Los Angeles Mission College, Summer 2013
Lecture: MTWTh 10:35-12:00 in CMS 105
Lab: MW 12:20-3:30 in CMS 110
Office hours: MTWTh 9:30-10:30 (CMS 110)

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BIOLOGY 3 (section 0125)

COURSE DESCRIPTION: This general biology course is for transfer students who are not biology majors. Topics include basic molecular and cellular biology, genetics, the anatomy and physiology of plants and animals, the diversity of life, evolution, and ecology. Current environmental issues, new developments in biological science, and bioethics are discussed. Laboratory experiences are integrated and stress scientific methodology and critical thinking.

PREREQUISITES: none **ADVISORY:** English 28

STUDENT LEARNING OUTCOME

Biology 3 students will work together as a laboratory team to answer questions, in writing, on laboratory techniques learned in the course and design a simple experiment using those methods.

COURSE OBJECTIVES: Upon completion of this course a successful student will be able to:

- Discuss the scientific method, including identification of dependent, independent, and standardized variables, and the role of a control group.
- Apply the metric system of measurement: gram, liter, meter, and degree Celsius.
- Explain the theory of evolution by means of natural selection, and evidence across biological disciplines.
- Interpret the Linnean system of taxonomical classification.
- Identify properties that distinguish living and non-living things.
- Compare prokaryotes and eukaryotes.
- Describe the structure of atoms and the rules underlying the formation of molecules.
- Discuss the unique properties of water and the concept of pH.
- Illustrate the structure and function of major biological molecules: carbohydrates, lipids, proteins, and nucleic acids, and how to perform simple qualitative tests in the lab.
- Describe cell structure: including major organelles of eukaryotic cells.
- Operate the microscope to view living things on the cellular level.
- Explain the role of enzymes in the control of chemical reactions in organisms, and how to assay enzyme activity in a laboratory setting.
- Distinguish endergonic and exergonic reactions, and the role of ATP in cell metabolism.
- Compare the similarities and differences between cellular respiration and photosynthesis in energy metabolism, and how to model these processes in the laboratory.
- Explain the cellular basis of asexual and sexual reproduction, and the processes of mitosis and meiosis, including examination of the mitosis in the microscope.
- Identify simple Mendelian patterns of inheritance and the use of Punnet squares in the analysis of monohybrid and dihybrid crosses.

- Discuss the modern concept of a gene, and the processes of transcription and translation.
- Compare the basic structure and function of angiosperms and gymnosperms.
- Describe the structure and function of important human organ systems, including the digestive, circulatory, and reproductive systems

REQUIRED BOOKS AND MATERIALS

Biology: Concepts & Connections, Campbell et al, 7th ed. 2011 Pearson-Benjamin Cummings;
ISBN 13: 978-1256302407 (unbound text and Mastering Biology bundle in bookstore)
ISBN 13: 978-0321696816 (bound text by itself)

Supplemental Biology 3 "Lab Pack" available in the bookstore or for free download at:
http://www.lamission.edu/lifesciences/Biology3Laboratories.aspx

7 SCANTRON 882-E forms; **8** SCANTRON 815-E forms; No. 2 pencils

COURSE GRADE

Your Course Grade will be weighted as follows: 62% Lecture – 38% Laboratory.

LECTURE: There will be 8 lecture quizzes worth 15 points each that will cover *previous* lecture material. The lowest quiz score will be replaced by the average of the other seven. There will be 4 exams worth 100 points each. Guidelines for the Written Assignment are detailed in a handout. There will be 8 weekly "8 Essential Skills" assignments the details of which will be explained in a handout.

7 (of 8) Quizzes	**12% of Course Grade (120 pts)**
4 Exams	**40% of Course Grade (400 pts)**
Written Assignment	**3% of Course Grade (20 pts)**
8 Essential Skills assignments	**8% of Course Grade (80 pts)**
	TOTAL 620 pts

LAB: There will be 16 lab sessions as indicated in the "Laboratory Schedule", one of which will be a field trip and another devoted to a practical lab exam. At the beginning and end of most labs there will be a short quiz covering that day's material. Your lowest lab quiz score will be replaced with the average of your remaining lab quizzes. Lab worksheets are due at the *start* of the next laboratory session. **Late or incomplete lab worksheets will receive only *partial* credit.**

14 Lab Quizzes	**14% of Course Grade (140 pts)**
Lab Exam	**10% of Course Grade (100 pts)**
Lab Worksheets	**7% of Course Grade (70 pts)**
Lab Participation	**7% of Course Grade (70 pts)**
	TOTAL 380 pts

Exams and quizzes will consist of true/false, multiple choice and matching questions answered on **Scantron** forms and there may be one or more short answer questions per exam. You will be expected to provide **Scantron** forms (available in the bookstore) and a **no. 2 pencil with a good eraser** for each exam or quiz. **Any make-up exams or quizzes will be more challenging and contain *short answer* questions.**

For the entire course there are 1000 total points possible. Grades will be determined as follows:

900+ pts (90-100%)	**A**
800-899 pts (80-89%)	**B**
650-799 pts (65-79%)	**C**
550-649 pts (55-64%)	**D**
0-549 pts (below 55%)	**F**

ATTENDANCE

Roll will be taken. There is a ***strong*** correlation between poor attendance and poor grades. **You are responsible for information, exam announcements, date changes, etc. presented in class, whether or not you are present.**

Students given add slips ***must*** complete the process by **Thursday February 16th**.
Students withdrawing from the class must do so by:

Monday June 17th to receive a refund
Monday June 17th to avoid receiving a "W"
Friday July 19th to receive a "W" and avoid an undesirable grade

COLLEGE RESOURCES FOR STUDENTS

Bookstore: For hours of operation, book availability, buybacks, and other information call 818-364-7767 or 7768 or visit http://www.lamissionbookstore.com/

Counseling Department: For appointments and information call 818-364-7655 or visit http://www.lamission.edu/counseling/

Disabled Students Programs and Services (DSP&S): For appointments, eligibility and information call 818-364-7732 or visit http://www.lamission.edu/dsps/

Extended Opportunity Programs and Services (EOPS): For appointments, eligibility and information call 818-364-7645 or visit http://www.lamission.edu/eops/

Financial Aid: For information and applications call 818-364-7648 or visit http://www.lamission.edu/financialaid/

Library: For information on hours, resources, workshops, and other services contact 818-364-7106 or visit http://www.lamission.edu/library/

IMPORTANT WEBSITES

http://www.lamission.edu/~brownst

- This is your instructor's website where you can download course notes and various handouts.

https://myetudes.org/portal

- Here you can monitor your scores and standing in the course and engage in discussion forums with the instructor and fellow students.

http://www.lamission.edu/lifesciences/Biology3Laboratories.aspx

- This is the LA Mission College life science department web page where you can download Biology 3 laboratory exercises and worksheets.

http://www.masteringbiology.com/

- This site contains the textbook publisher's online supplemental study material, practice questions and exercises

- Access requires a code you will receive when purchasing the textbook in the bookstore, or you can purchase access online for $60.50. You can also purchase access to **Mastering Biology AND the e-text for $91.30** (*with the e-text you do not need to buy a hard copy of the textbook*).

- Once you have access to the site, you will need to "join your online course" which will require the following Course ID: **BIO3SUMMER2013BROWN**. This not required will be a valuable resource for your studying and to assess your knowledge of the course material.

TUTORING SERVICES

There will be two Biology 3 tutors who will provide help during the lab sessions and tutoring after lectures on Tuesday and Thursday in CMS 110.

SPECIAL ACCOMMODATIONS

If you require special accommodations for a disability, religious holiday, etc, please inform me within the first week of the course and I will accommodate you if at all possible. For accommodations due to disability, you must consult the Disabled Student Programs and Services office after which we will abide by their recommendations.

RECOMMENDATIONS FOR SUCCESS

This is a demanding class covering a lot of information. Here are some suggestions:

- do **NOT** fall behind in the course, keep up with the material on a weekly basis
- each time you study, spend a few minutes reviewing previous lessons (this is the secret to long term memory)
- outline the powerpoint notes, this will help you to mentally organize the large amount of material you will be learning
- use associations, acronyms to help you remember things
- create flash cards and form study groups if you find that helpful
- **know the key terms** (you can't answer questions correctly if you don't!)
- at a **minimum**, you should **learn** the course material **3 times** in order to retain it well for the exams and quizzes:

  1) **comprehend** the class material during the lecture
  2) **read** the corresponding material in the text while reviewing your notes
  3) **review** your notes and key terms before the exams

*****If you don't do at least this much, you won't do well in this class*****

Code of Honor and Integrity
Los Angeles Mission College
Department of Life Sciences

Students at Los Angeles Mission College, because they are members of an academic community dedicated to the achievement of excellence and the pursuit of honor, are expected to meet high standards of personal, ethical, and moral conduct. These standards require personal integrity and a commitment to honesty without compromise. Without the ability to trust in these principles, an academic community and a civil society cannot exist. Los Angeles Mission College students and faculty are as committed to the development of students with honesty and integrity as they are to the academic and professional success of its students.

The Code of Honor and Integrity is an undertaking of the students, first and foremost, both individually and collectively, that they will:

1. Not give or receive dishonorable aid during exams, quizzes or assignments

2. Do their share and take an active part in seeing to it that fellow students, as well as themselves, uphold the spirit and letter of the Code of Honor and Integrity.

Some examples of conduct that are regarded as being in violation of the Honor Code include:

- Copying from another's examination or quiz, or allowing another to copy from one's own papers
- Using any unpermitted source of information, human or other, during an exam, quiz or assignment that influences the grade; this includes the use of technological devices
- Any student-to-student collaboration that is unpermitted
- Plagiarism (plagiarism is defined as the use, without giving reasonable and appropriate credit to, or acknowledging the author or source, of another person's original work)
- Representing the work of another as one's own work
- Giving or receiving aid on an academic assignment under circumstances in which a reasonable person should have known that such aid is not permitted

As a part of the effort to promote an environment of honesty and integrity during quizzes and examinations, the following guidelines will apply for any courses in the Department of Life Sciences:

1. Students will leave all books and all other non-essential items (e.g. paper, electronic devices) on the floor so that they are not useable nor block the sight line between professor and student. No electronic devices will be in reach.

2. Students will not communicate in any way that will dishonorably assist themselves or another student.

3. Students will leave the room during an exam only if permitted by the professor's policy. If permitted, only one student may leave the room at any time and be gone for only the average length of time needed for the stated purpose. Students will leave all purses, bags, books, phones, jackets, etc., in the classroom during the absence.

4. Students will promote the spirit and letter of the Code of Honesty and Integrity by dissuading fellow students from dishonest activity and, when such casual persuasion does not work, informing the professor of the possible dishonest activity, either anonymously, or otherwise.

5. Students will make every effort to avoid even the appearance of dishonesty or lack of integrity.

Violation of this policy will not be tolerated and violators will be subject to severe penalties. The success of the Code of Honor and Integrity is based upon the collective desire of students, faculty and the community to live in an environment that embraces respect for that which is right – both in the college and in society as a whole.

LECTURE SCHEDULE
(tentative)

Week	Date	*LECTURE TOPIC (textbook reading)
1	June 10	Introduction; Scientific Method **(ch 1)**
	June 11	Atoms & Molecules **(ch 2.1-9)**
	June 12	Water & pH **(ch 2.10-16)**
	June 13	**QUIZ:** Biological Macromolecules: Polymers, Carbohydrates & Lipids **(ch 3.1-10)**
2	June 17	Biological Macromolecules: Proteins & Nucleic Acids **(ch 3.11-16)**
	June 18	Cell Structure **(ch 4)**
	June 19	Membranes & Membrane Transport **(ch 5.1-9)**
	June 20	**QUIZ:** Energy & Enzymes **(ch 5.10-16)**
3	June 24	Tissues & Organ Systems **(ch 20)**
	June 25	**EXAM #1 (ch 1-5)**
	June 26	Cellular Respiration **(ch 6)**
	June 27	**QUIZ:** Photosynthesis **(ch 7)**
4	July 1	Digestive **(ch 21)** & Respiratory **(ch 22)** Systems
	July 2	**QUIZ:** Cardiovascular System **(ch 23)**
	July 3	Cardiovascular System (cont'd) **(ch 23)** & Urinary System **(ch 25)**
	July 4	***Holiday – 4th of July***
5	July 8	Cell Division: Mitosis & Meiosis **(ch 8)**
	July 9	**EXAM #2 (ch 6, 7, 20- 23 & 25)**
	July 10	Principles of Genetic Inheritance **(ch 9)**
	July 11	**QUIZ:** Principles of Genetic Inheritance (cont'd) **(ch 9)**
6	July 15	DNA Structure & Replication **(ch 10.1-5)**
	July 16	**QUIZ:** Gene Expression **(ch 10.6-16)**
	July 17	Evolution & Natural Selection **(ch 13)**
	July 18	Evolutionary History & the Origin of Species **(ch 14 & ch 15)** ******Written Assignment Due******
7	July 22	Taxonomy, Microbial Life, Fungi & Plants **(ch 16-17)**
	July 23	**EXAM #3 (ch 8-10, 13-15)**
	July 24	The Animal Kingdom **(ch 18-19)** Flowering Plant Structure & Reproduction **(ch 31 & 32)**
	July 25	***FIELD TRIP TO LA ZOO – TOUR BEGINS @ 11:00 (NO LECTURE TODAY!)***
8	July 29	Flowering Plants (cont'd) **(ch 31 & 32)**
	July 30	**QUIZ:** Male & Female Reproductive Systems **(ch 27)**
	July 31	Pregnancy, Embryonic Development & STDs **(ch 27)**
	August 1	****EXAM #4 (ch 16-19, 27, 31, 32)**

*** The lecture notes are available in PDF format on the instructor's LAMC website:**

http://www.lamission.edu/~brownst/1486

****Quiz #8 will be given along with Exam #4**

NOTE: Lecture quizzes will cover material from previous lectures.

LABORATORY SCHEDULE

WEEK	DATE	LAB – TOPIC
1	**June 10**	**LAB 1A –** Scientific Inquiry
	June 12	**LAB 1B –** Metric System
2	**June 17**	**LAB 2 –** Molecules, Water & pH
	June 19	**LAB 4 –** Macromolecules
3	**June 24**	**LAB 5 –** Enzymes
	June 26	**LAB 6 –** Respiration
4	**July 1**	**LAB 7 –** Photosynthesis
	July 3	**LAB 12 –** Cardiovascular Health
5	**July 8**	**LAB 3 –** Microscopy & Cells
	July 10	**LAB 8 –** Mitosis & Meiosis
6	**July 15**	**LAB 9 –** Genetics
	July 17	**LAB 10 –** DNA & Gene Expression
7	**July 22**	**LAB 11 –** Natural Selection
	July 24	***NO LAB***
	July 25	***FIELD TRIP TO LA ZOO – TOUR BEGINS @ 11:00***
8	**July 29**	***LAB PRACTICAL EXAM***
	July 31	**LAB 13 –** The Plant Kingdom

Copies of the labs are available as a "Lab Pack" in the bookstore or can be downloaded from the following web pages:

http://www.lamission.edu/lifesciences/Biology3Laboratories.aspx

OR

http://www.lamission.edu/~brownst/2118

NOTE:

- ***There will be a 2 point quiz given at the beginning of each lab pertaining to the day's exercises. To be prepared for this you need to read the lab ahead of time.***
- ***A quiz worth 8 points will be given at the end of each lab.***
- ***Worksheets for each lab are due by the beginning of the next lab.***

SCORE SHEET

LECTURE POINTS

Quiz #1		**Exam 1**	
Quiz #2		**Exam 2**	
Quiz #3		**Exam 3**	
Quiz #4		**Exam 4**	
Quiz #5		**Written**	
Quiz #6			
Quiz #7			
Quiz #8		***8 ESSENTIAL***	***SKILLS***
		Unit 1	
		Unit 2	
		Unit 3	
		Unit 4	
		Unit 5	
		Unit 6	
		Unit 7	
		Unit 8	

LAB POINTS

			Wksh	Part
Quiz #1A		**Lab 1A**		
Quiz #1B		**Lab 1B**		
Quiz #2		**Lab 2**		
Quiz #3		**Lab 3**		
Quiz #4		**Lab 4**		
Quiz #5		**Lab 5**		
Quiz #6		**Lab 6**		
Quiz #7		**Lab 7**		
Quiz #8		**Lab 8**		
Quiz #9		**Lab 9**		
Quiz #10		**Lab 10**		
Quiz #11		**Lab 11**		
Quiz #12		**Lab 12**		
Quiz #13		**Lab 13**		
		Field Trip		
Prac. Exam		**Lab Exam**		

Mastering Biology course ID: **BIO3SUMMER2013BROWN**

LECTURE possible points:

- quizzes – 15 pts ea
- exams – 100 pts ea
- written assignment – 20 pts
- 8 Essential Skills – 10 pts ea

LAB possible points:

- lab quizzes – 10 pts each
- practical exam – 50 pts
- lab exam – 50 pts
- lab worksheets – 5 pts ea
- participation – 5 pts per lab

To keep track of your performance throughout the course, enter your scores in the chart above as you receive them. At any point you can add up your total points earned and divide by the total points possible at that stage of the course. Multiply this by 100% and then compare with the grade scale on page 3 of the syllabus to see how you are doing.