

MIRACOSTA COLLEGE – OCEANSIDE

Biology 101 Lecture
General Biology

Meredith Dorner
Spring 2009

Lecture hours and location: Section #1486. Tues/Thurs 6:30-9:15 PM. Room OC3606.

Text: Campbell, N.A., Reece, J.B., Taylor, M.R. and E. J. Simon. 2009. Biology: Concepts and Connections. 6th edition. Benjamin-Cummings Publishers, San Francisco.

Supplements: Liebaert, R. M. 2009. Study Guide to Biology: Concepts and Connections. 6th ed.

Other Materials: 14-18 ScanTron forms (available in the bookstore)

Office hours: TBA (will be posted on Blackboard)

Contact: E-mail: mdorner@miracosta.edu

Blackboard (Blackboard): <http://blackboard.miracosta.edu>

CATALOG DESCRIPTION:

General Biology is an entry-level general education course for the non-biology major; it provides a broad perspective of biological concepts and principles. While often the human will be the chief organism of focus, the course emphasizes fundamental themes and understanding of basic principles drawing from a diverse range of unicellular, multicellular, plant and animal species. The course is designed to create an understanding of topics such as the structure and function of life, metabolism and manipulation of energy by plants and animals, cell division, classical and molecular genetics, development, and the evolution and adaptation of living organisms in order to provide the student with the ability to make effective decisions regarding contemporary issues in life science.

STUDENT LEARNING OUTCOMES (SLO'S):

- 1) Given specific structural attributes of an organism, students will be able to logically argue and defend conclusions related to how these structures contribute to the biological function of that system.
- 2) Students will be able to critique and defend biological phenomena based on and using facts.
- 3) Students will be able to recognize, distinguish and utilize appropriate biological terms in written form.

STUDENT PERFORMANCE OBJECTIVES:

Measurable objectives for all credit courses must show what students will be expected to learn in the discipline and how they will develop critical thinking.

- 1) Analyze the scientific method and evaluate hypotheses for scientific merit.
- 2) Explain basic evolutionary fact and relate this to theories of the Origin of life.
- 3) Illustrate evolutionary fact as it relates to proposed mechanisms of evolutionary change (natural selection)
- 4) Describe, in general outline, some of the modern biological discoveries and evaluate their impact on science.
- 5) Describe the basic chemistry of biomolecules in plants and animals.
- 6) Examine fundamental biological principles using the human species as the primary organism of discussion.
- 7) Explain the process of information flow in biological systems from DNA to RNA to protein.
- 8) Correlate molecular genetics with heredity and treatment of heritable diseases.
- 9) Compare and contrast the structure and function of bio-organic molecules, cells, tissues, organs and systems.
- 10) Compare and contrast organizational patterns of systems in various organisms.
- 11) Evaluate the human species in the context of biodiversity in a broad taxonomy.
- 12) Read, analyze, and interpret articles in selected journals and the public press for biological principles and basis.

SCHEDULE: (TENATIVE AND SUBJECT TO CHANGE)

<u>Week</u>	<u>Date:</u>	<u>Topic</u>	<u>Text Reference (Chapter)</u>
1	1/22/09	Introduction: What is life?	1; (4, 5, 6, 7, 15, 16, 20, 25)*; App. I
2	1/29	Process Scientific Inquiry; Origins Life Levels of Organization; Emergent Properties	1; (5, 6, 7, 13, 14);15; 16 1; 20
3	2/5	Biochemistry	2; 3; App.II
4	2/12	Cell Biology	4; 5; (6, 7, 15);16; (20)
5	2/19	Energetics: Photosynthesis/ Respiration	6; 7
6	2/26	EXAM 1 (through Energetics) Molecular Genetics	----- 10; (11,12)
7	3/5	Molecular Genetics- Protein Synthesis Recombinant DNA; Cell Division	same as above 8; (10); 11; 12; 13
8	3/12	Human Manipulation-Cloning Reproduction	8; (10); 11; (12, 27) 8; 9; (27)
9	3/19	SPRING BREAK!	-----
10	3/26	Human Genetics, Evolution	8; 9; 13; (14,15)
11	4/2	EXAM 2 (through Genetics) Evolution/ Developmental Biology	----- 18; 20; 27
12	4/9	Digestion; Nutrition Circulation; Blood	(20); 21 (20); 23
13	4/16	Immunology Cancer; Aging	(10, 20); 23; 24 (8, 10); 11; 24; (27)
14	4/23	EXAM 3 (through Aging) Respiration	----- (6; 20); 22; (30)
15	4/30	Excretion: Urinary System	(6); 25
16	5/7	Neurology; Sensory Biology	(20); 28; 29; (30)
17	5/14	Endocrinology	(20); 26; 27; (28)
18	5/21 (finals)	EXAM 4 (Thurs. 5/21/09; 7-9 PM)	-----

* NOTE: A text reference chapter enclosed in parentheses "(")" contains material pertinent to that topic and should be skimmed for that information.

PARTICIPATION:

You are expected to attend all class meetings- attendance will be taken. Participation (through class discussion, activities, and pop quizzes given in the first 5 minutes of class) will account for 5% of your total grade. A portion of the material covered in class will not be found in the text but will appear on the exams. Not surprisingly, poor attendance is highly correlated to low exam scores. Should you miss a lecture please

contact a classmate and obtain the information and material missed by your absence. **Students who miss either or both of the first two class meeting without speaking with me ahead of time will automatically be dropped from the class.**

COURSE MANAGEMENT:

Though this is a “face to face” class, a considerable amount of class communication will occur via the Internet using Blackboard (Blackboard). (<http://blackboard.miracosta.edu>) I will post regular announcements to the class via Blackboard as well as use Blackboard to assign homework. I also encourage you to use other Blackboard features such as the “Discussion Board” to carry out student driven problem-solving sessions and tutoring. As a result you will want to visit the Blackboard site for this class regularly (at least 4-5 times a week) to insure you are receiving all information vital to successful completion of this class.

HOMEWORK:

Each lecture unit will include a homework component. Homework will be worth 15% of your final grade. The homework packets will be posted weekly on the Blackboard site corresponding to this class. Due dates will be announced in class or on Blackboard. The homework will be posted in pdf format and will require use of Adobe Acrobat Reader to access. Use the open computer labs at MCC to assist in the process if you do not have Internet access at home.

Please complete homework by hand using a new scantron form for each assignment. You will answer the multiple choice questions using a scantron and write out the answers to the short answer/essay questions on a separate sheet of paper. Both will be due at the beginning of class on the day that the homework is due. Do not typewrite the homework or attempt to email it to me. The nature of each assignment is to prepare you for the upcoming lecture topic and ensuing discussion and review the topics we have just covered. As a result the homework represents a study guide for the class and thorough completion of the assigned materials will likely assist you in achieving a better grade for the course. If you complete the homework and turn it in within the first 10 minutes of class, when due, you will likely receive full credit. These points will then be incorporated into your point total and the grade distribution for the class. **NOTE: This is NOT extra credit!**

WITHDRAWING (W's):

Your registration for this class and acceptance of the class syllabus represent a contract. If you find it necessary to withdraw (W) from the class please be aware of school policy and deadlines. It is your responsibility to expedite all the necessary paperwork within the appropriate timelines. I would however, prior to any withdrawal, appreciate consultation.

SPECIAL NOTE: Those of you concurrently enrolled in a laboratory section (101L) will be required to drop the lab should you opt to withdraw from the lecture section as lecture is a corequisite for the lab.

CREDIT / NO CREDIT OPTION:

Credit / No Credit option may be available for this class. A grade of "C" or better must be obtained to earn a "credit". Be aware that not all transfer institutions will accept a "credit" in lieu of a letter grade. Please verify this with your counselor in advance of choosing this option.

EXTRA CREDIT

There are two opportunities for extra credit in this course. The first is to attend an event or visit a museum that closely relates to biology (e.g. Natural History Museum in Balboa Park, a lecture) and turn in a typed, 1-2 page description of the exhibit/event and how it related to our class, accompanied by your admission ticket. This can add up to 6% to your final practical, but it must be submitted on or before the last class prior to the final exam. The second opportunity is to bring in one recent news article that has relevance to our course material and to briefly present it to the class and turn in a written summary (1-2 paragraphs) for an additional 3%.

ACCOMMODATION OF DISABILITY:

A student with a verified disability may be entitled to appropriate academic accommodation. Please consult with me immediately if you have (or suspect you have) a disability so that the appropriate arrangements can be made with the Disabled Students Services office (757-2121 ext. 6658).

EXAMS and MAKE-UP EXAMS:

There will be four non-cumulative exams in this course, each worth 20% of your total grade. All exams must be taken and completed for the student to be considered for a final course grade. If you miss an exam, please contact me as soon as possible. **Make-up Exams will only be given in specific cases such as documented medical emergencies and must be made up within one week of the missed test date. Plan your travel accordingly! Mark all exam dates on your school calendar today!**

GRADING POLICY:

1. Your performance will be based on a percentile basis to determine the final letter grade. The weight of each assignment is as follows:

4 exams:	80% (20% each)
Homework:	15%
Participation:	5%

2. Final grades will be assigned using the following percentage scale:

100-90%: A 89-80%: B 79-70%: C 69-60%: D 59% and below: F

Plagiarism and cheating constitute violations of academic honesty whether perpetrated actively or passively. All violations and suspected violations of academic honesty will result in action taken against the parties involved, and will be documented in writing with the Dean. Cheating will result in a "0" on the exam and administration will be notified. Sanctions may include no-credit on the assignment in question, course failure, or formal charges of student misconduct. Formal charges can result in academic probation, suspension, or expulsion.