

Biology 1010
Spring 2015
Section 06 CRN 24482
When: MWF 3:00 – 3:50p.m.
Where: SCI 115

Instructor: Jesse Cole Hulse

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Office Hours: MWF, 2PM-3PM

About This Course: This course is an introduction to fundamental biological principles and concepts designed for students who are not biology majors. Additionally, this course will serve to introduce science and scientific methods/practices to non-science majors via the study of life. The course fulfills the general education graduation requirements in the Life Sciences.

General Education Objectives: These objectives are common to all life science courses at Dixie State College.

- Students will explain and apply major concepts of a view of life, the cell, and the genetic basis of life.
- Students will demonstrate knowledge of the process of science including asking testable questions, using inductive and deductive reasoning in forming hypotheses and in making reliable predictions.
- Students will explain the methods of science, and distinguish among the natural sciences, liberal arts (humanities and fine arts, and social and behavioral sciences), and pseudoscience.
- Students will compute ratios, proportions, percentages, decimals, fractions, frequencies, and elementary statistics.

Specific Course Objectives: Upon successful completion of the assignments, laboratory, exams, and quizzes in this course, the student will:

- demonstrate the ability to reason scientifically.
- apply scientific methods in problem solving.
- create and critique experimental design.
- distinguish between true science and pseudoscience.
- describe the basic chemical composition of living organisms.
- relate chemical properties to physiological functions in living organisms.
- describe various cellular structures and their functions.
- follow the breakdown of a glucose molecule through metabolic pathways.
- compare energy-acquiring and energy-releasing pathways in metabolism.
- describe the movement of chromosomes during cell division (mitosis and meiosis).
- describe patterns of inheritance in Mendelian genetics.
- perform monohybrid and dihybrid genetic crosses.
- solve basic genetics and inheritance problems.
- describe the structure and function of DNA.
- describe the process by which genes are expressed as protein products.
- gain an insight into genetic engineering and associated ethical arguments.
- describe the processes of evolution, having gained a knowledge of basic genetics.

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- realize that evolution is more than a powerful theory; evolution is a fact.
- describe the principles of population ecology and community interactions.
- discuss the impact of overpopulation on biotic and abiotic components of the biosphere.
- build a strong basic foundation of biological principles in order to support more advanced concepts.

Required Textbook: Campbell Essential Biology, Fifth Edition. Eric J. Simon, et al. Pearson Publishing. 2013.

REGULAR SEMESTER DATES WORTH NOTING

Jan. 12	Classwork starts
Jan. 16	Last day to add without signature
Jan. 22	Drop/Audit fee begins (\$10 per class)
Jan. 19	Martin Luther King Jr. Day
Jan. 27	\$50 Late registration/payment fee
Feb. 2	Pell Grant Census
Feb. 2	Last day for refund
Feb. 2	Last day to drop without receiving a “W” grade
Feb. 2	Graduation Application Deadline for Spring 2015 - Associate's
Feb. 4	Courses dropped for non-payment
Feb. 6	Last day to ADD/AUDIT classes
Feb. 16	President's Day
Mar. 2	Mid-term grades due
Mar. 2	Graduation Application Deadline for Summer 2015 - Baccalaureate degrees
Mar. 6	Last day to DROP individual class
Mar. 9-13	Spring break
Apr. 10	Last day for complete withdrawal
Apr. 13	Fall Registration open to Seniors (90+ credits)
Apr. 14	Fall Registration open to Juniors (60+ credits)
Apr. 15	Fall Registration open to Sophomores (30+ credits)
Apr. 16	Fall Registration open to all students
Apr. 29	Classwork ends
May 1-7	Final Exams

Attendance: Following is the Dixie State College “Attendance Policy” –

“Regular and prompt attendance in classes and laboratory sessions is expected of every Dixie State College student. Attendance requirements are established by each instructor and such requirements are enforced by the College. No absence excuses a student from completing work missed. It is the student’s responsibility to find out which assignments will be missed.”

“Students receiving scholarship assistance other than federal aid are being sponsored by the citizens of the state of Utah or private donors. As recipients, these students are expected to exert a full effort in their academic studies. As a condition of accepting these funds, and for the privilege of representing Dixie State College in co-curricular activities, these students should plan on regular attendance in classes and

laboratories for which they are registered. Attendance will be monitored and those students not attending on a regular basis are subject to termination of their scholarship and/or suspension from participation in activities.”

Examinations: 3 examinations (100 points each) will be given during the course, PLUS a comprehensive final exam worth 200 points. Exams will cover material studied from the beginning of the course or the previous exam. You should study both the text and your lecture notes. Early exams will NOT be given, and late exams [given only in an emergency] will have a 10% penalty assessed. Any late exam may be different and more difficult than the one taken at the regularly scheduled time. Inform the instructor whenever illness (you may be asked to provide a doctor’s signed note) or emergency occurs, especially if an exam is scheduled – BEFORE the scheduled exam date, if possible. Routine make-up exams will NOT be given in this course. In the case of an open book exam, if ample time (two or more weeks) is provided in which to take the exam, the exam must be completed by the given deadline. NO EXCEPTIONS!! This includes unexpected illness. Don’t procrastinate until the last minute on open book exams.

One final note: Make certain that you do your own work. Please do not copy the work of others. Besides not helping you, this practice is illegal – it is called plagiarism. Students who copy assignments, whether suspected or apparent, or who permit another or others to copy, will receive NO credit for the assignment.

Grading Policy: Grades will be based on a total of 850 points possible, as follows:

Examinations (3 worth 100 points each)	300 points
Quizzes	150 points
Project	200 points
Final examination	200 points

You may expect the following grade according to your total points earned:

A	= 94-100%	C	= 74-76.9%
A-	= 90-93.9%	C-	= 70-73.9%
B+	= 87-89.9%	D+	= 67-69.9%
B	= 84-86.9%	D	= 64-66.9%
B-	= 80-83.9%	D-	= 60-63.9%
C+	= 77-79.9%	F	= < 60%

Grades will NOT be curved. You will earn the grade you earn, independent of the performance of others.

Academic Integrity or Dishonesty (Cheating and Plagiarism): The instructor will not tolerate any act of cheating which he observes. If any student is observed cheating on any examination or assignment, the instructor will note the time and event and the student will receive no credit for that assignment. Such act of cheating will include the use of books or notes unless these are expressly permitted by the instructor, looking upon another student's paper during the time an examination is in progress, consulting others inside or outside of class using text messaging functions, etc. If a second offense is committed by a student, he/she will be subject to further disciplinary action (See "Code of Conduct," Dixie State College Catalog or Student Handbook).

D Mail Statement: You are required to frequently check your dmail account. Important class and college information will be sent to your dmail account, including DSC bills, financial aid/scholarship notices, notices of cancelled classes, reminders of important dates and deadlines, and other information critical to your success at DSC and in your courses. If you don't know how to access your dmail account, go to www.dixie.edu and select "Dmail" from the left column. To locate your dmail username and password, go to www.dixie.edu, and click on "Log in to student services."

Students with Disabilities:

If you are a student with a medical, psychological or a learning difference and requesting reasonable academic accommodations due to this disability, you must provide an official request of accommodation to your professor(s) from the Disability Resource Center within the first two weeks of the beginning of classes. Students are to contact the center on the main campus to follow through with, and receive assistance in the documentation process to determine the appropriate accommodations related to their disability. You may call (435) 652-7516 for an appointment and further information regarding the Americans with Disabilities Act (ADA) of 1990 per Section 504 of the Rehabilitation Act of 1973.

Important Links:

Disability Resource Center - dixie.edu/drcenter
IT Student Help Desk - dixie.edu/helpdesk
Library - library.dixie.edu
Testing Center - dixie.edu/testing
Tutoring Center - dixie.edu/tutoring
Writing Center - dixie.edu/english/dsc_writing_center.php

Tentative Schedule

Week	Week of	Topic
1	01/12/15	Syllabus/Introduction, The Scientific Method, The Metric System, Ch. 1
2	01/19/15	NO SCHOOL MONDAY (MLK DAY) Metric(cont'd), Chemistry, Ch. 2
3	01/26/15	Chemistry(cont'd), Molecules of life, Ch. 2 & 3
4	02/02/15	Cells, Osmosis/Diffusion & membrane Transport, Ch. 4 & 5
5	02/09/15	Cellular Respiration, Ch. 6
6	02/16/15	NO SCHOOL MONDAY (PRESIDENTS DAY) Photosynthesis, Ch. 7, **TEST 1**
7	02/23/15	Cellular reproduction, Ch. 8
8	03/02/15	Inheritance, DNA, Ch. 9 & 10
9	03/09/15	SPRING BREAK NO SCHOOL ALL WEEK
10	03/16/15	Gene Regulation, Ch. 11
11	03/23/15	DNA Technology, Bioethics, Ch. 12, **TEST 2**
12	03/30/15	Evolution, Unity and Diversity, Ch. 13 & 14 (Possibly Ch. 16 , time permitting)
13	04/06/15	Microbial Evolution Ch. 15
14	04/13/15	Plants, Fungus, Land Invasion Ch. 16
15	04/20/15	The Evolution of Animals Ch. 17, **TEST 3**
16	04/27/15	Ecology Ch. 18-20
17	05/04/15	***** FINALS WEEK *****