distinguish scientific fact from pseudoscience.
2. Explain fundamental principles in a branch of science.
3. Apply fundamental principles to interpret and make predictions in a branch of science.
4. Demonstrate an understanding of at least one scientific discovery that changed the way scientists understand the world.
5. Give examples of how science interacts with society.
6. Recognize when information is needed and demonstrate the ability to find, evaluate and use effectively sources of scientific information.

REQUIRED HOMEWORK, EXAM AND TEXTBOOK MATERIALS

Homework and Exams

Homework assignments and exams are administered through the website **MasteringBiology.com**. In order to use MasteringBiology.com, **you will need an access code**. If you purchase your textbook from the bookstores below, it will come bundled with an access code. **Access to masterbiology.com includes a free electronic textbook.**

Simulation Software

Each student will be required to purchase a software package in order to complete the research paper assignment. You will not receive credit for the assignment if you do not purchase the software. Additional information will be supplied in class and on blackboard.

Textbook

Readings listed in the course schedule come from **Colleen Belk and Virginia Borden Maier. 2010. *Biology Science for Life with Physiology* (3rd Edition).** Pearson/Benjamin Cummings. **Access to masterbiology.com includes a free electronic textbook. You are not required to purchase a**

paper textbook, however many students prefer the paper version over the digital version. You may use a printed paper textbook (available from the retailers below), or an digital electronic textbook directly from the publisher (www.masteringbiology.com).

You are responsible for knowing all material covered in lecture (whether or not it is also in the text book). In addition to the material covered in lecture, the text may contain material not covered in lecture for which you will also be responsible. You will also be responsible for any specifically assigned readings beyond the general text book chapter readings.

Paper versions of the text books may be purchased from the following stores.

- Kennedy Bookstore, 405 S. Limestone, (606) 252-0331 or 1-800-892-5165, or go to the website: <http://www.kennedys.com>
- Wildcat Text Books, 563 S. Limestone, (606) 225-7771, or go to the website: <http://www.wildcattext.com>
- UK Bookstore 106 Student Center Annex, phone (606) 257-6304 or 1-800-327-6141, or go to the website: <http://www.ukbookstore.com>

You can also purchase textbooks through any of the Internet bookstores, but you will need to use rush shipping for them because **you will need to begin reading the first day of the 6 week session. If you do purchase a paper copy of the text, be sure it includes the access code to MasteringBiology.com.** Not having a textbook or MasteringBiology.com access will not excuse you from completing the homework by the due date.

DISTANCE LEARNING LIBRARY SERVICES

As a Distance Learning student you have access to the Distance Learning Library services at <http://www.uky.edu/Libraries/DLLS>. This service can provide you access to UK's circulating collections and can deliver to you manuscripts or books from UK's library or other libraries. The DL Librarian may be reached at 859-257-0500, ext 2171, or 800-828-0439 (option #6) or by mail at dlservice@email.uky.edu.

For an interlibrary loan visit: http://www.uky.edu/Libraries/linpage.php?lweb_id=253&llib_id=16

ACADEMIC ACCOMODATIONS

If you have a documented disability that requires academic accommodations, please contact me as soon as possible. In order to receive accommodations in this course, you must provide me with a *Letter of Accommodation* from the Disability Resource Center <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/index.html> (Room 2, Alumni Gym, 257-2754, jkarnes@uky.edu) for coordination of campus disability services available to students with disabilities. We can then collaborate on the best solution.

ATTENDANCE

All course materials are on-line and it is YOUR responsibility to access material in a timely manner. To help keep you on track I have provided a LECTURE SCHEDULE that you should follow. The lecture schedule is posted on BlackBoard in the COURSE INFORMATION section of Blackboard. You are expected to spend a **MINIMUM of 5-6 hours per DAY** on-line interacting with the course material.

MINIMUM TECHNOLOGY REQUIREMENTS:

In order to participate in this DLL, you will need access to a computer with the minimum hardware, software and internet configuration described at these sites:

- <http://wiki.uky.edu/blackboard/Wiki%20Pages/FAQs.aspx>
- <http://masteringbiology.com/site/support/system-requirements.html>

Please also visit Blackboard and click on “**Technology Help**” for more information.

You will need to install a number of plugins on your computer. The links to the specific plugins required for this course can be found in “**Technology Help**” on Blackboard. If using a UK computer these plugins should be already installed.

Note: the use of **Internet Explorer is NOT recommended** for use with Blackboard. **Firefox** is the recommended Internet browser for the course. Again, go to “**Technology Help**” on Blackboard for information on how to download Firefox.

TECHNOLOGY TROUBLESHOOTING

BLACKBOARD

If you experience technical difficulties with accessing course materials on blackboard, the UK Customer Service Center may be able to assist you. Their hours are 7am – 6pm Monday through Friday. You may reach them at 859-257-1300 or by e-mail at helpdesk@uky.edu.

MASTERINGBIOLOGY.COM

The MasteringBiology.com **Technical Support Help Number is (Toll Free) is 1-877-672-6877**. The phone support is available Monday through Friday from noon to 8PM. They also have online support documents and tutorials available at <http://www.masteringbiology.com/site/support/faq-students.html>. Please also inform the course instructor when you are having technical difficulties.

TASC

The UK **Teaching and Academic Support Center** (TASC) website (<http://www.uky.edu/TASC/>) offers additional information and resources that can promote a successful distance learning experience. They may also be reached at 859-257-8272.

DISTANCE LEARNING LIBRARY SERVICES

(<http://www.uky.edu/Libraries/DLLS>)

- Carla Cantagallo, DL Librarian, Email: dlservice@email.uky.edu
- Local phone number: 859. 257.0500, ext. 2171;
- Long-distance phone number: (800) 828-0439 (option #6)

HOMEWORK ASSIGNMENTS

There will be regular homework assignments online on the course **MasteringBiology.com** website. These assignments will have specific due dates.

Late submissions will be penalized by 10% for every day the assignment is late. The sum of all the points for assignments will be **normalized to 100 points**.

EXAMS

There will be **four exams** during the semester worth 100 points each. Each exam will cover only the material from that section of the course. Given the large class enrollment, the test questions are multiple choice questions. Each exam will have 40-50 multiple-choice questions. However, the questions are not simply the rote memorization kind, but rather test your comprehension of the information and your ability to apply the material in a problem-solving fashion.

Questions on exams will come from material covered in lecture as well as the textbook, homework

and other reading assignments. The exam policy is – if we covered it in lecture, was in the assigned textbook reading, was in an online assignment, or if it was specifically assigned as an outside reading or assignment, it is fair game on the test.

ONLINE EXAMINATION INFORMATION

The **online examinations** will be submitted electronically through **MasteringBiology.com** and **must be submitted by the stated deadline (10:00 PM Eastern Time)**. The exam will be available on that day from **8:00AM Eastern Time until 10:00PM Eastern Time and must be completed by 10:00PM Eastern Time**. Each examination will consist of 40-50 multiple-choice or true/false questions. It is your responsibility to make sure that you access the material during that time period. **You can access the examination any time during the 3 hour window. Once you access an examination you have 60 minutes in which to complete and submit it (the latest you should access an online examination is 9:00PM Eastern Time)**. If you go over the time you will not receive credit for unanswered questions. **It is your responsibility to watch the time and complete the examination in time.** If for some reason you cannot take the exam at the scheduled time, **contact the professor before the schedule exam to make arrangements to reschedule your exam.**

Online examinations are **CLOSED BOOK** examinations. You cannot use your text book or any other notes when taking an examination. You cannot receive help of any kind from another person. **You are on your honor to take the examination on your own without the assistance of any other person or materials.**

Online examinations will be automatically graded and your score will be available immediately.

If you encounter problems when taking an exam:

If you experience technical difficulties contact the MasteringBiology.com Technical Support at 1-877-672-6877. Please also inform the course instructor when you are having technical difficulties. You may contact me by email at bpalmer@uky.edu or by phone at (859) 257-5824. I will respond to emails ASAP.

REGRADING EXAMS

I am happy to fix any errors or irregularities in grades. If you feel that there was an error in grading your exam, you must submit your request in writing; detailing which question(s) you feel is(are) in error and why your answer(s) should receive additional credit. For instance, if there is information in the text book that supports your answer, quote the information from the book and provide the page and paragraph number. All requests must be submitted within 1 week of the exam.

EXCUSED ABSENCES AND MAKEUP EXAMS

Late assignments will be accepted only in the event of documented excused inability/absences as defined by **University Senate Rules V, 2.4.2**. (See the following section on University Policy on Excused and Unexcused Absences for details). **Problems associated with your computer, procrastination, or forgetfulness are NOT acceptable excuses for late submission of assignments or exams.** It is YOUR responsibility to make sure that you access and submit assignments on time.

Your lowest EXAM score will automatically be dropped. Therefore, if you miss one exam, it will simply be counted as the exam score dropped. If you miss more than one exam, you will be encouraged to drop the course, as that will represent half of the course material. Makeup exams will only be available in extreme circumstances and all missed exams must be fully documented. You must contact your professor within 3 days of a missed exam in order to be able to take a makeup.

No makeup will be given for the final exam. If you miss the final, you will not be able to receive an incomplete in the course without discussing with the professor the reasons for missing the exam, and then filling out and signing an incomplete form with the Biology Department. If I feel an incomplete is warranted, I will determine the conditions necessary to satisfy the incomplete.

UNIVERSITY POLICY ON EXCUSED AND UNEXCUSED ABSENCES

The following are acceptable reasons for excused absences:

1. Serious illness of student (doctor's note required)
2. Illness or death of family member (doctor's note required)
3. University-related trips (such as to a football game for a team member or band member, official note required)
4. Major religious holidays. Students **MUST** notify instructor **IN WRITING** of all semester holidays to assure being excused.

GRADES

Course grades are assigned according to the following criteria. The grades are not curved. They are criterion-based using your performance on exams and assignments.

Course Grade	Percentage	Points
A	90.0% or better	360 – 400
B	80.0 – 89.9%	320 – 359
C	70.0 – 79.9%	280 – 319
D	60.0 – 69.9%	240 – 279
E	Below 60.0%	239 and fewer points

Students are responsible for achieving the scores required for the grade you desire. You must meet the above cutoffs to receive the appropriate grade. **Borderline cases will not be considered. There will be no extra credit beyond what is available to all students in regular assignments or tests during the semester.**

You can review your individual assignment and exam scores by going to **"SCORES"** tab in MasteringBiology.com. Your course grade will be available by going to **"MY GRADES"** in Blackboard (click on **TOOLS** first).

Check COURSE SCHEDULE section of Blackboard (within the COURSE CONTENT section) to confirm the topics/chapters covered on each examination.

APPROPRIATE ONLINE BEHAVIOR

Students are expected to maintain decorum that includes respect for other students and the instructor, to regularly log in to the course, and to display an attitude that seeks to take full advantage of the educational opportunity. All students are expected to be prepared to work and actively participate in class activities.

Virtual communication and discussion "in cyberspace" occur in a social environment where normal rules of social interaction apply. The remoteness of the recipients is no excuse to behave in an anti-social manner and post unacceptable messages.

Unacceptable messages include those that harass, intimidate, threaten, belittle, ridicule, expressed hatred for, or aggression toward others. Let us be mindful to avoid words that imply that some groups of people are less worthy than others (e.g., avoid racist, sexist, anti-Semitic, age-ist, and homophobic language).

Discussion board and other electronic communication for this course should relate only to the course subject matter, generally respond to the instructor threads, and always seek to further the aims of that particular discussion forum or chat session (e.g., stay on topic).

Contributions to discussion boards and synchronous chat are the intellectual property of the authors. Students who quote another person in class projects, publications or even in remarks made on the discussion board should always acknowledge the source of that quote (e.g., do not plagiarize your classmates).

Personal comments about other users and their views should not be placed in any of our Blackboard course areas that are viewable by other users.

Do not copy private messages to another person without the author's explicit permission. Consult the UK Student Rights and Responsibilities regarding the steps for addressing unresolved academic issues at <http://www.uky.edu/StudentAffairs/Code/part2.html>

PLAGIARISM AND CHEATING

Cheating on exams or homework constitute grounds for failing this course and possibly further academic actions. If you are suspected of cheating during an exam, you will be assigned a failing grade for the course. Talking to another student during the exam, using the textbook or notes, using any electronic communication device (cell phone, text messaging, pager, etc), using supplementary material, or using a surrogate test-taker all constitute cheating. Consult the *Student Rights and Responsibilities* manual (Part II, Section 6) for further details. (Available on the Web at <http://www.uky.edu/StudentAffairs/Code>).

The following is an excerpt taken from the "Students Rights and Responsibilities Handbook, University of Kentucky" regarding cheating.

"Cheating is defined by its general usage. It includes, but is not limited to, the wrongful giving, taking, or presenting any information or material by a student with the intent of aiding himself/herself or another on any academic work which is considered in any way in the determination of the final grade."

The following is an excerpt taken from the "Students Rights and Responsibilities Handbook, University of Kentucky" regarding plagiarism.

"All academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression."

"When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism."

"Plagiarism includes reproducing someone else's work..... If the words of someone else are used, the student MUST put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic."

GETTING STARTED: LOG ONTO YOUR BLACKBOARD ACCOUNT

- 1) Access the course syllabus: The course syllabus can be viewed by clicking on the COURSE INFORMATION button and then clicking on SYLLABUS. I would recommend you print out a copy of the syllabus for future reference. **Make a note of all deadlines.**
- 2) You should check that the e-mail address listed for you is your current e-mail address (it does not have to be a UK address just the e-mail that you regularly use). If it is not your regular e-mail address, then change it to your current address (except for HOTMAIL accounts which sometimes aren't compatible with Bb) and click submit. This is the address that I will use to communicate with you. (go to TOOLS to change your e-mail address)
- 3) This is a 3 credit hour course taught exclusively through the web. All course materials are on-line and it is YOUR responsibility to access material in a timely manner. To help keep you on track I have provided a COURSE SCHEDULE that you should follow. The COURSE SCHEDULE is posted in the COURSE INFORMATION section of blackboard just below the syllabus. Again, I would recommend you print it out. This is a difficult course and it is imperative that you stay up-to-date with the lecture material. Do not procrastinate and leave material to the last minute. You are expected to spend a **MINIMUM of 5 - 6 hours per DAY** on-line interacting with the course material. Take some time to familiarize yourself with navigating through the course material. The course is divided into 4 Units plus the introduction (found by clicking on the LECTURES button). Each Unit corresponds to units within the text book. Within each unit are several chapters. For each chapter, there are several files, including recorded videos of PowerPoint lectures, PowerPoint files, Word documents, PDF documents, web links, video files, etc. As you work through the course materials you should take notes the same way you would for a "regular" lecture course.
- 4) Please be aware that some files that you will be downloading are fairly large and may take a while (several minutes) to download especially if you are accessing the course material using a modem or a slow broadband connection.
- 5) There will be regular online homework assignments on the course MasteringBiology.com website. You will need a **Personal Access Code** to log onto this website. If you purchase your textbook from one of the recommended bookstores, your Access Code should be bundled with your textbook. If you do not have an access code, you may purchase one from the Masteringbiology.com website. **You will need to log on to masteringbiology.com and verify that you can view the homework assignments. Homework will be assigned starting on the first day of class. These assignments have specific due dates and you will be penalized for late submissions.**
- 6) Given that all course material is delivered through the Internet, occasional problems may arise with accessing course material. If you have problems accessing course material, or if web links appear to be not functioning, please contact the technical support as possible. For contact information, see the Blackboard tab for Technology Help.
- 7) Recommended first actions: See the TO DO list under ANNOUNCEMENTS in Blackboard

BIO 103 SECTION 229 - SUMMER I 2012 - SCHEDULE & DUE DATES*

DATE	DAY	TOPIC	CHAPTER	SECTIONS
Unit 1: Introduction to Course and to Scientific Method, Chemistry and Cells				
May 8	Tues	Course Introduction, review of course goals, and assessments	Syllabus & Schedule	
May 9	Wed	The Scientific Method, hypothesis testing, and control groups Critically evaluating scientific claims	Chapter 1	Sections 1-5
May 10	Thurs	What is life, Chemistry of Life, Water and Biochemistry	Chapter 2	Sections 1-3
May 11	Fri	Nutrients, Enzymes and Metabolism.	Chapter 3	Sections 1-2
May 14	Mon	Cell Membranes and Transport. Body Fat and Health.	Chapter 3	Sections 3-4
May 15	Tues	The Greenhouse Effect, Carbon Flow and Cellular Respiration.	Chapter 4	Sections 1-2
May 16	Weds	Photosynthesis and fossil fuels.	Chapter 4	Sections 3-4
Unit 2: Genetics				
May 17	Thurs	Cancer. DNA Synthesis and Replication. Cell Cycle & Mitosis.	Chapter 5	Sections 1-3
May 18	Fri	Cell Cycle Control. Mutations. Cancer Treatment. Meiosis.	Chapter 5	Sections 4-6
May 21	Mon	EXAM 1 over Chapters 1, 2, 3, & 4		
May 22	Tues	Inheritance of Traits & Mendel's paradigm shift	Chapter 6	Sections 1-2
May 23	Wed	Quantitative Genetics, Genetics and the Environment	Chapter 6	Sections 3-4
May 24	Thurs	Forensic Science, Extensions to Mendelian Genetics	Chapter 7	Sections 1-3
May 25	Fri	Sex Determination, Pedigrees, and DNA fingerprinting Research Report: Introduction & Hypothesis Due	Chapter 7	Sections 4-6
May 28	Mon	Memorial Day – Academic Holiday		
May 29	Tues	Protein Synthesis and Gene Expression CPR on Introduction & Hypothesis Due	Chapter 8	Section 1
May 30	Weds	EXAM 2 over Chapters 5, 6 & 7		
Unit 3: Evolution and Diversity of Life				
May 31	Thurs	Recombinant Proteins. Genetically Modified Foods and Humans	Chapter 8	Section 2-4
June 1	Fri	What is Evolution? Darwin. Evidence for Evolution. Alternative Explanations. How Did Life Begin? Research Report: Methods Due	Chapter 9	Section 1-4
June 4	Mon	An Evolving Enemy & Natural Selection	Chapter 10	Sections 1-2
June 5	Tues	Natural Selection Since Darwin & Human Health CPR on Methods Due	Chapter 10	Sections 3-4
Unit 4: Ecology and Conservation				
June 6	Wed	Biological Classification & Diversity of Life	Chapter 12	Sections 1-2
June 7	Thurs	EXAM 3 over Chapters 8, 9, & 10		
June 8	Fri	Diversity of Life continued, Learning about Species Research Report: Results & Discussion Due	Chapter 12	Sections 2-3
June 11	Mon	Human Population Growth & Limits to Growth	Chapter 13	Sections 1-2
June 12	Tues	Limits to Growth continued & Future of the Human Population CPR on Results & Discussion Due	Chapter 13	Sections 2-3
June 13	Weds	Sixth Mass Extinction. Causes & Consequences of Extinction.	Chapter 14	Sections 1 & 2 Part A
June 14	Thurs	Consequences of Extinction continued. Saving Species	Chapter 14	Section 2 Part B & 3
June 15	Fri	Exam 4 over Chapters 12, 13, & 14		

*Note: Schedule does not include homework due dates. See Masteringbiology.com for homework due dates.