**Cell Biology**



**Course# :** \_\_\_\_\_\_\_\_\_\_\_ **Term:** \_\_\_\_\_\_\_\_\_\_\_

**Meeting Time & Locations:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Instructor:** \_\_\_\_\_\_\_\_\_ **email:** \_\_\_\_\_\_\_\_\_\_

**Office Hours:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Welcome to Cell Biology!

Our first class meeting is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**COURSE MATERIALS & RESOURCES:**

*Textbook:* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Moodle:* Most of our class resources are linked through Moodle to our class website, the [Virtual Cell Biology Classroom](http://www.scienceprofonline.com/virtual-cell-main.html) (VCBC).

[*Virtual Cell Biology Classroom*](http://www.scienceprofonline.com/virtual-cell-main.html)*:* The VCBC is used by biology students all over the world, but it was designed by me for you, HCR118 students. The resources on the VCBC will help you excel in this class. Become familiar with the VCBC as soon, and as thoroughly, as possible. Each Lecture Main Page link below takes you to the website material associated with the topic we are covering. THIS IS A VERY IMPORTANT RESOURCE...KIND OF LIKE YOUR SECRET WEAPON! USE IT.

**ADDITIONAL COURSE INFORMATION:**

*Attendance:* Classroom doors may be locked 10 minutes after the start of class or lab. If you arrive after the doors are closed, you will not be admitted into the classroom. If you are tardy, but arriving before the doors are closed, find a seat near the door where you enter the classroom to avoid disturbing the class.

Should you find missing a class is unavoidable, plan to contact a ‘study buddy’ or ‘note buddy’ in an effort to capture what you missed. There are no make-ups for missed class work. I will not provide notes to students who have missed class.

*Behavior:* You will be asked to leave class, and will not receive credit for any work performed in class that day, if you are disruptive, inattentive or unprepared. Disruptive behavior includes, but is not limited to, talking out of turn, having conversations with classmates while I am lecturing, cell phone use, disrespect of classmates or instructor, or failure to participate. Walking around in a classroom that is in session is distracting to others and is considered disruptive behavior. If you need to leave the classroom, you will not be permitted to re-enter the session. If you are dismissed from class you will not be allowed to attend any future classes until you have a conference with me during my office hours.

*Technology:* This course requires a basic understanding of computer technology. You will be required to...

- access online educational materials.

- regularly check your school email.

- upload homework documents to Moodle (the student-teacher interface used for this class).

- produce and upload homework assignments.

*In-Class Assignments:*During some lecture periods, we will be completing in-class assignments. You are only eligible to turn these in for credit if you are present, in class, on the day that we complete them.

*Homework:* You are allowed to turn in most homework assignments up to one week late without a point penalty, unless otherwise indicated. However late assignments will receive no written feedback, only a grade. It is to your benefit to turn in assignments on time, as the feedback I provide will help you better understand the material and improve your performance in this course. (You are welcome to discuss late assignments with me in person during office hours or before or after class. I will give live feedback, just not written.) Homework assignments will not be accepted after the final due date listed in the upload link. All homework assignments must be uploaded in Microsoft Word .doc format.

Although many of our lecture topics have an associated homework document, you are only ASSIGNED (responsible for doing) homework if there is an upload for it in Moodle. In other words, just because a homework document exists on our course website, does not mean that it is assigned.

*Lecture Reviews:* Lecture review assignments are done as partners (2 people) or in groups of 3. No more than three people can work together. A link to the questions and can be found on each lecture main page under REVIEW QUESTIONS. Copy and paste these questions into a Word document, and then answer them. **Choose 20 Review Questions to answer for each Review Assignment.** The best way to complete these review assignments is to work together at a computer in the library or computer center, using the assignment as a group review that you do together. This is a very effective way to study, discussing each question and formulating an answer together.

Lecture Review Requirements:

- Place names of all contributors at top of page.

- Title each section of question according to which lecture it is from. Make these titles ALL CAPS.

- Number and **Bold** each question.

- Answers should NOT be bolded.

- Each student should complete an equal amount of the work, ideally coming up with and recording the answers after discussing the questions.

- Only ONE PERSON in the group should upload the completed assignment.

You are allowed to turn in most lecture review assignments up to one week late without a point penalty, unless otherwise indicated. However late assignments will receive no written feedback, only a grade. It is to your benefit to turn in assignments on time, as the feedback I provide will help you better understand the material and improve your performance in this course. (You are welcome to discuss late assignments with me in person during office hours or before or after class. I will give live feedback, just not written.) Assignments will not be accepted after the final due date listed in the upload link. All assignments must be uploaded in Microsoft Word .doc format.

*Lecture Exams:* There will be 2 lecture exams: the Midterm and the Final. If you are unable to take an exam on the scheduled date, you must contact me prior to the exam in order to get permission to take the exam in the testing center. If you take an exam late, you will only receive 85% of your grade.

*Academic Dishonesty:* Please be aware of the school’s academic dishonesty and plagiarism policies in the student handbook. Your work must be your own, produced in your own words. Plagiarism may result in a grade of zero on the assignment. Any plagiarism (presenting material as your own that others have created) will be reported to the school and will become part of your academic record. Subsequent infractions of this policy lead to a failing grade in the course and expulsion from the institution. Academic dishonesty impugns your character and I believe no one entering the noble medical professions should have questionable character. Any suspicious act will result in failed assignments and removal from the course.

*Calculating Your Grade:* You grade is based on a weighted average. At any time during the semester, you can calculate your current grade percentage by:

Lecture Exams: Average % \_\_\_\_\_\_\_\_X 0.60= \_\_\_\_\_\_\_\_

Homework: Average % \_\_\_\_\_\_\_\_X 0.10 = \_\_\_\_\_\_\_\_

Lecture Reviews: Average % \_\_\_\_\_\_\_\_X 0.15 = \_\_\_\_\_\_\_\_

Metabolism Paper % \_\_\_\_\_\_\_\_X 0.15 = \_\_\_\_\_\_\_\_

For more information on weighted averages, see [Calculating a Weighted Average](http://www.blacksdomain.com/files/Notes/Calculating_WA.php).

Grade Associated with Percentage:

100 - 90% = 4.0

below 90 - 85% = 3.5

below 85 - 80% = 3.0

below 80 - 75% = 2.5

below 75 - 70% = 2.0

below 70 - 65% - 1.5

below 65 - 60% = 1.0

below 60% = 0.0

NOTE: These Moodle materials constitute the course syllabus, and are subject to change. Any changes will be announced in class, or through the class discussion and announcement function below, in this Moodle panel.

**GENERAL COURSE MATERIALS**

* Class Announcements & Discussion Forum
* [Virtual Cell Biology Classroom](http://www.scienceprofonline.com/virtual-cell-main.html) Class Website
* INSTRUCTIONS Metabolism Paper
* [Food Nutrition Database](http://www.calorieking.com/foods/)
* UPLOAD Metabolism Paper - Due 12/4 before 4pm. Last day to turn in late 12/11 before 4pm. **You must upload AND hand in a hard copy (printout) or your paper.**

INFORMATION FOR THOSE DOING OPTION 1 OF METABOLISM PAPER (Tracking diet):

- protein = 4 calories (kcal) per gram

- carbs = 4 calories (kcal) per gram

- fiber (not fully digestible carbs) = 2 calories (kcal) per gram

- fats = 9 calories (kcal) per gram

- alcohol: To calculate alcohol, calories = 1.6 x alcohol% x # oz consumed

**EXTRA CREDIT**:

The extra credit assignment is now available and is featured on the [Virtual Cell Biology Classroom Main Page](http://www.scienceprofonline.com/virtual-cell-main.html). Look for the Radiolab icon in the column on the left of that page.

The assignment, which is optional, is based on the NYC Radiolab podcast "Inheritance", an episode that explores genetics (gene replication, mutation and expression) in the context of "nature vs. nurture" debate. The link for the upload is below.

I recommend that you wait to do this assignment until after, or while, we discuss molecular genetics. Remember, the points (100) for this assignment will only be applied at the end of the semester, if you already have a passing (= OR > 2.0) grade.

Radiolab Inheritance EXTRA CREDIT Assignment. Due 12/11. THIS ASSIGNMENT WILL NOT BE ACCEPTED LATE.

**CLASS SCHEDULE**

**WEEK #1** (October 23)

**REMINDERS & ANNOUNCEMENTS**

* We have our first class meeting Thursday, October 23.
* FYI - The MIDTERM EXAM will take place Thursday, November 13.

**COURSE MATERIALS**

* LECTURE 1: [Intro to Cell Biology](http://www.scienceprofonline.com/vcbc/intro-cell-biology-main.html)

**HOMEWORK**

Your first homework assignment (HeLa Cell Homework) will be available on the Intro to Cell Biology Main Page. You complete this homework assignment by reading the linked Smithsonian article on Henrietta Lacks, and listening to the "Henrietta's Tumor" Radiolab podcast. This homework assignment will not be due until November 11, before 4pm, giving you plenty of time to listen to the podcast, read the article and complete the assignment. The upload for this assignment is in the WEEK #4 Moodle panel.

**WEEK #2** (Oct 28 & 30)

**REMINDERS & ANNOUNCEMENTS**

* Inorganic Chemistry Homework are due to be uploaded this week, you will find the uploads below.

**COURES MATERIALS**

* LECTURE 2: [Inorganic Chemistry Basics](http://www.scienceprofonline.com/vcbc/inorganic-chemistry-main.html)
* LECTURE 3: [Organic Chemistry Basics](http://www.scienceprofonline.com/vcbc/organic-chemistry-main.html)
* TEXTBOOK READING: Chapters 2 & 4

**HOMEWORK**

* UPLOAD Inorganic Chemistry Chemical Bond Homework Assignment. **Due 10/30 before 4pm.** Last date to turn in late, 11/6 before 4pm.

**WEEK #3** (Nov 4th & 6th)

**REMINDERS & ANNOUNCEMENTS**

* We will begin the Eukaryotic Cell Lecture on Thursday of this week, and finished it next Tuesday.
* METABOLISM PAPER! We will discuss the Metabolism Paper this week. TO RECEIVE CREDIT, YOU MUST UPLOAD THE PAPER AND TURN IN A PRINTOUT. The hard copy of this paper is due Tuesday 12/4 at the start of class. Any late submissions must be turned in by 12/11 at the start of class. The instructions and the upload for this assignment are in the top panel of Moodle.
* REMEMBER! The MIDTERM EXAM will take place Thursday, November 13!

**COURSE MATERIALS**

* LECTURE 4: [Prokaryotic Cells](http://www.scienceprofonline.com/vcbc/prokaryotic-cells-main.html)
* LECTURE 5: [Diffusion, Osmosis & Active Transport](http://www.scienceprofonline.com/vcbc/diffusion-osmosis-main.html)
* LECTURE 6: [Eukaryotic Cell](http://www.scienceprofonline.com/vcbc/eukaryotic-cells-main.html)
* TEXTBOOK READING: Chapter 5

**HOMEWORK**

* UPLOAD Organic Chemistry Homework - **Due 11/4 before 4pm.** Last date to turn in late 11/11 before 4pm
* UPLOAD Osmosis Homework - **Due 11/6 before 4pm.** Last day to turn in late 11/13 before 4pm.
* UPLOAD Intro to Cell Bio, Inorganic Chemistry & Organic Chemistry Review Assignment - **Due 11/6 before 4pm.** Last late date 11/13 before 4pm.

**WEEK #4** (Nov 11th & 13th)

**REMINDERS & ANNOUNCEMENTS**

* MIDTERM EXAM, Thursday, Nov 13th! Will cover everything through Eukaryotic Cells.
* The exam will cover all materials that we have completed in lecture prior to exam day, as well as homework assignments.
* Some tips of studying for the midterm:
	+ Print off PowerPoint lectures, 2 slides per page, to study while you are on the go.
	+ Whenever you have access to the internet, do your studying from the Lecture Main Pages. Access to the internet gives you several advantages...
		- You can click on links in the PowerPoints and the Lecture Main Pages that will take you to helpful information, brief articles, animations and other resources that will help you better understand the material.
		- You can access the practice test and review questions on the lecture main page.
	+ Read related areas of textbook.
* EUKARYOTIC CELL ACTIVITY: We will discuss this homework assignment on Tuesday, November 11. The assignment will be due, next week 11/18. You can find the assignment on the Eukaryotic Cell Lecture Main Page.

**COURSE MATERIALS**

* LECTURE 6: [Eukaryotic Cells](http://www.scienceprofonline.com/vcbc/eukaryotic-cells-main.html)
* Finish Eukaryotic Cell lecture and review for midterm if time allows.

**HOMEWORK**

* UPLOAD HOMEWORK: HeLa Cell Intro to Cell Biology Homework Assignment - **Due Tuesday 11/11 before 4pm.** THIS ASSIGNMENT CANNOT BE TURNED IN LATE!
* UPLOAD Prokaryotic Cells, Diffusion and Osmosis & Eukaryotic Cells Review Assignment - **Due 11/13 before 4pm.** Last late date 11/20 before 4pm.

**WEEK #5** (November 18th & 20th)

**REMINDERS & ANNOUNCEMENTS:** None

**COURSE MATERIALS**

LECTURE 7: [Enzymes](http://www.scienceprofonline.com/vcbc/enzymes-main.html)

LECTURE 8: [Metabolism: Aerobic Respiration](http://www.scienceprofonline.com/vcbc/aerobic-respiration-main.html)

LECTURE 9: [Metabolism: Anaerobic Respiration & Fermentation](http://www.scienceprofonline.com/vcbc/anaerobic-respiration-main.html) (begin)

TEXTBOOK READING: Chapters 6 & 7

**HOMEWORK**

* Eukaryotic Cell Activity - **Due 11/18 at the start of class.** You can find the assignment on the Eukaryotic Cell Lecture Main Page. You will be handing in a hard copy of this assignment at the start of class 11/18 class. Last day to turn in late, at start of class 11/25, at the start of class.
* UPLOAD Enzymes Homework - **Due 11/20 before 4pm.** Last late date 12/2 before 4pm.

**WEEK #6** (Nov 25th we have class. Nov 27 OFF for Thanksgiving.)

**REMINDERS & ANNOUNCEMENTS**

* Metabolism Paper DUE NEXT WEEK. TO RECEIVE CREDIT, YOU MUST UPLOAD THE PAPER AND TURN IN A PRINTOUT. The hard copy of the paper is due Tuesday 12/4 at the start of class. **The file must also be uploaded 12/4, before class begins at 4pm.** Any late submissions must be turned in by 12/11 at the start of class. PAPERS WILL NOT BE ACCEPTED AFTER THIS DATE. The instructions and the upload for this assignment are in the top panel of Moodle.

**COURSE MATERIALS**

* LECTURE 9: [Metabolism: Anaerobic Respiration & Fermentation](http://www.scienceprofonline.com/vcbc/anaerobic-respiration-main.html) (finish)
* LECTURE 10: [Catabolism of Proteins & Fats](http://www.scienceprofonline.com/vcbc/catabolism-proteins-fats-main.html)
* TEXTBOOK READING: Chapter 8

**HOMEWORK**

* Work on your Metabolism paper!

**WEEK #7** (Dec 2nd & 4th)

**REMINDERS & ANNOUNCEMENTS**

* HOMEWORK: You will be completing a Mitosis and a Meiosis homework assignment. Each is found on the corresponding lecture main pages of the VCBC ([Mitosis Lecture Main Page](http://www.scienceprofonline.com/vcbc/cell-cycle-mitosis-main.html) & [Meiosis Lecture Main Page](http://www.scienceprofonline.com/vcbc/cell-cycle-meiosis-main.html)). You will be turning in hard copies of these assignments, rather than uploading, since drawing is required. Both assignments are due next week.
* PAPER! Metabolism Paper DUE THIS WEEK. TO RECEIVE CREDIT, YOU MUST UPLOAD THE PAPER AND TURN IN A PRINTOUT. The hard copy of the paper is due Tuesday 12/4 at the start of class. **The file must be uploaded 12/4, before class begins at 4pm.** Any late submissions must be turned in by 12/11 at the start of class. PAPERS WILL NOT BE ACCEPTED AFTER THIS DATE. The instructions and the upload for this assignment are in the top panel of Moodle.

**COURSE MATERIALS**

* LECTURE 11: [Molecular Genetics: DNA Replication](http://www.scienceprofonline.com/vcbc/molecular-genetics-replication-main.html)
* LECTURE 12: [Molecular Genetics: Transcription & Translation](http://www.scienceprofonline.com/vcbc/molecular-genetics-transcription-tranlation-main.html)
* LECTURE 13: [Cell Division - Mitosis](http://www.scienceprofonline.com/vcbc/cell-cycle-mitosis-main.html)
* TEXTBOOK READING: Chapter 9

**HOMEWORK**

* UPLOAD Fermentation Homework. **Due 12/2 before 4pm**. Last day to turn in late 12/9 before 4pm.
* UPLOAD Enymes & Metabolism (Aerobic, Anaerobic and Fermentations & Catabolism of Proteins + Fats) Review Assignment - **Due 12/4 before 4pm.** Last late date 12/11 before 4pm.

**WEEK #8** (Dec 9th & 11th)

**REMINDERS & ANNOUNCEMENTS**

* On Tuesday, Dec 9, we will be completing course evaluations, the Meiosis Lecture and doing some review if time allows.
* Final Exam Thursday, December 11!

**COURSE MATERIALS**

* LECTURE 14: [Cell Division - Meiosis](http://www.scienceprofonline.com/vcbc/cell-cycle-meiosis-main.html)

**HOMEWORK**

* HOMEWORK: You will be completing a Mitosis and a Meiosis homework assignment. Each is found on the corresponding lecture main pages of the VCBC ([Mitosis Lecture Main Page](http://www.scienceprofonline.com/vcbc/cell-cycle-mitosis-main.html) & [Meiosis Lecture Main Page](http://www.scienceprofonline.com/vcbc/cell-cycle-meiosis-main.html)). You will be turning in hard copies of these assignments, rather than uploading, since drawing is required. The Mitosis Homework assignment must be handed in 12/9, at the start of class (late date 12/11 at start of class). The Meiosis Homework Assignment must be handed in 12/11, at the start of class (no late date for handing in this last assignment).
* UPLOAD Genetics (Replication, Transcription, Translation) & Cell Division (Mitosis & Meiosis) Review Assignment - **Due 12/11 before 4pm.** NO LATE DATE FOR THIS ASSIGNMENT.