

BIOLOGY 11

CONCEPTS OF BIOLOGY

FALL 2009

Instructor: Mrs. Andrea Garrison
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 Office Hrs: M 8:15-9:15am; TR 8:15-9:15am

Biology 11 lecture: MW 9:35-11:00am (SE48)
 Biology 11 labs (SE-38): T or R 9:35-12:45pm;

Website: www2.bakersfieldcollege.edu/agarriso

Required texts: Campbell, *et al.*, 2007. Essential Biology with Physiology, 2nd ed., loose leaf;
 and Garrison, *et al.*, Fall 2009. Lab Manual for Biology 11.

Required lab supplies: stapler, calculator, pencils, eraser.

Prerequisite: Reading level 5 or 6

Tentative Schedule:

DATE	TOPIC	READING	LAB
Aug. 24	Intro/ Nature of Life	Ch. 1	Owl Pellets
26	Nature of Science	Ch. 1	
31	Communities and Ecosystems	Pp. 416-438	Measurements & Exponents;
Sept. 2	Comm&Eco/Future of Biosphere	Ch. 20	Graphing
7	LABOR DAY HOLIDAY		Circulatory Physiology**
9	Future of the Biosphere	Ch. 20	REVIEW SESSION
14	EXAM I (thru 9/9)		Red Queen
16	Cell Structure	Ch. 4	**Circ. Physio. due**
21	Cell Structure/Membranes	Pp. 80-85	Microscope/Cells
23	Cell Membranes	Pp. 80-85	
28	Mitosis & Meiosis	Ch. 8	Solubility&Osmosis/Diff**
30	Energy/Cell Respiration	Pp. 72-80, Ch. 6	REVIEW SESSION
Oct. 5	EXAM II (thru 10/Meiosis)		Cell Respiration**
7	Plants	Ch. 28, 29	**Sol&Osmosis/Diff due**
12	Plants/Photosynthesis	Ch. 7	CALM** (read pp. 359-366 before lab)
14	Digestive System	Ch. 22	**Cell Respiration due**
19	Circulatory System	Pp. 504-516	Flowering Plants
21	Circ/Lymphatic Systems	Pp. 504-516	**CALM due** REVIEW SESSION
26	EXAM III (thru Lymph Sys)		Nutrition (come prepared
28	Immune System	Ch. 24	w/computer analysis)
Nov. 2	Immune System	Ch. 24	DNA (read Ch. 10)
4	Genetics	Ch. 9	
9	Genetics/Biotechnology	Ch. 11	Marriage Lab/Genetics
11	VETERAN'S DAY HOLIDAY		**Cracking the Code of Life due**
			REVIEW SESSION
16	Biotech (Last day to turn in projects, extra credit, late work)	Ch. 12	Reprod. & Birth Control (read Ch. 26)
18	EXAM IV (thru Biotech)		
23	Natural Selection/Speciation	Ch. 13, 14	STDs & Their Epidemiology
25	Evidences for Evolution	Ch. 14	(Thursday lab holiday)
30	Pop Bio/Species Interactions	Ch.18, pp. 406-416	Review for Final
Dec. 2	Human Population Growth	Ch. 18	(Thursday lab also STDs)
7	FINAL EXAM	**NOTE TIME: 10:00-11:50am	

**after topic indicates homework will be assigned; before&after topic indicates it is due

LAST DATE TO DROP WITHOUT "W" IS 9/21; LAST DATE TO DROP WITH "W" IS 11/2

BLOOM'S TAXONOMY

Thinking is something you will be asked to do a lot of at Bakersfield College or any institution of higher learning. You will find that different tasks will require you to use different types of thought processes. Benjamin Bloom developed the hierarchy of thinking which is shown below. The levels at the top of the list are the most basic levels of thought, while those at the bottom are much more complex. While much of the thinking done in elementary and high school may be at the levels of knowledge and comprehension, you will be asked to think more at the application level and above in college.

- KNOWLEDGE - recognition and recall of facts
- COMPREHENSION - summarizing information in your own words
- APPLICATION - applying or using information in a different context
- ANALYSIS - analyzing information to clarify relationships between the parts
- SYNTHESIS - combining facts/concepts to create a new idea
- EVALUATION - using information to make judgments and decisions

EVALUATION OF STUDENT PERFORMANCE

Grades in this course are based on the following:

4 Lecture Exams @ 100 pts.	400 pts.
1 Lecture Final @ 200 pts.	200
15 Lab Participation @ 10 pts. (may drop 2)	130 –150
13 Quizzes @ 10 pts. (drop 2)	110
1 Lab Report @ 30 pts. (Cell Respiration)	30
3 Homework @ 20 pts. (Circ & Resp Physiology, Solubility, CALM, Cracking the Code of Life)	80
5 Study Question Sets	50
1 Project (choose from Appendix A)	50
Other Possible Assignments	???
TOTAL	1050 – 1070+ pts.

Letter grades are assigned as follows:

- A = 90-100% NOTE: These standards are not subject to change.
- B = 80- 89%
- C = 70- 79%
- D = 60- 69%
- F = less than 60%

BIOLOGY 11 COURSE STUDENT LEARNING OUTCOMES

1. Scientific method

The students will be able to research a topic, design experiments, synthesize and evaluate the information, justify and express their opinions.

2. Microscope

The students will be able to 1) properly use the microscope as a tool to study microscopic organisms and cellular structures; 2) gain a perspective of the invisible biological world by using the microscope; and 3) differentiate between the microscope and microscopic objects, discover, locate and compare and contrast size of microscopic organisms.

3. Group work

The students will be able to conduct a lab assignment, dividing tasks, valuing input and collaboration, and producing a final report.

4. Study skills

The students will be able to effectively study, analyze, and evaluate biological information to assemble and articulate scientific data.

5. Critical thinking

The students will be able to analyze abstract information and present related data appropriately so as to arrive at a conclusion based on evidence including, but not limited to graphs computer skills, numerical data, text, lecture, and information from outside sources.

6. Cell theory

The students will be able to identify various cells and their structural components, and differentiate the functions of each of their components.

7. DNA and heredity

The students will be able to 1) understand the significance of DNA as the basis for heredity, structure, function and disease in living organisms; 2) describe the DNA molecule and explain how it is used in living systems to create proteins; and 3) describe how proteins function in living cells.

8. Basic human anatomy and physiology

The students will be able to describe the organs found in selected human organ systems, then explain the role played by each organ in the overall functioning of that system.

9. Diversity of organisms

The students will be able to compare and contrast characteristics of various organisms particularly related to energy sources (feeding style), cellular composition, reproduction and relationship to the ecosystem.

10. Ecology and the environment

The students will be able to 1) describe the flow of energy through the ecosystem, then construct a food web, placing specific species of organisms at each level; 2) choose a common ecosystem disturbance of human origin and predict the effects of that disturbance on a food web and 3) understand the complexity of ecosystems and environmental issues.

11. Real world/Current event applications

The students will be able to 1) recognize, value, and apply major biological concepts contributing to current issues in the biological realm; and 2) apply critical thinking skills to formulate and defend a position on a controversial issue of biological importance.

LECTURE EXAMS

Lecture exams will include multiple choice and written portions. You will be required to come to class prepared with a SCAN-TRON form 882, at least one No. 2 pencil and a good eraser. You must take all exams as scheduled. Do not be late to class. No exams will be handed out after any other student has left the exam room for any reason. No baseball caps, hats with visors or sunglasses may be worn during quizzes or exams. **If you must be absent on the day of an exam, CALL MRS. GARRISON AHEAD OF TIME. IF THERE IS NO ANSWER, LEAVE A MESSAGE.*****

Make-up exams will be essay exams, and will only be given at the discretion of the instructor (phone call prior to exam or as soon as possible after exam with very good excuse required). Make-ups will be given at a time agreeable with the instructor.

HOMEWORK

Homework must be turned in at the beginning of the lab period, unless otherwise indicated. Put your name on the upper right corner and, if there is more than one page, staple the pages (in their proper order) prior to coming to class.

If you are absent from lab, you may turn in homework with no penalty at the next lecture meeting, **only if you call Mrs. Garrison (prior to missing lab) and she agrees with your reason.** In such a case, you are responsible for remembering to turn it in to Mrs. Garrison.

LATE homework without an acceptable excuse will be accepted, but **5 points will be deducted from the total score FOR EACH DAY THE HOMEWORK IS LATE, (INCLUDING SATURDAYS AND SUNDAYS).**

EXTRA CREDIT

Up to 25 points of extra credit may be earned by completing a second project (Appendix A, lab manual), or writing summaries of newspaper or journal articles, *reliable* articles found on internet web sites, or TV programs. The article/program/website must be of biological interest. Newspaper articles must be at least 1/5 of a page, journal articles must be at least 1/2 a page (8-1/2" x 11"). Significantly longer articles (twice as long or more) will earn 10 points. Half-hour TV shows receive 5 pts., one hour TV shows receive 10 pts. Each summary must include the title, author, source, length and date of the article at the top of the page.

ALL PROJECTS AND EXTRA CREDIT MUST BE RECEIVED BY **the beginning of lecture November 16.** Extra credit projects should be received within two weeks of the date they are done, but no later than Nov. 16. Late worked being turned in for the privilege of extra credit must also be turned in by this time.

Extra credit is not meant to replace assigned work. Extra credit points will not be given to students who have not completed and turned in every assignment (this does not include weekly quizzes).

ATTENDANCE POLICY

*****You must pass the lab to pass the course. **A student who is absent from more than 3 labs will fail the lab.** You are expected to attend all class meetings. Chronic absenteeism and/or habitual tardiness may result in your being dropped from the class by the instructor.

Should you decide to withdraw from the course, it is your responsibility to fill out and deliver the necessary form to the Admissions and Records Office.

As a courtesy to fellow students and your instructor, all telephones and beepers must be turned off before bringing them into the lecture or lab room. If someone needs to contact you in an emergency, they may call campus security (395-4554). An officer will locate you and bring you a message.

CHEATING POLICY

Cheating in any form (including, but not limited to, copying test answers or outside assignments, sharing answers, using pre-prepared notes or other information not available from your own mind) will not be tolerated and is grounds for dismissal from the course and possibly from the college.

SPECIAL ACCOMMODATIONS

Students with disabilities who believe they may need accommodations in this class are encouraged to contact Supportive Services in FACE 16 (phone 395-4334) as soon as possible to better ensure such accommodations are implemented in a timely fashion.

LABORATORY POLICIES AND PROCEDURES

1. You must attend lab. Missing more than 3 labs will result in a failing grade for the course. If you must miss lab, please call Mrs. Garrison before missing your lab.
2. Oral quizzes will be given at the beginning of each lab period, covering the previous lab's material, pertinent lecture material, and background and procedural material for that day's lab exercise. Questions will not be repeated for students who are late to class.
3. All lab work **must** be done in pencil, unless you are directed otherwise.
4. Points will be given for class participation during each week's lab. Up to 10 pts. may be earned for each lab, depending on the amount of work done and how correct it is. Wrong answers to tougher questions do not necessarily mean loss of points. Leaving lab early, creating a disturbance during the lab period, or refusing to cooperate, may cost you points. Up to two lab participation scores will be dropped due to absences.
5. The two lowest quiz scores will be dropped before calculating the final grade.
6. Students must bring their lecture text and lab manual to each lab class. If you come to lab without the manual, you will not be allowed to participate (or earn participation points). You **MAY NOT** share a lab manual with another student or borrow a manual to photocopy during class time. Photocopying a manual may be done before class.
7. Students must pass a safety test during the third week of the semester in order to continue attending lab (which is required to pass the course.)
8. No eating, drinking or smoking is allowed in the lab.
9. You must wear shoes at all times in the lab.
10. Students are expected to keep their work area and the classroom area neat throughout the period. Do not leave paper towels, etc., on the counters or desks. Students will take turns cleaning the lab at the end of each period.
11. You will sign a Student Agreement indicating that you understand and agree to the conditions in this syllabus. Be sure to read and understand what is expected of you **BEFORE** signing the agreement. If you do not understand any part of this syllabus, ask the instructor about it.