SUNY COLLEGE AT OLD WESTBURY BIOLOGICAL SCIENCES .
SUMMER II 2018: July 9 – August 8 BS2410,
BASIC BIOLOGICAL SCIENCE II Class Time: Mon- Thurs 9:00 am -11:30 am

Instructor: Dr. Ramesh Matcha.
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Office Hours: TBA
Course Textbook: Biology. Raven, et. al. latest edition, McGraw Hill Publishing. ISBN: 978-0-07-353222-6

Lab textbook: Biological Investigations. Dolphin, W. 10th edition, McGraw Hill Publishing. ISBN: 978-0-07-338305-7

Learning Objectives

Core Concepts

1. Evolution:

a. Understand the theory of evolution and the mechanisms involved in evolutionary processes and sources of genetic variability.

2. Structure and Function:

a. Understand the hierarchical organization of life and the concept of emergent properties.

b. Understand anatomy and physiology of plants and animals in a comparative and evolutionary context.

3. Information Flow, exchange and storage:

a. Understand signaling mechanisms, ie. hormones, neuropeptides and neurotransmitters, and regulatory processes, e.g. negative and positive feedback, inhibitory versus excitatory signals, leading to homeostasis in biological systems.

4. Pathways and transformations of energy and matter:

a. Understand the principles of thermodynamics as they relate to molecular structure, energy conversion, and enzyme function.

b. Understand energy transactions and energy flow at the biochemical level.

5. Systems: a. Understand dynamic interactions of components at one level of biological organization to the functional properties that emerge at higher organization levels, e.g. understanding how.

Competencies

1. Applying the process of science: Students will understand and apply the process of science: through observation of a phenomenon, formulation of a hypothesis, testing by experimentation, data collection and analysis.

2. Interpreting multiple representations: Students will be able to analyze information presented in different forms, e.g. tables, figures, flow charts and diagrams.

3. Ability to use quantitative reasoning: Students will be able to apply quantitative reasoning through the application of mathematical algorithms and or models to the study of biological processes, e.g. metabolism, estimation of population size, estimation of population growth etc..., and to the analysis of data for hypothesis testing.

4. Ability to tap into the interdisciplinary nature of science: Students will analyze concepts using an interdisciplinary approach, e.g. understanding structural features or processes from a molecular point of view using chemistry.

5. Ability to communicate and collaborate with other disciplines: Students will be able to communicate biologically relevant information both orally (communicating to their professor and their peers) and in written form (written essay exams, discussion boards and lab reports).

Students will understand the connection between science and society: e.g. understanding the impact of scientific advances on our ability to tackle societal issues such as global warming, epidemics, energy policy.

COURSE FORMAT:

The lecture component of this course meets 4X a week. Although the focus during the lecture will be on presenting the material through PowerPoint and chalkboard presentations, there will often be in-class activities and discussion, which will be critical for a greater understanding of the material. You should expect to spend **a minimum of 10 hours outside of class per week** keeping up with the course work. In addition, it is highly recommended that you review the material PRIOR to coming to class.

The laboratory portion of the course will meet once per week and will primarily be spent performing laboratory exercises, often with short pre- and/or post-lab discussions. The purpose of the lab is for you to gain some hands-on experience with the material learned during lecture, in order for you to establish a deeper understanding of the concepts. Therefore, while we will be working in groups of 4, it is critical that everyone participate. Again, it is highly recommended that you read the lab before coming to class.

What you get out of the course depends in large part on you and what you put into the course. I am here to present the material and help you learn, but you are responsible for doing the assignments, reading and studying the material necessary to pass the course and obtain a satisfying grade.

Classroom Etiquette Policy: In order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cell phones and pagers, are to be disabled in class sessions.

PANEL E: GPA

GPA >3.0	n	Mean	Std.Dev.	t-stat	p-value (two-tailed)
Texting	12	41.61	10.50	3.47	.0020**
Non-texting	14	59.23	10.96		
GPA< 3.0					
Texting	19	41.58	9.58	5.03	.0001***
Non Texting	17	58.23	10.29		

**p<0.05.
***p<0.01.

ASSESSMENT:

Examinations (500 points) (80% of lecture grade)

There will be 5 exams throughout the summer session (including the final) and each will have a value of 100 points. The exams will be based on the learning objectives, which will be provided for each chapter in your textbook. All of the material presented (textbook information as well as in-class activities and discussions) will be used in creating the exams; therefore, it is imperative that you participate during class activities in order to fully prepare for the exams. The exams may consist of objective type questions, short answers, or long essays, or a combination of these.

Missing/Make-up Exams

You are expected to take all class exams on time. Only extenuating circumstances are acceptable for missing a class exam and cases will be handled on an individual basis. Failure to contact the instructor within 24 hrs of a missed exam will result in a 10% per day grade.

penalty for that Exam. You must notify me in writing (email is OK) and only serious mitigating circumstances will be accepted. The exam has to be made up. Missing an exam without explanation will result in a grade of 0% for that exam.

Online Quizzes (300 points) (5% of lecture grade):
For each chapter covered, there will be an online quiz. These quizzes must be completed on a timely manner.

Homework Assignments (100 points; 10% of lecture grade)

Online homework assignments are set up for each chapter. These may include short answers, short essays, or multiple-choice questions. These are similar to the online quizzes but cover more in-depth materials for each chapter.

Attendance/Participation (50 points) (5 % of lecture grade): Data shows that there is a direct correlation between attendance in a class and performance in the class. You are required to attend the lecture AND participate in the class activities. Each unexcused absence after 3, will adversely affect your attendance grade. Showing up 15 minutes late for class is counted as an absent. Use of your cell phone during class (surfing the internet, texting, or talking) will result in a '0' for the day AND if you are being disruptive, you will be asked to leave.

Example of calculating your grade. Say you earned 450 exam points, 250 for online quizzes, 75 for in-class activities, and 50 for attendance, then:

	Raw Score %	weigh factor	
Exam:	450/500 = 90% or 0.90	x 0.8	= 0.72.
Online quizzes:	250/300 = 80% or 0.8	x 0.05	= 0.04
Homework} Assignment}:	75/100 = 80% or 0.80	x 0.10	= 0.08.
Attendance:	50/50 = 100% or 1.0	x 0.5	=0.05
			0.89 or an 89.0 % in lecture

2) Grading Scale:

For all exams, quizzes, assignments, and final grade:

A = 93-100% A- = 90-92 % B+ = 87-89% B = 83-86% B- = 80-82 % C+ = 77-79% C = 73-76% C- = 70-72 % D+ = 67-69% D = 63-66 % D- = 60-62% F = below 60%

Withdrawing from the course: It is up to you to do the required paperwork should you decide to withdraw from this course. **Failure to withdraw officially from this course will result in grades of 0% for all missed quizzes and exams.** The last day to withdraw from the course this semester is March 11th. Withdrawal after this date is possible only in cases with documented mitigating circumstances and approval by your instructor.

Office of Services for Students with Disabilities SUNY/Old Westbury is committed to assuring that all students have equal access to learning and extracurricular activities on campus. If you have, or suspect you may have a physical, psychological, medical or learning disability that may impact how you function academically and/or your access to activities on campus, please contact Dr. Stacey Defelice, Director of the Office of Services for Students with Disabilities (OSSD). She will work with you to determine which accommodations you need and provide you with documentation for your professors. The OSSD is in the NAB,

Room 2064. OSSD services are free and confidential. In addition, we hire qualified note takers at $100.00 for the semester if you are enrolled in the course, and $9.00 an hour if you are not. You can reach Dr. Stacey Defelice at 516-876- 3009 or whittenl@oldwestbury.edu.

Plagiarism:

SCHOOL OF ARTS AND SCIENCES

POLICY ON ACADEMIC INTEGRITY

Plagiarism and cheating are condemned at all institutions of higher learning. These acts detract from the student's intellectual and personal growth by undermining the processes of studying, reading, note-taking and struggling with one's own expression of ideas and information. Moreover, cheating inevitably involves secrecy and exploitation of others. See "Academic Integrity" and related topics in the *Old Westbury Catalog, 2006-2008, p.46.*

Plagiarizing means "presenting somebody else's words or ideas without acknowledging where those words and ideas come from" (Ann Raimes, Keys for Writers, 5th ed., p.188). Examples include:

1. Copying material from the Internet or other sources and presenting it as your own
2. Using any author's words without quotation marks; using any quotation without credit
3. Changing any author's words slightly and presenting them as your own
4. Using ideas from any published sources (even in your own words) without exact credit. Note: This includes all material from the Internet or electronic databases.
5. Using long passages in a paper that have been written or rewritten by a friend or tutor
6. Turning in any assignment written by someone else

However, using quotations or borrowed ideas while giving exact credit is good academic procedure.

Other types of academic dishonesty include unauthorized collaboration or copying of students' work (cheating); falsifying grades or evaluations; and others. They are treated as equivalent to plagiarism.

When detected and verified, plagiarism and other academic dishonesty will be punished severely. Normally, the first offense will result in a failure on the specific assignment; a second offense or a particularly flagrant first offense will result in failing the course. A second verified instance of plagiarism within the School of Arts and Sciences, after report of a first verified instance, will normally result in failing the course in which the second instance occurs. Know what plagiarism is and how to avoid it; for guidance see Raimes or any other college writing handbook. **Please note: in this matter, ignorance is never an acceptable excuse.**

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LEC	DATE	TOPICS	CHAPTER
1	7/09	The Cell(Review)	4 6
2	7/10	How Cells Harvest Energy/Respiration	7
3	7/11	Photosynthesis	8
4	7/12	The Evidence for Evolution	21
5	7/16	EXAM1(Chapter 6,7,8, 21 Land/Seed Plant Evolution	31
6	7/17	Plant Structure and Transport	36 & 37
7	7/18	Transport and Plant Nutrition	38
8	7/19	Plant Development/Reproduction	41
9	7/23	EXAM 2 (Chapters 31,36,37,38 & 41) Animal Development	53
10	7/24	Animal Development (Continued)	53
11	7/25	Organization of The Animal Body Structure And Function	42
12	7/26	Digestive System	47
13	7/30	EXAM 3 (Chapters 53,42 & 47)	
14	7/31	Nervous System	43
15	7/31	Sensory System	44
16	8/01	Introduction to Endocrine System	45
17	8/02	EXAM 4 (Chapters 43,44, & 45) The Musculoskeletal System	46
18	8/06	Circulation Respiration	49 48
19	08/07	Osmotic Regulation The Immune System	50 51
20	8/08	FINAL EXAM	