

## BIOL 151 – INTRODUCTION TO BIOLOGICAL SCIENCES I Fall 2019

**Instructor:** Barbara Merk, Ph.D.

**Email:** [merkbc@vcu.edu](mailto:merkbc@vcu.edu)

**Office:** [Removed]

**Office Hours:** [Removed]

**Classroom:** [Removed]

**Lecture hours:** [Removed]

### Course Description

During this course, we will discuss several biological principles, including cell biology, energy, molecular biology and genetics. We will begin building a framework of the core biological principles from atoms to cells and genetics, and connecting the concepts to real world examples.

### Course Objectives

By the end of the course you should be able to:

- Correlate the structure of organic molecules with their basic functions and their roles in cells
- Describe how energy enters living systems and how it is used by different organisms and organelles to keep life going.
- Compare and contrast the formation of new cells by mitosis with the formation of gametes by meiosis
- Outline the relationships between genes, heritable traits and gene expression patterns
- Relate key biological themes to examples found in the natural world
- Explain how scientists learn more about the world around them, and the changing nature of scientific information.
- Apply key concepts in biology to information/scenarios outside of the course

### Prerequisites:

The prerequisites for BIOL 151 are placement into MATH 151 and CHEM 101. This does not mean you have to be enrolled in either of those courses, simply that you meet the requirements needed to take them (placement tests in the MATH and CHEMISTRY departments, see their web pages for more information).

### Course Materials

#### TEXTBOOK:

The textbook for this course is a FREE, online textbook based on the OpenStax Biology (2nd edition) that has been revised and customized for BIOL 151.

Clark, M.A., Choi, J. Douglas, M. 2018. *Biology*. 2nd Edition, OpenStax. Access free at <https://cnx.org/contents/8d50a0af-948b-4204-a71d-4826cba765b8>

#### **Top Hat In-Class response system (Subscription required; \$20)**

We will use Top Hat for in-class responses and to record your attendance and participation. In order to participate through Top Hat during the lecture, you will need to bring a laptop, tablet or smart phone (something that can access the internet or support the TopHat App) to every class.

**Blackboard** will have announcements, course documents, homework assignments, and your current grades.

**Please note E-mail Etiquette**

Please make sure you tell me your class (BIOL 151) either in the subject line or at the start of your message. I am teaching almost 500 students this semester, so I will not automatically know who you are or what class you are in. Emails should be polite and professional – they should *not* sound like a text message you might send to a friend.

**E-mail response time:**

I will do my best to respond to student emails within 24 hours during the week. However, I cannot always guarantee that this will happen, depending on how many emails I receive. If you need a response quickly (for example, you are stuck on the side of the road shortly before an exam!), please include the word “urgent” in the subject line and I will read and answer your email first.

**Course Structure**

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This class meets twice a week and requires that you take an active part in the learning process through TopHat, in-class activities and asking questions if you have them.

**Attendance Policy:**

Students are expected to attend and participate in all class meetings, including taking notes, writing answers to questions presented in class and working with classmates. *You are responsible for all course materials and content (including announcements) you miss due to an absence from class.*

- a) **Reminder:** Students who stop attending class must withdraw officially. I will not withdraw students. A grade of “F” will be assigned if a student simply stops attending.
- b) **Inclement Weather:** Lecture will generally meet unless officially canceled by VCU officials. Call the VCU “inclement weather hotline”, 828-OPEN (828-6736), or go to [www.vcu.edu/alert/](http://www.vcu.edu/alert/).
- c) **If class is canceled:** If I must cancel a class period despite campus being open (e.g. due to illness, car trouble, etc.), I will send an email announcement via Blackboard. Please check your VCU email if you are ever unsure whether class will be held. If you have not received an email, you can assume we will have class.

**Electronic devices:**

Students may use laptops, iPads, tablets, and recording devices for *class purposes only*. **You are required to have one electronic device to use Top Hat.** Students caught checking e-mail or Facebook, sending text messages, playing on the Internet, etc., will be asked to leave the classroom. Cell phones and pagers must be *set to silent* during lecture and may not be on you during exams (see Honor Code Policy).

*If another student’s inappropriate use of their electronic device is a distraction to you, please bring this to my attention so that I can address the issue.*

**Assignments**

**Homework assignments** will be from the textbook and/or study guides and are intended to reinforce concepts covered in class. You are required to complete the homework assignments and submit them in Blackboard by the deadline. **Answers must be hand-written (not typed) for credit to be received.**

**Submitting Homework Assignments:**

Assignments must be submitted in Blackboard – no exceptions! You can either scan in the completed paper and submit as a PDF, or simply take a photo and upload it as a JPEG file. However, it is your responsibility to make sure the file uploaded correctly and is readable (this refers both to someone else being able to open the file as well as the work being legible). I will be somewhat lenient on this *on the first assignment only* – after that, you are expected to know how to upload files in an appropriate format.

**Top Hat** will be used to record attendance, as well as to facilitate student participation in the class. Students are required to bring an electronic device to lectures so that they can participate via Top Hat. Top Hat may also be used for short in-class quizzes. *It is your responsibility to check your Top Hat account regularly to make sure your answers submitted successfully.* I will not adjust Top Hat grades at the end of the semester because you failed to realize that there was a problem with answer submission. If, on a given day, you submitted the answers and one or more fail to show up in your account, please contact Top Hat customer service right away. As long as you signed in on that day, they will be able to restore your missed points. Do NOT wait until the end of the semester to do this!! It may take a few days for your points to be restored, and if you wait too long and I have already downloaded the gradebook, I will not go back and manually adjust your grade. You have been warned.

**Exams:**

There are **four exams** given during the semester. These exams will consist primarily of multiple choice problems, but *may* include one or more short answer/ free response question(s). While each exam will focus primarily on the new material covered since the previous exam, there will be occasional cumulative questions as well.

- a) You **MUST** place all personal items (notes, books, backpack, purses, PHONES, any clothing you are not wearing such as a coat, etc.) except writing tools at the front of the classroom *prior to* sitting down in your assigned seat.
- b) *You are required to bring your own pencil* on exam days. Multiple choice questions must be answered in pencil on a Scantron form (the form is provided for you). You should also make sure your pencil is sharpened before class. Ideally, bring two pencils just in case.
- c) Phones **MUST** be turned off and left with other personal items. ***Having a phone in your possession during an exam is against course policy and will result in a “0” on the exam – even if it is turned off and you are not using it!***
- d) Any forms of cheating on an exam will result in the filing of an honor code complaint. I reserve the right to record possible instances of academic misconduct during exams to include as evidence in honor trials.
- e) **After the exam:** You must bring your **student ID** with you on exam days and show it when turning in your exam. In addition, you will need to sign your name on a separate sheet of paper when you turn in your exam. This confirms you were indeed present on exam day and handed in your exam - this way, there can be no question of who did or did not hand in an exam.
- f) Following the release of your grade in Blackboard, you have **one week** to view your exam in the main Biology office (Life Sci Bldg Room 126), where keys will be provided.
- g) **Absences from an exam:** Due to the size of the class I **only** offer make-up exams in extenuating circumstances.  
If you have a valid reason to miss an exam **you must contact me prior to missing the exam and receive my approval** for alternative arrangements. DO NOT simply fail to show up and assume we can “work it out” later on! You also should not assume that because you sent me an email asking for a make-up, you will automatically get one. Valid reasons for missing an exam include: funerals of close

friends or family members (must provide obituary or note from a parent/guardian), hospitalization of the student (must provide hospital documentation), or severe/contagious illness of the student (must provide an official doctor's note *stating specifically that you were advised not to attend class on this specific day*— please note VCU health services notes rarely state this. "So-and-so was seen by student health" is NOT a sufficient excuse and will NOT get you a make-up exam! ). Other reasons may be considered but official documentation must be provided. ***If no proof is provided you will receive a 0.***

There may be times when it is truly impossible for a student to contact me before missing an exam. Such cases will be considered on a case-by-case basis, and exceptions may be made *at the instructor's discretion*. You should always try to explain your absence as soon as reasonably possible.

Valid reasons do NOT include being stuck in traffic (it is your responsibility to get here in time to take exams!), any non-emergency doctor/dentist appointment, a sick roommate/friend/family member, forgetting there was an exam that day or a family trip.

**In the event that I approve an absence, the make-up exam must be scheduled and taken no later than 2 business days** after the student is cleared to return to class or returns from a funeral. This may mean missing work or another class, so please plan ahead if you must miss an exam. (Exceptions may be made for approved absences of over 1 week, such as extended illness).

### **Review and Supplemental Instruction**

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Extra credit is available for attending preceptor and/or SI review sessions throughout the semester. You can earn 0.1% (added to your final course grade) for each session you attend, up to a total of 2.0% extra credit if you attend 20 sessions. *Please note that no more than 5 of these sessions may be attended for credit during the last two weeks of class* (to avoid everyone flooding the very last sessions of the year). You are certainly welcome to attend more than 20 sessions, and in fact I highly encourage you to do so! You just won't get additional points for sessions after the 20<sup>th</sup>.

1. **Review sessions:** Preceptors will host *50-minute review sessions* each week. The schedule will be posted to Blackboard in the coming days. You should come prepared to work on suggested chapter questions and/or assignments preceptors assign. If you simply sleep in the back the whole time, preceptors are permitted to deny you credit for the session, or even ask you to leave.
2. **Supplemental Instruction (SI)** sessions are available for free, courtesy of VCU. SI sessions are held by tutors who will provide additional review and study sessions for this course. If you are struggling in this class, having attended class and review sessions, I highly encourage you to make use of this free resource. More information can be found at: <http://uc.vcu.edu/learning-support/campus-learning-center/supplemental-instruction/>

Add/Drop, Withdrawal dates and information

Last day for Add/Drop: **[Removed]**

Last day to withdraw: **[Removed]**

Course end date: **[Removed]**

**Withdrawal Information:**

**You will NOT be automatically withdrawn from this course after missing a certain number of classes.** If you do not want to remain in this class, it's your responsibility to withdraw officially by the deadline.

You may withdraw from the course through [eService](#) [Removed] with a grade of W.

Before withdrawing from classes, students should consult Dr. Merk as well as other appropriate university officers (i.e. Academic advisor). Withdrawing from classes may negatively impact a student's financial aid and his/her semester charges. To discuss financial aid and the student bill, visit the [Student Services Center](#) at 1015 Floyd Avenue (Harris Hall) and/or contact your financial aid counselor regarding the impact on your financial aid. Contact information for the [University Financial Aid Office](#) is available online.

**Grades:**

Homework assignments	15%
Quizzes (Top Hat)	15%
In-class Participation	15%
Four exams	55%
<b>Total</b>	<b>100%</b>

**Final Grade Scale**

89.90 -100% = A

79.90-89.89% = B

69.90-79.89% = C

59.90-69.89% = D

Below 59.90% = F

**Blackboard** will calculate your grade automatically as I post grades.

*Please do not ask me about what grade you have in the course —you can look under the “My Grades” tab to see your current grade. Please note that your current grade in the class will always be shown in the “Weighted Total” column in Blackboard. It is NOT based on the overall number of points you have earned, but on the percentages earned in each category (Quizzes, Exams, Homework, etc).*

**I DO NOT BEND ON THESE GRADE BARRIERS.** Sorry, the line has to be somewhere. Letter grades will be assigned at the end of the course. Please be aware that I do not curve exams or final grades. I also do not “round” grades or drop grades. Only changes due to mathematical error will be granted.

Grades on exams, homework, etc. will be posted in Blackboard and you will have one week to check them and contact me with any questions or concerns about them. **No grades will be changed after the one-week period, so please make it a habit to check Blackboard regularly.**

**A note on grading:** Your grade in this course will depend entirely on how well YOU know the material we cover, and on your ability to demonstrate to me that you know it on exams. Your grade will NOT be in any way influenced by how well I like you, how hard you say you worked in the class, how many times you have already taken this class, whether you need a certain grade to keep your scholarship, get into medical school, or graduate; your grades in other/previous classes, or the grade earned by another student. Please don't ask me to adjust your grade for any of these reasons.

**BIOL151 Fall 2019 Tentative Course Schedule:**

Weeks		Topics
1	[Removed]	1. Syllabus, course policies 2. Commonalities of Living Organisms
2	[Removed]	1. Atoms, Bonds & Water 2. Carbon & Organic Molecules
3	[Removed]	1. NO CLASS ON SEPT 2 2. Molecules & Membranes
4	[Removed]	1. Membrane Properties: Permeability 2. Comparing Components of Cells
5	[Removed]	1. <b>Exam #1</b> 2. Energy for Life: Chemical Reactions and Enzymes
6	[Removed]	1. Energy for Life (Cont'd) 2. Pulling Energy from the Sun: basics of photosynthesis
7	[Removed]	1. Pulling Energy from the Sun (Cont'd) 2. Getting Energy from Food: basics of cellular respiration
8	[Removed]	1. Getting Energy from Food (Cont'd) 2. From one cell to two: fundamentals of the cell cycle
9	[Removed]	1. <b>Exam #2</b> 2. From one cell to two: fundamentals of the cell cycle
10	[Removed]	Copying DNA: DNA structure and replication
11	[Removed]	Meiosis and sexual reproduction <b>NOTE: Nov. 1: last day to withdraw with a "W"</b>
12	[Removed]	1. <b>Exam #3</b> 2. Introduction to Mendelian genetics
13	[Removed]	1. Introduction to Mendelian genetics 2. From gene to protein
14	[Removed]	1. From gene to protein 2. Controlling gene expression
15	[Removed]	<i>Fall break! (No classes)</i>
16	[Removed]	Controlling gene expression (Cont'd)
17	[Removed]	<b>Exam #4</b>

The instructor reserves the right to make changes to the syllabus or to make exceptions to these policies in appropriate circumstances. Such changes will always be announced in class, and an updated version of the syllabus will then be posted to Blackboard.

**Important Information from the Provost Office**

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The required syllabus statements originally included here are maintained by the Office of the Provost and are regularly updated. To prevent the dissemination of information which may no longer be accurate or complete, the full text of the required syllabus statements have been removed from this document.

Students should visit <http://go.vcu.edu/syllabus> and review all syllabus statement information. The full university syllabus statement includes information on safety, registration, the VCU Honor Code, student conduct, withdrawal and more.