CALIFORNIA STATE UNIVERSITY STANISLAUS
Department of Biological Sciences, Spring 2012

Biology 1010-1: Principles of Biology
Lecture: MWF: 1:00-1:50PM: Room P167 ♦ Office Hours: 11:00-12:00

Instructor: Plelaji Kyauka, Ph.D. ♦ Office N252, Tel. 664 3838 ♦ Email: Pkyauka@csustan.edu

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COURSE DESCRIPTION

Principles of Biology is an introductory course that covers the basic themes of biology and focuses on cellular and molecular biology, the principles of genetics, evolution and ecology. The first part of the course explores essential basic chemistry, biochemistry-the composition of organisms, cell structure and function, metabolism, photosynthesis, and chemical energy. Part two examines DNA structure and function, protein synthesis, gene control, mitosis, sexual reproduction and the role of meiosis, patterns of inheritance, human inheritance, and biotechnology. Part three covers the evidence of evolution, processes of evolution, origin of life, and early evolution. Part four focus is on population ecology, community ecology, ecosystems, the biosphere, and human effects on the biosphere.

COURSE REQUIREMENTS

1. **Textbook:** Campbell Essential Biology, 4th Edition, Simon, Eric J., Reece, Jane B., Dickey, Jean, L.
2. **Passing Grade:** On-time regular attendance, note taking and participation are highly recommended. Avoid conversations, texting, web-surfing, or other disruptive behaviors during lectures including arriving late or leaving early. Students are expected to demonstrate a high level of competence in order to receive a passing grade in this course.
3. **Student Assessment:** ***Content knowledge and critical thinking*** will be assessed based on three midterm tests (100 points each), a comprehensive final test (150 points), and classroom quizzes or assignments (50 points). The instructor reserves the right to give unannounced quizzes and classroom assignments during lectures. Students must take the midterm tests on the days and times scheduled**. No make-up Midterm Tests, Final Examination or Classroom assignments or Quizzes will be given**. If you have a compelling reason for not taking a test, you are encouraged to obtain a written documentation and schedule consultation with the instructor for consideration.
4. **¥GRADING:** Your Final grade for this course will be based on the sum total of all points scored on midterms, quizzes, classroom assignments and Final Test. The letter grades will be assigned as follows: The letter grades will be assigned as follows: **A = or > 475, A- = or > 450, B+ = or >425, B = or > 400, B-= or > 385, C+ = or >370, C = or > 350, C- = or > 335, D+ = or > 320, D = or > 300, D- = or > 250, F< 250.** There will be no extra credit work.
5. **Textbook readings:** ***Read the assigned readings before the lectures*****.** Each assigned reading gives the lecture's background information but cannot replace the lecture. The textbook reading assignments are supplemental resources only. ***University instructors are not required to repeat what is in the textbook. At times they may disagree with the textbook content, correct the textbook content, or present new and current information about the lecture topic that contradict the textbook content.***
6. **Tests, Classroom quizzes and Assignments:** Many of the test questions will be based on the content knowledge presented in the lectures, textbook assigned readings and critical thinking ability to analysis and interpret biological situations.
7. **AUDIO AND/OR RECORDING OR CAMERAS USE:** Unless registered with the University Disability Resource Services and approved, the use of audio and/or recording or cameras is not permitted during lectures, and electronic publication or distribution of the lecture notes requires the instructor's written approval.

8. **MISSED LECTURES:** Should you miss a lecture, it is your responsibility to obtain and learn all the lecture material missed from **students** who attended the lecture.
9. **STUDY GUIDES:** All lecture materials and assigned readings are important, and will be tested. No special test guides will be provided. Your lecture notes and reading notes are the best test study guides.
10. **CELL PHONES:** Cell phones must be turned off and out of sight during lectures, tests or quizzes.
11. **Course drop and Withdraw**
The course requirements for course drop, and withdraw, read the University Requirements.

¥Biology 1010 grades correlate with student effort as measured by study skills and time spent in studying more than instructor or time of the day. Take advantage of the university resources and the instructor's office hours to improve your study skills or clarify unclear concepts. It is your responsibility to seek help if needed.

Academic Honesty and Student Discipline

In addition to an automatic **F** grade for the course, cheating and/or plagiarism is subject to the university discipline procedures including expulsion, suspension, and probation.

Know your Instructor:

Dr. Kyauka, Pelaji: Born and raised in Kilimanjaro, Tanzania, is a graduate of the University of California at Berkeley (Ph.D., M.A.) and the University of Dar es Salaam, Dar es Salaam, Tanzania (M.Sc. in Biology, B.Sc. in Zoology and Botany with Education, Honors). Dr. Kyauka enjoys teaching biology, anthropology and teacher education. He is a recipient of the Outstanding Graduate Student Instructor Award awarded by the University of California at Berkeley for excellence in Teaching, and has conducted research in Tanzania, Ethiopia, and museums in the U.S.A, Europe and Tanzania. His scholarly work includes a human fossil study: **A new hominid from Laetoli, Tanzania. Journal of Human Evolution 19:747-750**, and an experimental pollen study: **Heterostyly in Pemphis acidula (Forst) Lythraceae) in Tanzania. Adansonia 17:139-145.**

Tentative Reading and Lecture Schedule[1]

WEEK	*DATE*	*TOPIC(S)*	*Read*
1			
	Friday, Jan. 27	Introduction, course structure/expectations	
2	Monday, Jan. 30	Biology today	Ch. 1
	Wednesday, Feb. 1	Thinking like a biologist	Ch. 1
	Friday, Feb. 3	Basic chemistry	Ch. 2
3*	Feb. 6	Water, Compounds	Ch. 2,3
	Feb. 8	Biological Molecules	Ch. 3
	Feb. 10	Cells, Membranes, Organelles	Ch. 4
4*	Feb. 13	Energy Concepts, ATP	Ch. 5
	Feb. 15	Enzymes, Transport Across Membranes	Ch. 5
	Feb. 17	Flow of Energy and Chemicals, Respiration Basics	Ch. 6
5*	Feb. 20	Aerobic Respiration, Fermentation, Photosynthesis 1	Ch. 6,7
	Feb. 22	Photosynthesis 2: Light and Dark Reactions	Ch. 7
	Feb. 24 - EXAM	**MIDTERM #1**	**Ch. 1-7**
6*	Feb. 27	Mitosis – Asexual Reproduction	Ch. 8
	Feb. 29	Meiosis – Sexual Reproduction	Ch. 8
	Mar. 2	Patterns of Inheritance 1 – Basic	Ch. 9
7*	Mar. 5	Patterns of Inheritance 2 – Intermediate	Ch. 9
	Mar. 7	Patterns of Inheritance 3 – Advanced	Ch. 9
	Mar. 9	DNA Structure & Function, Mutations	Ch. 10
8*	Mar. 12	From DNA to Protein, Viruses and Infectious Agents	Ch. 10
	Mar. 14	Regulation of Gene Expression	Ch. 11
	Mar. 16	Cloning and Cancer	Ch. 11
9*	Mar. 19	DNA Technology, Profiling, Forensics	Ch. 12
	Mar. 21	Genomics, Gene Therapy, Ethics	Ch. 12
	Mar. 23 - EXAM	**MIDTERM #2**	**Ch. 8-12**
10*	Mar. 26	Evidence for Evolution, Natural Selection	Ch. 13
	Mar. 28	Mechanisms of Evolution, Species Concept	Ch. 13, 14
	Mar. 30	**NO CLASS** Cesar Chavez Day	Ch. 14
11*	Apr. 2	Evolution of New Traits, Extinctions, Classification	Ch. 14, 15
	Apr. 4	Origins of Early Life, Prokaryotes, Protists	Ch. 15
	Apr. 6	Colonizing Land, Plant Diversity	Ch. 15, 16
12	Apr. 9	**NO CLASS SPRING BREAK**	
	Apr. 11	**NO CLASS SPRING BREAK**	
	Apr. 13	**NO CLASS SPRING BREAK**	
13*	Apr. 16	Colonizing Land, Plant Diversity	Ch. 15, 16
	Apr. 18	Animal Diversity	Ch. 17
	Apr. 20	**MIDTERM #3**	**Ch. 13-17**
14*	Apr. 23 - EXAM	Vertebrates and Human Evolution	Ch. 17
	Apr. 25	Vertebrates and Human Evolution	Ch. 17
	Apr. 27	Diverse Environments	Ch. 18
15*	Apr. 30	Diverse Environments	Ch. 18
	May 2	Biomes, Global Climate Change	Ch. 18
	May 4	Populations, Growth Models	Ch. 19
16*	May 7	Applied Population Ecology, Human Populations	Ch. 19
	May 9	Biodiversity, Communities	Ch. 20
	May 11	Ecosystems, Conservation	Ch. 20
	May 14	Final Examination Review	
	May 23	**FINAL EXAMINATION**	**11:15-1:15PM**

[1]The Instructor reserves the right to change the reading and lecture schedule