Biology 123-501; Biology for Health Related Sciences and Non-majors
Summer 2015—Monday & Wednesday 9-11:45; A133
Dr. Melanie Sanchez-Dinwiddie

Hello and welcome,

I am thrilled to have you enrolled in this course. I am an enthusiastic instructor who is dedicated in helping you achieve your goals. Part of your education will be to understand that you need to always be a student, even when, and more importantly when, you leave these campus halls. I will put forth my best effort to inspire you to be a lifelong learner through molecular, cellular, and organismic human biology. The summer term is unique because of its intensity.

While this is a human biology course there is more to a college education than facts and figures. You should be striving to further your skills in problem solving, critical thinking, analysis, teamwork and communication. Providing a classroom environment that promotes these is one of my main objectives.

I look forward to getting to know you,
Dr. Sanchez

Contact Information: email- melasanc@unm.edu, Office A132, phone 925-8875.

Office Hours: I am here for *you* to succeed. If you need to see me outside of class please stop by anytime or schedule an appointment. I will be on campus only on Monday & Wednesday.

Students with disabilities: Qualified students with disabilities needing appropriate academic adjustments should contact the instructor by the end of the 1st week of the semester to ensure that your needs are met in a timely manner.

Course description: Principles of cell biology, genetics, and organismic biology are addressed.

Student Learning Objectives: At the completion of this course you will be able to:

- produce a discussion on the chemistry of living things,
- explain and illustrate the structure and function of cells,
- interpret results from a patient who ingests poison that interrupts cellular respiration,
- explain and illustrate mitosis and meiosis,
- calculate monohybrid and dihybrid genetic crosses,
- construct a pedigree,
- explain and illustrate the tissues of the human body,
- produce a discussion on the anatomy and physiology of the following organ systems: muscular, cardiovascular, skeletal, respiratory, and nervous; and
- investigate a case study involving cardiovascular distress.

Grading Policy: The course grade will be determined as follows:

Connect	20%	Exam #1	20%
- LearnSmart (*10%*)		Exam #2	20%
- Quiz (*10%*)		Exam #3	20%
Problem Based Learning	20%	Final Exam	20%

The lowest score of the 3 exams will be dropped. There are no make-up exams.

Attendance: I do not recognize an excused absence versus an unexcused absence. You are either here or not. If you have to miss class you are responsible for acquiring the information covered in class. The problem-based learning exercises have an attendance component therefore those days are weighed heavier for attendance.

Withdrawal: If a student drops the course after the deadline to drop without a grade, Friday, June 12th , a grade of W ***may*** be given. It will be at the instructor's discretion whether a W will be granted. This means by withdrawing you may earn a grade of F.

University Policy: You are responsible for knowing all university policies that are in the student catalog. This includes policy on cheating, plagiarism, and grade options. **You are responsible for maintaining your scholarship or funding for your education.**

Required textbook: Human Biology, Cecie Starr and Beverly McMillan, 10th ed.

***UNM Learn*:** This is where you will find course materials learn.unm.edu.

- Course syllabus
- Exam study guides
- Lecture PowerPoint slides
- Instructions for writing PBL papers
- Email for instructor and classmates

McGraw Hill Connect: You are required to read the chapter that is to be presented in class *prior* to class and answer questions that address the material. During class I will have activities that requires you to discuss information, use the material, or solve problems. In order for this to benefit you the most you will need a basic understanding of the material being addressed. The reading will be done either using a hard copy of Human Biology or reading through LearnSmart. The assignments that are due prior to each class are LearnSmart assignments. You will also have quizzes that review material after we have covered it in class. These assignments can be found in Connect. http://connect.mheducation.com/class/m-sanchez-dinwiddie-smartstart-course

Success in this course: This course will be challenging because I will not only require you to learn information I will also require you to apply the information you have learned. Look at the following example to distinguish between these:

Example #1— 1. Define phenotype.
(This question tests your acquisition of information.)

Example #2— 2. Mirinda is a young female student at UNM-VC who is majoring in Nursing. Mirinda would like to work in labor and delivery at UNM hospital. Which of the terms in this statement describes Mirinda's phenotype? Support your answer.
(This question tests your ability to apply the information you have acquired.)

As you can see Example #2 requires you to understand the definition of phenotype and be able to apply it to a scenario. As the semester continues you will recognize that Example #2 is harder than #1. This type of question is what makes this course much more challenging than one realizes. I do this for two reasons: the first being that Example #2 demands the student to have a deeper understanding of the material, and the second being that Example #2 forces students to further their problem solving and thought process skills. By doing this I hope to have you better prepared for life outside this classroom.

Bloom's Taxonomy: Dr. Benjamin Bloom was a psychologist who worked on theories of education and learning. He was one of the first to publish a system for the classification of learning objectives. Since that publication (1956) that classification has been modified and improved. The aim of "Bloom's Taxonomy" is to achieve a higher level of learning and thought process. As an instructor I will construct this course with Bloom's Taxonomy in mind. I have provided Bloom's Taxonomy here. You do not need to memorize this list however, an understanding of the following list will benefit you.

Cognitive Process	What the Learner Does	Action Verbs for Cognitive Process	Examples
Remember	Recalls or recognizes information: facts, definitions, generalizations.	List, describe (from memory), name, label, repeat, recall, identify, state, select, match, know, locate, recognize, observe, choose, who, what, where, when, cite, define, indicate, memorize, outline, record, relate, reproduce, sort	-List the four biological molecules. -Identify the muscles of the forearm.
Understand	Constructs meaning by interpretation, classification, comparing, explaining, summarizing.	Arrange, associate, clarify, compare, convert, demonstrate, diagram, discuss, estimate, explain, extend, generalize, illustrate, organize, outline, paraphrase, restate, review, relate, sketch, summarize, translate, transform, similarities and differences, give examples	-Illustrate the four biological molecules. -Explain the function of cellular respiration.
Apply	Use methods, concepts, principles and theories in new situations; solve realistic problems that require the identification of issues and use of appropriate generalizations and skills.	Apply, calculate, change, collect, compute, construct, demonstrate, develop, employ, graph, illustrate, interpret, investigate, manipulate, modify, operate, practice, predict, prepare, produce, schedule, sketch, solve, use	-Produce a chart of the presence of the four biological molecules in a food sample. -Predict the action of a forearm muscle.
Analyze	Identifies how parts relate to one another or to a larger structure or purpose; considers available evidence to reach a conclusion, inference or generalization.	Analyze, appraise, break down, criticize, debate, deduce, detect, deconstruct, determine evidence and conclusions, discriminate, dissect, distinguish, examine, experiment, focus, find coherence, interpret, investigate, infer, inspect, inventory, map, question, relate, research, select, separate, structure, survey, test	-Interpret the results of an experiment to identify the four biological molecules. -Relate the structure of a protein to its function.
Evaluate	Judges the value of something by setting up criteria, processes, or standards and then determining how closely the idea or object meets the standards.	Coordinate, judge, select/choose, decide, debate, evaluate, justify, recommend, verify, monitor, the best way, what worked, what could have been different, what is your opinion, appraise, assess, conclude, criticize, discriminate, estimate, grade, prioritize/rank, rate, revise, score, support, value	-Evaluate why bone is composed of mostly minerals and not biological molecules. -Support your answer.
Create	Brings together parts to form a new whole or solve a problem that requires new creative thinking (at least new to the learner).	Create, hypothesize, design, construct, invent, imagine, discover, develop, induce, bring together, compose, pretend, predict, organize, plan, modify, improve, suppose, produce, set up, propose, formulate, solve (more than one answer), arrange, assemble, combine, devise, generate, manage, perform, prepare, dramatize, paint, compose, rearrange, reconstruct, relate, reorganize, revise, argue for, speculate	-Design an experiment to investigate the presence of biological molecules in a food sample. -Construct an argument for the necessity of phospholipids in a cell membrane.

Biology 123-Section 501 Summer 2015 Schedule

Week	Date	Chapter Title	Ch. #	LS Due	Quiz Due	PBL Due
1	Mon 6/1	Welcome—The Study of Life	1	Ch. 1		
		The Molecules of Cells	2			
	Wed 6/3	The Molecules of Cells	2	Ch. 2		
		Cell Structure and Function	3	Ch. 3		
2	Mon 6/8	Cell Structure and Function	3	Ch. 3.2	Ch. 2	
		Membrane Structure and Function	4	Ch. 4		
	Wed 6/10	Membrane Structure and Function	4	Ch. 4.2	Ch. 3	
		Cell Division	5	Ch. 5		
3	Mon 6/15	Exam #1			Ch. 4	
		Cell Division	5	Ch. 5.2		
	Wed 6/17	Metabolism	6	Ch. 6	Ch. 5	
		Cellular Respiration	7	Ch. 7		
4	Mon 6/22	Cellular Respiration	7	Ch. 7.2	Ch. 6	
		PBL #1-Start				
	Wed 6/24	PBL #1-Finish			Ch. 7	
		Patterns of Gene Inheritance	23	Ch. 23		
5	Mon 6/29	Exam #2			Ch. 23	
		Chromosomal Basis of Inheritance	24	Ch. 24		
	Wed 7/1	DNA Structure and Gene Expression	25	Ch. 25	Ch. 24	PBL #1
		PBL #2-Start				
6	Mon 7/6	*Off-4th of July Holiday*				
		Off-4th of July Holiday				
	Wed 7/8	PBL #2-Finish			Ch. 25	
		Human Organization	11	Ch. 11		
7	Mon 7/13	Exam #3			Ch. 11	
		Cardiovascular System	12	Ch. 12		
	Wed 7/15	Cardiovascular System	12	Ch. 12.2		PBL #2
		Digestive System and Nutrition	14	Ch. 14		
8	Mon 7/20	Nervous System	17	Ch. 17	Ch 12, 14	
		Musculoskeletal System	19	Ch. 19		
	Wed 7/27	Review			Ch. 17, 19	
		Final Exam				