BSC 322
Principles of Cell Biology
Spring 2015

INSTRUCTOR

Dr. J. Valluri
Science Hall S370
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Office hours: MWF 12 – 3 PM, T/Th 9 – 10 AM

TEXT BOOK

The World of Cell by Becker/Kleinsmith/Hardin 8th Edition
Laboratory Manual by Dr. Valluri (available at the bookstore)

COURSE TIME

Lecture MWF 11:00 – 11:50 AM (Science Room 374)
Lab Meeting Time: W/R 1:00 – 3:50 PM and Fri 12:00 – 2:50 PM (Science Room 381)

OBJECTIVES

To provide students with a broad understanding of the topics that constitutes the recognized 'core' of molecular biological knowledge. Introduce students to the experimental concepts of cellular and molecular biology. Basic biochemistry, macromolecular structure and function, bioenergetics and cell metabolism will be discussed. The laboratory portion of the course is designed to offer you opportunities to apply your knowledge acquired from lecture to experimental approaches that are similar to what is carried out in today's research laboratories.

COURSE DESCRIPTION

Principles of Cell Biology. 4 hrs.
A fundamental approach to the principles of cell biology covering the molecular basis of cellular structure and function, and gene regulation. Explores intercellular interactions, molecular interactions with modern cellular and molecular methods. 3 lec-3 lab. (PR: BSC 121 with a grade of C or better; CHM 355 recommended)

LECTURE

Three hourly exams and a final exam will be given during the semester. Hourly exams will include the last lecture before the exam. A review session is scheduled before each exam. Lecture exams will consist primarily of multiple choice, short answer, and true-false questions.

EXAMS

1. Exam 1 Feb 23
2. Exam 2 Mar 13
3. Exam 3 Apr 14
4. Final **May 05 Tuesday (10:15 AM – 12:15 PM)**

GRADING

3 mid-term exams	100 pts each
Final exam	100 pts
Lab reports	100 pts

A grade will be given for each exam and final grades will be determined by comparing the student's total points with a cumulative grade scale for the semester. The following is the Grading Scale:

450-500 A
400-449 B
350 -399 C
300- 349 D
Below 300 F

LEARNING OUTCOMES

Prepare students for a career in Biology (advanced graduate degrees) and/or Medical Sciences.

MAKE-UP EXAMS

If you miss an exam you must provide an acceptable excuse within 72 hours of the scheduled time for the exam. If you do not do so, you cannot UNDER ANY CIRCUMSTANCES make-up the missed exam. Make-up exams will only be given in the event of (1) an officially approved university absence, (2) a death in the IMMEDIATE family, or (3) an illness that prevents you from attending class on the scheduled date of the exam (see Marshall University Undergraduate Catalog). In the case of illness, you must provide a note, signed by a physician, stating that you could not be present during the exam period for medical reasons. A note which simply indicated that you were treated by a physician will not constitute an excused absence. If you miss an exam because of fatuous behavior (e.g., over-slept, car break down, etc.), then the only make-up exam that you can take is a comprehensive essay exam which will be given at the end of the semester. To take this exam, you still must provide an excuse within 72 hours.

ATTENDANCE

You are expected to attend all lecture and laboratory sessions. Although attendance will not be recorded during lecture sessions, it will be expedient for you to attend regularly. If you miss a Lab session, you cannot make-up the missed lab due to space and equipment constraints. Unfortunately, students often do poorly because of their lack of attendance. You will be able to obtain review materials, study guides, and problem assignments only during the lecture sessions. If you miss a class session, it is YOUR responsibility to obtain all assignments and materials. I cannot allow any disruptive behavior or activity. If you must leave during the class tell me before the class begins. Tardiness and talking in class are strongly discouraged.

UNIVERSITY

By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to www.marshall.edu/academic-affairs/policies/. Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment.

1) Cheating. The term "cheating" includes, but is not limited to:
(a) use of any unauthorized assistance in taking quizzes, tests, or examinations;
(b) Dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;
(c) the acquisition, without permission, of tests, notes or other academic material belonging to a faculty or staff member of the university;
(d) dual submission of a paper or project, or resubmission of a paper or project to a different class without express permission from the instructor(s).
(e) any other act designed to give a student an unfair advantage.
2) Plagiarism. The term "plagiarism" includes, but is not limited to:
(a) the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgement and
(b) the knowing or negligent unacknowledged use of materials prepared by another person or by an agency engaged in the selling of term papers or other academic materials.

DROP DATE: **March 27, Friday.** Last Day to Drop an Individual Course.

PRINCIPLES OF CELL BIOLOGY
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PRINCIPLES OF CELL BIOLOGY

Chapter 1: Preview of the Cell

Chapter 2: Chemistry of Cells

Chapter 3: Macromolecules

Chapter 4: Cells and Organelles

Chapter 6: Enzymes

Chapter 7: Membranes

Chapter 8: Transport across Membranes

Chapter 14: Signal Transduction Mechanisms

Chapter 18: DNA , Chromosomes and the Nucleus

Chapter 19: Cell Cycle, DNA Replication and Mitosis

Chapter 20: Sexual Reproduction and Meiosis

Chapter 21: Gene Expression I (Genetic Code and Transcription)

Chapter 22: Gene Expression II (Protein Synthesis and Sorting)

Chapter 23: Regulation of Gene Expression

Chapter 24: Cancer Cells