West L.A. College-Science Division; www.wlac.edu
Bio-3-W03-26608-INTRODUCTION TO BIOLOGY (4 units)
Spring 2019

Instructor: Dr. Begona de Velasco
E-mail: develab@wlac.edu (best way to reach me)
Office hours: F during breaks 9:30-9:45 & 11:10-11:30, via email, OR by appointment
Class hours: F 8-11:10 & 11:30-2:40 pm, Room: MSA-309

Catalog course description: This course is designed for non-biology majors and emphasizes the basic principles in biology and the fundamental characteristics of organisms. Topics covered in lecture and in lab include the scientific method, basic biological molecules, cell structure and function, energy acquisition, reproduction, gene expression, genetics, evolution, and ecology. This course fulfills the general education (GE) requirement for a biological science course with laboratory.

Course Description: This is a course in general biology designed to fulfill a laboratory science requirement and will also provide a foundation for advanced courses in biology, including human anatomy, physiology, and microbiology. The lecture portion of the course emphasizes the basic principles in biology, cell structure and function, and the levels of organization in the human body. Lecture topics include the scientific method, biological molecules, cellular respiration, photosynthesis, reproduction, heredity, molecular genetics, evolution & ecology.
The laboratory portion of the course supports and enhances the lecture class. It includes an introduction to the microscope, detailed study of cells, a survey of the microorganisms, plants, and animals that comprise the 6 Kingdoms of life, and a detailed dissection and study of the fetal pig. Emphasis is on critical analysis and the diversity of life.
Bio-3 meets for 6 hours and 20 min on Friday for 16 weeks. It is a 4-unit science course that includes a laboratory portion. You will receive one grade for lecture and lab.

Student Learning Objectives for lecture: Upon completion of this course, students should be able to:
1. Explain the scientific method, its applications & limitations.
2. Describe the general characteristics of life as well as how life is based on levels of biological organization, from atoms to biomes.
3. Distinguish between biomolecules (lipids, carbohydrates, proteins, and nucleic acids) and their functions.
4. Differentiate between gene, DNA and mutations.
5. Explain what is biotechnology and its uses in today's society, ethical issues.
6. Explain the inheritance & transmission of different genetic traits.
7. Describe the uniqueness of a prokaryotic and eukaryotic cells including their components and functions.
8. Enumerate how organisms reproduce versus how cells reproduce and how cancer forms.
9. Describe some common human diseases based on the organism cause: virus, bacterium, protist, fungi.

10. Relate evolutionary mechanisms to the formation of new species.
11. Explain the importance of ecology and how to be a conscious citizen.
12. Describe the structure & function of some organ systems in the human body.

Student Learning Objectives for lab: Upon completion of this course, students should be able to:

1. Measure using the metric system.
2. Manipulate a light microscope and describe its parts.
3. Differentiate the appearance of a prokaryotic & eukaryotic cells when viewed through the microscope
4. Recognize the influence of concentration, temperature and pH on an enzyme activity.
5. Analyze and describe the difference between diffusion and osmosis.
6. Identify a simple method to test for sugars, starch and protein.
7. Describe the main type of cell division: mitosis and meiosis.
8. Describe a virus and a bacterium and give several examples related with human health.
9. Identify several examples of protist and fungi organisms and explain their benefits.
10. Classify some of the leaves from WLAC campus following a dichotomous key.
11. Recognize the main parts of a flower.
12. Describe briefly the evolution in the plant kingdom by providing examples for each category.
13. Describe the main characteristics, and an example, for each animal phylum.
14. Identify the most prominent organ in a fetal pig.

Student Learning Outcomes (SLO)

1. Identify the functions of carbohydrates, lipids, proteins, nucleic acids and confirm their presence using standard laboratory protocols
2. Identify cell types and cell organelles using the microscope and relate their structure to essential processes of life

To view the detailed Bio 3 course of record, go to the link below:
http://ecd.laccd.edu/CC_Sheet.aspx?ID=209210&VersionID=3&Entry_ID=706213

Computer/Information Literacy Expectations: Students in this class are expected to: use the college email system, access assigned websites through the internet including GOOGLE.doc, use a word processor (e.g., Microsoft Word), power point, and be able to paraphrase concepts without plagiarizing.

Materials Required:

--Scantron 882-E forms for the lecture
--Fink, Mirmovitch and Zuk; Bio 3B Lab Manual Fall 2018 ed.
--online material: https://drive.google.com/drive/folders/0B4zGDVOey8rcTnNlcHpsMlRmdmc
----You can use the following free links to review the class material by chapters and test yourself.
http://highered.mcgraw-hill.com/sites/0073525529/student_view0/index.html
----20 questions pre- and post-test for each chapter:
http://www.mhhe.com/biosci/genbio/maderinquiry/quiz.html (90 questions per chapter)

Recommended textbook:
-- Sylvia Mader, Inquiry into Life, 15nd ed., McGraw-Hill Publishers, 15th ed. 2015 (ISBN 978-1-259-42616-2); 14th ed. 2014 (ISBN 978-0-07-352552-5); or 13th ed, 2011.

POINT DISTRIBUTION: The grade final grade for the course will be 75% from lecture and 25% from lab.
FOR LECTURE: The points will be distributed as earned on

- 3 Exams (at 100 points each)= 300 points= 50%
- Activities & quizzes= 150 points= 25%

FOR LAB:

- 2 Exams at 50 pts each= 90 points = 15%
- Lab activities & quizzes= 60 points = 10%
  Total points= 600 points

Grade Scale (% at the end of the semester): A=100-90%, B=89-80%, C=79-70%, D=69-60%, F=59-0%

FOR LECTURE:

--Homework has to be done before lectures AND it is not for points. You have to actively read the power points or the textbook chapters and work on the practice questions.

--Exams: Four lecture exams will be given during the semester and the lowest will be dropped. Exams will be objective questions based on the power point presentations, lecture notes and the reading from the textbook. The exams will be in the format of multiple choice questions, fill-in the blank, matching concepts, and true/false. Practice questions will be provided to you before the exams and to get you ready for the tests. There is **NO makeup exams**, if you miss an exam (due to an emergency) it will be the one to drop. I reserve the right to curve individual exams if necessary. *I reserve the right to test on any material covered in the book or readings, even if the material was not discussed in class.*

--Pints for activities and quizzes points will be earned during class time, dates will be announced in class. Up to 100 points only will count only towards your grade. Any extra points obtained above this limit will NOT count towards the grade.

FOR LAB:

--Exams will be given during the semester based on the lab. The exams will be in the format of multiple choice questions, fill-in the blank, matching concepts. There will be **NO** makeup exams; students who miss an exam **will take the final** and the grade of the final exam will be **doubled**.

--Non exam activities and Quizzes points will be earned during class time, dates will be announced in class.

CLASS POLICIES

-Lab Safety: There will be NO eating or drinking in lab. Students must follow safety instructions and dress appropriately (no loose fitting or hanging clothing, jewelry or hair that could get caught or burned). Students must follow all directions, take proper care of and be respectful to the live animals.

-Class meetings are to clarify and expand on your readings. All readings from the book, study questions, and homework are your responsibility to complete. If there is anything you do not understand, I want you to feel free to ask questions during lectures as discussions are welcomed (time permitting).

-Be respectful: **on time** attendance, no laptops for MOVIES, no cell phones, texting, or headphones.

-According to Administration regulation E13, attendance is mandatory. Whenever absences, in hours, exceed the number of hours the class meets per week, the instructor will drop you. YOU are responsible for the information whether or present or not.

-There is a NO Eating and Drinking policy in the classroom.

-Religious observances: Please notify me in advance of religious observances that interfere with class attendance.

-Office of Disabled Student Programs and Services (DSP&S) Student Services Building (SSB) 320| (310) 287-4450. West Los Angeles College recognizes and welcomes its responsibility to provide an equal educational opportunity to all disabled individuals. The Office of Disabled Students Programs and Services (DSP&S) has been established to provide support services for all verified disabled students pursuing a college education. DSP&S students may qualify for: priority registration, registration assistance, special parking permits, sign language interpreters and assistive technology (WLAC College Catalog).

-No **cheating or plagiarizing:** no copy from some else work or EXAM (will take pictures if needed) Cutting and pasting from the internet is plagiarism. This course will be conducted in accordance with the

College Policy on Academic Integrity. Academic dishonesty, including cheating or plagiarism, will be subject to standard disciplinary procedure, which may result in a grade of F for the course, which may not be appealed or repeated and canceled.
- Student Conduct: According to code 9803.15, disruption of classes or college activities is prohibited and will not be tolerated. Refer to the catalog and the Standards of Student Conduct in the Schedule of Classes for more information.
- **Recording Devices:** State law in California prohibits the use of any electronic listening or recording device in a classroom without prior consent of the instructor and college administration. Any student who needs to use electronic aids must secure the consent of the instructor. If the instructor agrees to the request, a notice of consent must be forwarded to the Vice President of Academic Affairs for approval (WLAC College Catalog). For more information refer to the attached link: http://www.wlac.edu/academics/pdf/WLAC_Catalog_Policies.pdf
- **Instructional Support (Tutoring) & Learning Skills Center:** Heldman Learning Resources Center (HLRC) | (310) 287-4486. Improve your reading, language, vocabulary, spelling, math fundamentals and chemistry knowledge with convenient, self-paced computer-aided courses in the Learning Skills Center. Increase your knowledge and learning success: sign up for tutoring in various college subjects (WLAC College Catalog).
- Library Services: Heldman Learning Resources Center (HLRC) | (310) 287-4269 & (310) 287-4486.
The WLAC Library provides instruction on how to use the online catalog, periodical and research databases. In addition to a large collection of books, periodicals and videos the WLAC Library has course textbooks which students may use while in the Library. Web access is available in LIRL as well as meeting rooms. For more information: http://www.wlac.edu/academics/pdf/WLAC_Catalog_Policies.pdf
- **Campus Sheriff's Office (Emergency Preparedness):** C3 Building, Parking Lot 5 | (310) 287-4311 & (310) 287-4314. For more information: http://www.wlac.edu/Sheriff/Index.aspx.
The Sheriff's Office website includes information about drill or emergency building evacuations, Title IX resources (if you have been the victim of Sexual Harassment; Sexual Violence and/or Gender-Based Discrimination), and what do to in the event of a lock-down or active shooter situation.
For more information: http://www.wlac.edu/academics/pdf/WLAC_Catalog_Policies.pdf

-Tips for Success: Budget 4 hours of study per lecture, form study groups, complete and understand all the problem/review question/study guide sets, have good attendance, ask questions in office hours, participate in class.

COURSE EXPXECTATIONS
What do I expect from you as a student in this course?

1. **Preparation**: Come to class with an open mind, prepared to learn (i.e. having completed the reading and other assignments; bringing your notes). Note that this class has a significant amount of team work of your grade a result of team performance.
2. **Courtesy & respect**: Interact with the instructor and your fellow students in a professional, courteous way (be on time, refrain from side conversations during class time, contact us if an emergency arises, etc.) All laptops, cell phones, and other electronics are to be turned off and put away during class except when you are asked to use them.
3. **Time on task**: To earn A in this class, we expect you to spend 4 hours total *each* week on class activities.
4. **Curiosity**: Ask questions whenever something isn't clear or you want to know more.
5. **Honesty**: In accordance with university policy, a student who commits academic dishonesty (cheating, plagiarism, etc.) will receive appropriate penalties, including a 0 on the exam, quiz, or assignment, and the possibility of receiving an F for the course.

What can you expect from the instructor in this course?

1. **Preparation**: prepared activities and assignments that will help you master the material and improve your skills.
2. **Courtesy & respect**: treat you in a professional and courteous way at all times.
3. **Availability**: accessible during office hours or by appointment to help you understand.
4. **Enthusiasm**: professionals who have spent years learning many different facets of biology; we will share with you our love of biology.
5. **Fairness**: prepared exams, quizzes, and assignments that fairly represent the material and that are fairly graded.

TENTATIVE SCHEDULE: the instructor reserves the right to make changes as necessary to this syllabus.

Date	Lecture Topic	Textbook Chapters	LABORATORY TOPIC	Lab manual section
Feb 8	1-Life	1	Life & Scientific Method Measurement in Biology-I	1 2
Feb 15	Presidents day			
Feb 22	2-Biomolecules	2	**Quiz**, Measurement in Biology-II The Microscope & Its Uses	2 3
Mar 1	3-Nutrition & digestion	14	**Quiz**, Organic Compounds	4
Mar 8	**EXAM 1** 4-DNA & Biotechnology	25-26	**Report**, Transport In Biological Systems	5
Mar 15	5-Cell	3	**Quiz**, The Cell & Single Celled Organisms	6
Mar 22	6-Genetics	23, 24	**MIDTERM**	
Mar 29	Cesar Chavez Day			
Apr 5	Spring Break			
Apr 12	**EXAM 2** 7-Cell energy	7-8	Photosynthesis	8
Apr 19	8-Microbiology: v/b/p/f	28	**Quiz**, Cellular Respiration	9
Apr 26	9-Evolution	27, 31	**Quiz,** Diversity: Prokaryotes & Eukaryotes	10
May 3	**EXAM 3** 10-Ecology	33, 34, 35	Plant Kingdom (Evo + Monocot/Dicot)	11
May 10	11-Reproduction-development	21-22	**Quiz**, Animal Kingdom (Evolution & Survey)	12
May 17	12-Cell division-cancer	5	**Quiz**, Cell Division (Mitosis & Meiosis)	13
May 24	13-Hormones	20	**FINAL EXAM** Fetal Pig, **quiz**	14
May 31	**EXAM 4= Final Exam**			