

**Bio 130: Biology I**  
**Syllabus**  
**Fall 2011**

Time: Monday, Wednesday and Friday, 11:00 – 11:50 am

Location: FJ-B

Course Instructor: Dr. Mary Miller, [millerm@rhodes.edu](mailto:millerm@rhodes.edu)

phone: 843-3556, FJ 104-W (just next to the main Biology Department office).

Text: Biology: Campbell and Reece (9<sup>th</sup> edition), Benjamin Cummings

Office Hours: Wednesday 12:00 – 2:00 pm, FJ 104W

### **Overview**

Cells are the fundamental units of life. This course will be an examination of the structure and function of life at the cellular level. Topics include the organization of prokaryotic and eukaryotic cells, the role of proteins in cell structure and metabolism, membrane structure and function, bioenergetics, interactions between a cell and its environment, and the mechanisms of heredity.

### **Expectations**

No lecture assignments, quizzes or exams may be turned in beyond the scheduled time unless medical or personal emergency warrants it. In such cases, the professor must be consulted for approval **prior** to the deadline or as soon after as possible. A doctor's notice might be required. In some cases, students may obtain permission from the professor to complete an assignment prior to the scheduled deadline. Missed assignments for unexcused reasons will receive a grade of 0.

Attendance: I expect that you will attend classes. There will be material covered in class that will be part of the exam and not found in the textbook. **During lecture exams, you may not leave the classroom until you have finished your exam. If you leave the room, I will collect your exam at that time.**

Participation: I expect that you should be engaged in the classroom and contribute with comments and questions during lecture and class discussions.

Cell phones: please turn your cell phones off while in class. There will be absolutely no texting while in class. **No cell phones allowed during examinations.** Cell phones must be stored out of sight during all exam, quizzes, and presentations.

Disabilities: accommodations will only be made to those who are registered with the office of Student Disability Services [mccowenm@rhodes.edu](mailto:mccowenm@rhodes.edu)

### **Honor Code**

It should go without saying that your conduct in this course must adhere in every regard to the Rhodes College Honor Code. This system is critical to maintaining the Rhodes Community, and we must all be diligent in our responsibilities. For more information on the Rhodes honor code system go to <http://www.rhodes.edu/Honor/index.cfm>.

## Grading Policy

Your final course grade will be based upon your performance on examinations and quizzes, as well as on detailed reports submitted after attending college-sponsored research seminars. The relative weights of these components are as follows:

There will be a total of 500 possible points in the class.

**1.300 points** will come from the four in class Exams. Exams may include objective (in class short answer, multiple choice, graphs, matching, problem solving) and subjective (essay) portions. You will not be allowed to leave the classroom once a timed in class exam has begun. Make up exams will not be offered, unless extenuating circumstances exist. Feeling unprepared for an exam is *not* an extenuating circumstance.

To allow for some adjustments on your part for my teaching, possible sickness, or the occasional “bad day” that might influence one of your test grades, you will be allowed to *drop* one of your exam grades. This means that only your three highest exam scores (100 points each) will be counted toward your total points for the course. The final exam described in item #2 below will not be dropped when calculating the final course grade and you must take the final examination in order to pass the course. Please be mindful of the final exam date when making plans to leave campus at the end of the semester, and communicate these obligations clearly to anyone who might be making travel arrangements for you. Alternate exam times or make-ups for missed exams will be granted only in the most unusual of circumstances, normally limited to documented medical emergencies involving the student or a member of the student's immediate family.

**2. 100 points** will come from the cumulative final. The final exam will be a comprehensive, closed-book, timed exam offered during the final exam time scheduled by the college. The final exam will not be dropped when calculating the final course grade and you must take the final examination in order to pass the course. Please be mindful of the final exam date when making plans to leave campus at the end of the semester, and communicate these obligations clearly to anyone who might be making travel arrangements for you.

**3.100 points** will come from participation, quizzes, and seminar summaries.

**In Class Discussions and Participation** – 10 points. A total of 10 points and will be awarded for attendance and meaningful in class participation. You are expected to read all assignments and be ready to answer as well as ask questions about these materials.

**Seminar Summaries** – 10 points. You are required to attend and turn in a completed form describing two seminars sponsored by the Biology Department. Seminars sponsored by other departments or interdisciplinary programs must be approved before they can be used to fulfill this requirement. Within one week after attending the seminar, you must submit a completed **seminar evaluation form** to the Biology Department Assistant in FJ-102W. This form is available on Moodle. Late submissions will not be accepted.

You should print off the seminar evaluation form before you attend your first seminar, so you can know in advance what kind of evaluation is expected of you. When attending seminars please be on time, remain for the full presentation (including the question & answer period), and listen respectfully to the speakers. ***You are strongly encouraged to ask questions of the speakers during the question & answer period.***

**Quizzes** - 80 points.

Quizzes will be taken via the Moodle course management system, which is accessible through the Rhodes home page or at <https://moodle.rhodes.edu/clogin.php>. Each quiz will be available for a 24-hour period starting at 7:30 AM on the respective date indicated in the lecture schedule; access is automatically closed after 24 hrs. A grade of zero will be assigned for any quiz not completed within the allowed time. You must complete and submit the quiz within the 24 hour period. If submission is not complete before the quiz closes, you will not get credit for any of the answers that you have entered.

It is important to your progress in the course that your quiz grades provide accurate feedback about how well you're learning course material. Thus, **you may not use notes, books, or other forms of assistance while taking a quiz.** In addition – for practical reasons, quizzes each year include numerous questions that were asked before in preceding years. Therefore, your obligations under the Honor System include the following:

**When studying for quizzes or exams you will not look at older copies that former students may have archived in violation of this rule. You also will not show copies of any quiz or exam from this course to any other student, nor will you archive them for future students. You will be required to turn in your exams after the final. Failure to do so will result in a loss of points.**

No extended or alternate time will be provided to students who are unable to complete a quiz because of technical failures unless it has resulted from a system-wide problem. Students are individually responsible for maintaining a reliable connection to the college network, for installing correct versions of software on any personal computers used for taking quizzes, and for learning how to operate efficiently within the Moodle system. A primary mode of communication for the course will be email. It is the student's responsibility to check email regularly to ensure that they have the most up to date information relevant to the course. The Rhodes ITS Department ([help@rhodes.edu](mailto:help@rhodes.edu); ext. 3890) will assist you with all hardware, software, and network questions.

4. Your first three absences from the class will not impact your grade. **The fourth absence will result in a 5 POINT REDUCTION from your total points in the course.** Three additional absences (at total of seven) will result in an additional 5 point reduction from your total points in the course. Further absences will result in further penalty of points at the instructor's discretion. You are expected to get to class on time. Excessive lateness will result in a reduction of your grade at the professor's discretion.

**The Grading Policy is summarized here:**

4 exams	300 points
Cumulative final	100 points
Quizzes/Participation/Summaries	<u>100 points</u>
	500 points

**Grading scale:**

<u>Points</u>	<u>Grade</u>
465-500	A
450-464	A-
435-449	B+
415-434	B
400-414	B-
385-399	C+
365-384	C
350-364	C-
335-349	D+
315-334	D
300-314	D-
299 and below	F

Midterm grades and evaluation for withdrawal (withdraw-passing vs. withdraw-failing) will be based upon all of your graded work up to that point (and scaled to fit the criteria outlined in the grading scale).

**Resources for this course**

- 1. Lectures** — The lectures are aimed at explaining the material, showing you problem solving strategies, and helping you to focus on the concepts that are emphasized in the course. You are responsible for material covered in the lectures as well as specified reading assignments. Selected **PowerPoint presentations** from lectures will be put on academic volume and you are encouraged to download these presentations prior to class.
  - 2. Office hours** are 12:00 – 2:00 on Wednesdays.
  - 3. Textbook** — Biology: Campbell and Reece (9<sup>th</sup> edition), Benjamin Cummings.
  - 4. Email** – my primary form of communication with you outside of class will be through Email. Students are individually responsible for maintaining a reliable connection to the college network, for installing correct versions of software on any personal computers used for accessing email, and for checking email each day for information related to the course.
  - 5. Supplemental course materials** such as lecture PowerPoint presentations, videos, etc. will be made available either via Moodle or via the college *Acad\_Dept\_Pgm* file server. The link [\\fileserver1\Acad\\_Dept\\_Pgm\Biology\Biology\\_I\Public](\\fileserver1\Acad_Dept_Pgm\Biology\Biology_I\Public) will connect you to the correct sub-folder of the server if you are connected to the campus network – to access from off campus, contact the ITS HelpDesk ([help@rhodes.edu](mailto:help@rhodes.edu)) for instructions on establishing a connection.
- Readings indicated on the following schedule** should be read before the corresponding lectures and read again in greater detail in studying for exams. Guidance will be given in lecture regarding which specific details and concepts from these readings may be most emphasized on quizzes and exams. It is in your best interest to know any terminology used in the assigned readings before the corresponding lectures, so that you can focus on the applications of these terms in the lecture.

Day	Date	Topic	Reading
<b>CELL AS THE UNIT OF LIFE: STRUCTURE AND FUNCTION</b>			
Wednesday	08/24	Characteristics of Living Systems	
Thursday	08/25	Practice Quiz Opens at 7:30 am and closes on Monday at 7:30 am	
Friday	08/26	Water, Chemistry and Life	Chapter 3 sections 3.1-3.2 and Chapter 4 section 4.3
Monday	08/29	Macromolecules: Carbohydrates and Lipids	Chapter 5 sections 5.1-5.3 and Chapter 7 sections 7.1
Wednesday	08/31	Macromolecules: Nucleic Acid and Protein	Chapter 5 sections 5.4-5.5
Thursday	09/01	Quiz 1 Opens at 7:30 am for 24 hours	
Friday	09/02	Cell Structure and Function: Membrane Systems	Chapter 7 sections 7.2-7.5 and Chapter 6 sections 6.2-6.5
Monday	09/05	<i>Labor Day Holiday – No Class</i>	
Wednesday	09/07	Cell Structure and Function: Membrane Systems continued	Chapter 7 sections 7.2-7.5 and Chapter 6 sections 6.2-6.5
Thursday	09/08	Quiz 2 Opens at 7:30 am for 24 hours	
Friday	09/09	Cell Structure and Function: Cytoskeleton and Motility	Chapter 6 section 6.6
Monday	09/12	Cell Communication and Signaling	Chapter 6 section 6.7 and Chapter 11 section 11.1-11.3
Wednesday	09/14	Cell Communication and Signaling continued	Chapter 6 section 6.7 and Chapter 11 section 11.1-11.3
Thursday	09/15	Quiz 3 Opens at 7:30 am for 24 hours	
Friday	09/16	Catch Up and Synthesis	
Monday	09/19	<b>EXAM I</b>	
<b>ENERGY OF LIFE: METABOLISM</b>			
Wednesday	09/21	Introduction to Metabolism	Chapter 8 sections 8.1, 8.3,8.4 Chapter 9 section 9.1
Thursday	09/22	<i>No Quiz</i>	
Friday	09/23	Glycolysis and Citric Cycle	Chapter 9 sections 9.2-9.3
Monday	09/26	Oxidative phosphorylation	Chapter 9 sections 9.4, 9.6
Wednesday	09/28	Fermentation and Anaerobic respiration	Chapter 9 section 9.5
Thursday	09/29	Quiz 4 Opens at 7:30 am for 24 hours	
Friday	09/30	Photosynthesis	Chapter 10 sections 10.1-10.2
Monday	10/03	Photosynthesis	Chapter 10 sections 10.1-10.2
Wednesday	10/05	Calvin Cycle and Carbon Fixation	Chapter 10 sections 10.3-10.4
Thursday	10/06	Quiz 5 Opens at 7:30 am for 24 hours	
Friday	10/07	Catch Up and Synthesis	
Monday	10/10	<b>EXAM II</b>	
<b>CELL DIVISION: THE CELL CYCLE AND FLOW OF GENETIC INFORMATION</b>			
Wednesday	10/12	Cell Cycle	Chapter 12 section 12.1-12.2
Thursday	10/13	<i>No quiz</i>	

Friday	10/14	Regulation of the Cell Cycle	Chapter 12 section 12.3
Monday	10/17	<i>Fall Recess – No Class</i>	
Wednesday	10/19	Mitosis	Chapter 12 sections 12.1-12.2
Thursday	10/20	Quiz 6 Opens at 7:30 am for 24 hours	
Friday	10/21	DNA Replication	Chapter 16 section 16.2
Monday	10/24	DNA Repair	Chapter 16 section 16.2
Wednesday	10/26	Transcription	Chapter 17 section 17.1-17.3
Thursday	10/27	Quiz 7 Opens at 7:30 am for 24 hours	
Friday	10/28	Translation	Chapter 17 section 17.4
Monday	10/31	Regulation of gene expression	Chapter 18 sections 18.2, 18.3, 18.5
Wednesday	11/02	Regulation of gene expression	Chapter 18 sections 18.2, 18.3, 18.5
Thursday	11/04	Quiz 8 Opens at 7:30 am for 24 hours	
Friday	11/05	Catch Up and Synthesis	
Monday	11/07	<b>Exam III</b>	
<b>MECHANISMS OF HEREDITY: SEXUAL REPRODUCTION</b>			
Wednesday	11/09	Meiosis	Chapter 13 sections 13.1-13.4
Thursday	11/10	<i>No quiz</i>	
Friday	11/11	Mendel and Laws of Inheritance	Chapter 14 sections 14.1-14.3
Monday	11/14	Chromosome Theory of Inheritance	Chapter 15 section 15.1
Wednesday	11/16	Linked genes	Chapter 15 sections 15.3
Thursday	11/17	Quiz 10 Opens at 7:30 am for 24 hours	
Friday	11/18	Law of Product and Law of Sum	Chapter 14 section 14.2
Monday	11/21	Non-Mendelian inheritance patterns	Chapter 15 section 15.2
Wednesday	11/23	<i>Thanksgiving Recess – No Class</i>	
Thursday	11/24	<i>Thanksgiving Recess – No Quiz</i>	
Friday	11/25	<i>Thanksgiving Recess – No Class</i>	
Monday	11/28	Non-Mendelian inheritance patterns	Chapter 15 section 15.5
Wednesday	11/30	Pedigree Analysis, catch up and synthesis	Chapter 14 section 14.4
Thursday	12/01	Quiz 11 Opens at 7:30 am for 24 hours	
Friday	12/02	<b>Exam IV</b>	
Monday	12/05	<i>No Class - Prepare for Final</i>	
Wednesday	12/07	<i>No Class - Prepare for Final</i>	
Friday	12/09	<b>FINAL EXAM (Cumulative)</b>	Final at 1:00 in FJB

This syllabus will be followed closely, but it is subject to change depending on how the course progresses. Please refer to the online syllabus available on Moodle for the most current version.