

COURSE SYLLABUS  
**BIOLOGY 244**  
**INTRODUCTORY CELL BIOLOGY**  
**4 CREDIT HOURS**  
**FALL 2007**

**LABORATORY: SECTIONS 01 AND 02, 1-2:50, W, LDB 205, 207;**  
**SECTIONS 03 AND 04, 2-3:50, R, LDB 205, 207;**  
**SECTION 05, 10-11:50, F, LDB 130**

**INSTRUCTOR**

Sarah Keith

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OFFICE HOURS: MONDAYS AND WEDNESDAYS 10 AM-11:30 PM;

TUESDAYS AND THURSDAYS 11 AM-12 PM; OR BY APPOINTMENT

**COURSE DESCRIPTION**

A GENERAL CELLULAR APPROACH TO BIOLOGICAL PRINCIPLES, INCLUDING SCIENTIFIC METHODS, ORIGINS OF LIFE, BIOCHEMISTRY, CELL STRUCTURE, METABOLISM, CELLULAR EVOLUTION, AND CELL DIVISION

**PREREQUISITES**

A GRADE OF "C" OR BETTER IN BIO 161/111 AND BIO 162/112

**METHODS OF INSTRUCTION**

LECTURES WILL CONSIST OF MATERIAL FROM THE *BIOLOGICAL SCIENCES* TEXTBOOK AND RELATED MATERIAL. FIGURES AND TABLES FROM THE TEXTBOOK WILL BE PRESENTED DURING THE LECTURES, AND SOME CONCEPTS WILL BE EMPHASIZED THROUGH THE USE OF ANIMATIONS AND LIVE RECORDINGS. PROBLEM SETS WILL BE ASSIGNED AT THE CONCLUSION OF EACH CHAPTER FOR EMPHASIS OF KEY CONCEPTS. RESOURCES FOR STUDENTS, INCLUDING POWERPOINT SLIDES AND PROBLEM SETS, WILL BE POSTED REGULARLY ON BLACKBOARD. LABORATORY SESSIONS WILL CONSIST OF PROBLEM SETS, EXERCISES, AND ACTIVITIES DESIGNED TO EXPAND UPON LECTURE MATERIAL.

**COURSE OBJECTIVES**

ACQUIRE A FACTUAL KNOWLEDGE BASE OF CELL BIOLOGY TERMS AND METHODS  
LEARN FUNDAMENTAL PRINCIPLES AND THEORIES OF CELL BIOLOGY  
ACQUIRE AN INTEREST IN LEARNING MORE ABOUT THE CELL

**REQUIRED MATERIALS**

TEXTBOOK: FREEMAN, S. *BIOLOGICAL SCIENCES VOLUME I: THE CELL, GENETICS, AND DEVELOPMENT*. SECOND EDITION. PEARSON/PRENTICE HALL.  
ISBN: 0-13-150293-X

**ATTENDANCE POLICY**

REGULAR AND PUNCTUAL ATTENDANCE IS REQUIRED. ATTENDANCE WILL BE TAKEN VIA A SIGN-IN SHEET. EACH STUDENT IS RESPONSIBLE TO SIGN HIS/HER (AND ONLY HIS/HER) NAME ON THE ATTENDANCE SHEET AT THE BEGINNING OF EACH CLASS PERIOD.

IN ACCORDANCE WITH THE UNIVERSITY'S ATTENDANCE POLICY, STUDENTS ARE ALLOWED NO MORE THAN THREE HOURS OF ABSENCE FROM CLASS FOR THE ACADEMIC TERM. STUDENTS ABSENT FOR MORE THAN THREE HOURS WILL LOSE 3 POINTS FOR EACH ADDITIONAL ABSENCE.

**METHODS OF EVALUATION**

STUDENTS WILL BE EVALUATED ACCRODING TO THE FOLLOWING:

LECTURE EXAMS 3 AT 100 PTS. EACH 300 PTS.

LABORATORY 100 PTS.

COMPREHENSIVE FINAL EXAM 100 PTS.

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TOTAL 500 PTS.

THERE WILL BE NO EXTRA CREDIT AVAILABLE IN THIS COURSE.

COURSE GRADES WILL BE DETERMINED BY THE PERCENTAGE OF TOTAL POINTS THE STUDENT HAS EARNED, ACCORDING TO THE FOLLOWING GRADING SCALE:

90-100%	A
80-90%	B
70-80%	C
60-70%	D
< 60%	F

STUDENTS ARE REQUIRED TO TAKE EXAMINATIONS AT THE SCHEDULED TIMES. MAKE-UP EXAMS WILL BE ALLOWED ONLY IN THE CASES OF EXTREME ILLNESS, DANGEROUS WEATHER CONDITIONS, OR FAMILY EMERGENCY. STUDENTS MUST NOTIFY THE INSTRUCTOR WITHIN 24 HOURS OF A MISSED EXAM TO ARRANGE FOR A MAKE-UP EXAM. STUDENTS MAY BE ASKED TO PROVIDE DOCUMENTATION SUPPORTING THE REASON FOR THE ABSENCE.

EXAM SCORES WILL BE POSTED ON BLACKBOARD AS SOON AS THE SCORES ARE AVAILABLE. STUDENTS MAY CHECK THEIR PROGRESS IN THE COURSE AT ANY TIME THROUGH THE BLACKBOARD COURSE WEBSITE.

IF A STUDENT BELIEVES THAT AN EXAM HAS BEEN GRADED IN ERROR, OR THAT AN EXAM SCORE HAS BEEN POSTED INCORRECTLY, THE STUDENT SHOULD CONTACT THE INSTRUCTOR IMMEDIATELY TO DETERMINE IF AN ERROR HAS BEEN MADE. ALL DECISIONS REGARDING THE CHANGE OF AN EXAM SCORE WILL BE MADE BY THE INSTRUCTOR AND ARE FINAL; HOWEVER, THE INSTRUCTOR WILL PROVIDE THE STUDENT WITH A RATIONALE FOR THE DECISION.

### **ACADEMIC DISHONESTY**

THE UNIVERSITY EXPECTS STUDENTS TO ENGAGE IN ALL ACADEMIC PURSUITS IN A MANNER THAT IS ABOVE REPROACH. STUDENTS ARE EXPECTED TO MAINTAIN COMPLETE HONESTY AND INTEGRITY IN THE ACADEMIC EXPERIENCES BOTH IN AND OUT OF THE CLASSROOM. ANY STUDENT FOUND GUILTY OF DISHONESTY IN ANY PHASE OF ACADEMIC WORK WILL BE SUBJECT TO DISCIPLINARY ACTION. THE UNIVERSITY AND ITS OFFICIAL REPRESENTATIVES MAY INITIATE DISCIPLINARY PROCEEDINGS AGAINST A STUDENT ACCUSED OF ANY FORM OF ACADEMIC DISHONESTY INCLUDING, BUT NOT LIMITED TO, CHEATING ON AN EXAMINATION OR OTHER ACADEMIC WORK WHICH IS TO BE SUBMITTED, PLAGIARISM, COLLUSION, AND THE ABUSE OF RESOURCE MATERIALS.

SIGNING THE ATTENDANCE SHEET FOR SOMEONE OTHER THAN YOURSELF IS AN EXAMPLE OF ACADEMIC DISHONESTY. STUDENTS SHOULD REFER TO POLICY 810213 IN THE STUDENT SECTION OF THE ACADEMIC POLICY MANUAL FOR OTHER EXAMPLES OF ACADEMIC DISHONESTY.

IF THE INSTRUCTOR DETERMINES THAT A STUDENT HAS BEEN ACADEMICALLY DISHONEST, THE INSTRUCTOR MAY IMPOSE A GRADE OF "F" FOR THE ASSIGNMENT/EXAMINATION OR IMPOSE A GRADE OF "F" FOR THE COURSE. IF THE STUDENT INVOLVED DOES NOT ACCEPT THE DECISION OF THE INSTRUCTOR, THE STUDENT MAY APPEAL THE DECISION TO THE CHAIR OF THE DEPARTMENT OF BIOLOGICAL SCIENCES. IF THE STUDENT DOES NOT ACCEPT THE DECISION OF THE DEPARTMENT CHAIR, THE STUDENT MAY APPEAL THE DECISION TO THE DEAN OF THE SCHOOL OF ARTS AND SCIENCES.

## **CLASSROOM RULES OF CONDUCT**

STUDENTS WILL REFRAIN FROM BEHAVIOR IN THE CLASSROOM THAT INTENTIONALLY OR UNINTENTIONALLY DISRUPTS THE LEARNING PROCESS, AND THUS, IMPEDES THE MISSION OF THE UNIVERSITY. CELLULAR TELEPHONES AND PAGERS MUST BE TURNED OFF BEFORE THE START OF CLASS. TEXT-MESSAGING IS NOT ALLOWED DURING CLASS. STUDENTS WHO ARE ESPECIALLY DISRUPTIVE MAY BE ASKED TO LEAVE CLASS AND MAY BE REPORTED TO THE DEAN OF STUDENTS FOR DISCIPLINARY ACTION IN ACCORDANCE WITH UNIVERSITY POLICY.

## **VISITORS IN THE CLASSROOM**

UNANNOUNCED VISITORS TO CLASS MUST HAVE APPROVAL BY THE INSTRUCTOR TO BE PRESENT IN THE CLASSROOM. VISITORS MUST NOT PRESENT A DISRUPTION TO THE CLASS BY THEIR ATTENDANCE.

## **AMERICANS WITH DISABILITIES ACT**

IT IS THE POLICY OF SAM HOUSTON STATE UNIVERSITY THAT NO OTHERWISE QUALIFIED DISABLED INDIVIDUAL SHALL, SOLELY BY REASON OF HIS/HER HANDICAP, BE EXCLUDED FROM THE PARTICIPATION IN, BE DENIED THE BENEFITS OF, OR BE SUBJECTED TO DISCRIMINATION UNDER ANY ACADEMIC OR STUDENT LIFE PROGRAM OR ACTIVITY. DISABLED STUDENTS MAY REQUEST ASSISTANCE WITH ACADEMICALLY RELATED PROBLEMS STEMMING FROM INDIVIDUAL DISABILITIES BY CONTACTING THE DIRECTOR OF THE COUNSELING CENTER IN THE LEE DRAIN ANNEX OR BY CALLING (936) 294-1720.

## **RELIGIOUS HOLIDAYS**

UNIVERSITY POLICY STATES THAT A STUDENT WHO IS ABSENT FROM CLASS FOR THE OBSERVANCE OF A RELIGIOUS HOLY DAY MUST BE ALLOWED TO TAKE AN EXAMINATION OR COMPLETE AN ASSIGNMENT SCHEDULED FOR THAT DAY WITHIN A REASONABLE TIME AFTER THE ABSENCE. STUDENTS MUST ALSO BE EXCUSED FOR TRAVEL FOR THE OBSERVANCE OF A RELIGIOUS HOLY DAY. A STUDENT WHO WISHES TO BE EXCUSED FOR A RELIGIOUS HOLY DAY MUST PRESENT THE INSTRUCTOR WITH A WRITTEN STATEMENT DESCRIBING THE HOLY DAY(S) AND THE TRAVEL INVOLVED. THE INSTRUCTOR WILL THEN PROVIDE THE STUDENT WITH A WRITTEN DESCRIPTION OF THE DEADLINE FOR THE COMPLETION OF MISSED EXAMS OR ASSIGNMENTS.

## **COURSE SCHEDULE (TENTATIVE)**

### WEEK OF: TOPICS: CHAPTERS:

1/14 INTRODUCTION TO THE COURSE ----

1/21 BIOLOGY AND THE TREE OF LIFE; 1  
PROCESS OF SCIENCE

1/28 BIOLOGY AND THE TREE OF LIFE; 1, 2

ATOMS AND MOLECULES

2/4 ATOMS AND MOLECULES ; 2, 3

PROTEIN STRUCTURE AND FUNCTION

2/11 PROTEIN STRUCTURE AND FUNCTION; 3, 4

NUCLEIC ACIDS

**EXAM I, FRIDAY, FEBRUARY 22<sup>ND</sup>, IN LECTURE**

2/18 AN INTRODUCTION TO CARBOHYDRATES 5

2/25 LIPIDS, MEMBRANES, AND THE FIRST CELLS 6

3/3 INSIDE THE CELL ; CELL-CELL INTERACTIONS 7, 8

3/10 **SPRING BREAK**

3/17 CELLULAR RESPIRATION AND FERMENTATION 9

**EXAM II, MONDAY, MARCH 24<sup>TH</sup>, IN LECTURE**

3/24 PHOTOSYNTHESIS 10

3/31 THE CELL CYCLE 11

4/7 MEIOSIS 12

4/14 MENDEL AND THE GENE 13

**EXAM III, MONDAY, APRIL 21<sup>ST</sup>, IN LECTURE**

4/21 DNA STRUCTURE 14

4/28 DNA STRUCTURE; 14, 15 HOW GENES WORK

5/5 TRANSCRIPTION AND TRANSLATION 16

**FINAL EXAM, MONDAY, MAY 12<sup>TH</sup>, 2-4 PM**

5 6

**TIPS FOR SUCCESS**

TAKE THOROUGH CLASS NOTES (INCLUDING THE NUMBERS OF THE FIGURES AND TABLES THAT ARE PRESENTED DURING LECTURE)

ASK QUESTIONS IN CLASS

READ THE ASSIGNED CHAPTERS IN THE TEXTBOOK

REVIEW YOUR NOTES AT THE END OF EACH CLASS DAY

COMPLETE THE ASSIGNED PROBLEM SETS AS EACH CHAPTER IS COMPLETED

SEEK HELP FROM YOUR INSTRUCTOR EARLY AND OFTEN (IF NEEDED)

PREPARE FOR EXAMS EARLY