

INTRODUCTION TO BIOLOGICAL SCIENCES I

BIOL 151 Sec. 003 T/TH 11:00 am – 12:15 pm

Instructor: Dr. Joseph Battistelli

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Office: LSB, Rm. 218c

Office Hours: [removed]

Required Materials:

- *Biology: How Life Works*, 2nd edition
 - by Morris, Hartl, Knoll, and Lue
- Top Hat Subscription available from <https://tophat.com/>
 - Join Code [removed]
 - It is the responsibility of the student to ensure Top Hat is functioning on their mobile device and correctly recording grades.
 - Support is available direct from Top Hat: <https://success.tophat.com/s/contact-main>

Important Dates:

- Exams
 - Exam 1: Thursday, February 9th
 - Exam 2: Thursday, March 2nd
 - Exam 3: Tuesday, April 4th
 - Exam 4: Thursday, April 27th
 - Final Exam: **Tuesday, May 9, LFSCB Rm. 151, 8:00 am – 10:50 am**
- Last day to Add/Drop: Monday, January 23rd
- Last day to notify instructor of pre-existing travel conflicts: Monday, January 23rd
- Last day to Withdraw: March 24st
- Spring Break March 4th – 12th

Course Policies

Course description:

This course is an introduction to major biological principles including cell biology, energy and metabolism, genetics, and inheritance. The major goal of this course is to provide you with a strong foundation for future courses in biology. Whether you pursue a degree in biology or not, by the end of the semester you will have developed your problem solving and critical thinking skills. You will also be able to speak the “language” of biology.

Course objectives: By the end of the semester you should:

1. To be able to use chemical concepts, such as moles, isotopes, and redox, in a biological context
2. Have a conceptual understanding of what makes up a cell, and the biochemical processes that synthesize DNA, RNA and proteins.
3. Be able to explain cellular processes including photosynthesis, mitosis, meiosis, gene expression, and cellular respiration
4. Understand the flow of energy within an organism to maintain life and the relationship between biochemical processes and the laws of thermodynamics
5. Understand transfer of genetic information across generations and the regulation of gene expression within an individual

VCU Honor System:

The Honor System is designed to provide an atmosphere of honor and dignity within the University setting; academic pursuits are utterly incompatible with dishonorable behavior. Thus, academic dishonesty of any kind will not be tolerated. This includes cheating, stealing, lying, plagiarism, facilitating academic dishonesty, and/or abuse of academic materials. In order to maintain an honorable setting, those who fail to uphold the Honor System will be prosecuted to the fullest extent possible; a failing grade in the course is the minimum consequence of such a violation. Please note that an honor system sanction resulting in a course grade of "F" cannot be voided by course withdrawal, repeat course option, or grade appeal. A transcript notation is also recorded for such a grade sanction.

Blackboard – <http://blackboard.vcu.edu>

You will find information for our course on blackboard. You will need your VCU e-mail address and password to log in. You are responsible for ensuring that your grades are accurately recorded on Blackboard. Mistakes occur and will be corrected when they are discovered. It is your responsibility to review your grades in Blackboard and make sure they are correctly transferred from Top Hat to Blackboard. Any errors must be reported before we move on to the next unit of the course. For example, if you think there was an error on the syllabus quiz and tell me immediately it will be corrected immediately. If you wait until the last week of class, it is too late to make revisions to assignments from the first week of class.

Top Hat, Attendance, In-lecture questions, & In-class Activities:

Attendance will be taken through Top Hat, and is not usually part of your grade; however, it does enable students to use the "off-line" feature of Top Hat so if there are network issues, students will still be able to participate fully on in-class activities. Top Hat will be used for **in-lecture questions** and **in-class activities**.

In-lecture questions are questions that are inserted in the middle of lecture. All the in-lecture questions combined will count as **one** assignment grade. There will be approximately 3 questions per class, each worth ~2 points, meaning you can earn approximately 144 points over the course of the semester. For each question you get half credit just for participating and half credit if you get the right answer. For in-lecture questions **only**, the grade is based off 100 points. This means if you answer every question wrong, you can still get a 72 for the in-lecture questions assignment.

In-class activities will be primarily short essays where students will peer-evaluate each other's essays, and then self-report grades using Top Hat. There will also be problem solving activities using Top Hat where students will work in groups during class. In-class activities cannot be made up. From the pool of in-class and homework activities the lowest two will be dropped. If students provide appropriate documentation they may be excused from an in-class activity. Homework and in-class activities will count for 20% of your grade.

Homework Activities:

Homework activities will be multiple choice, fill-in-the-blank, matching and calculation based questions. The homework is intended to prepare you for in-class activities by reviewing the lectures and readings. Homework and in-class activities will count for 20% of your grade. For homework activities on Blackboard, you will have 3 attempts and the highest of the three attempts will be recorded as your grade.

Exams:

All exams are included as part of your grade. Each exam is worth 16% of your grade. Make-up exams will only be provided under extreme circumstances as decided by the instructor. Make up exams will usually include additional free response questions to account for added study time. It is the responsibility of the student to provide documentation of the extenuating circumstances when contacting the instructor.

Each section exam (Exams 1-4 during the course of the semester) will consist of **two** parts. There will be a fill-in-the-blank, matching, multiple-answer portion of the exam that students complete on blackboard. This part of the test is automatically graded and worth 10-15% of the exam grade. This portion of the test has harder questions, but is open-book, open-note, open-internet. You are still expected to adhere to the VCU Honor Code and expected to do your own work and not consult other people or offer aid to other people. The second part of the exam will be held in class on the days indicated on the syllabus. The in-class portion will be multiple choice GradeIT (scantron) exams worth 85-90% of your exam grade. The multiple choice portion will be approximately 50 questions.

On exam days bring a pencil and your **student ID**. You will need to provide your **V#** to sign in with your clicker; please have it memorized. Your grade will be penalized if I need to provide any one of these things more than once. Arrive early, as students who arrive after the first student has turned in the exam will not be allowed to take the exam. NO cell phones, tablets, or any other electronic devices can be used during the exam. During the exam, keep your eyes on your own exam and keep your answer sheet covered.

If you have any writing on your hand it must be removed before the start of the exam. If writing is discovered during the exam and it is in a foreign language, or cannot be readily deciphered, you will automatically be submitted to the honor council for them to evaluate the situation. Even if it is just your grocery list or a note to call your parents, if I cannot readily deduce this you will be submitted to the honor council so they can evaluate the writing.

Once the exam begins you may not leave the room until you submit your exam, unless an exam proctor accompanies you. Make sure your car is parked legally for the duration of the exam. You cannot move your car during the exam.

NO Extra Credit:

Extra credit projects outside of class will **NOT** be provided under any circumstances. Spend your time studying **BEFORE** the tests. The only planned extra credit activity is for completion of the course evaluations at the end of the semester. Do not rely on this for your grade.

Grading:

Exams - There are 4 sections exams, and a cumulative final. The final is mandatory. Take each exam seriously. I do **not** offer make-up exams unless you are hospitalized for an extended time period or there is a death in your immediate family. In the rare event that a make-up exam is granted, some multiple-choice questions will be converted to open ended questions to account for extra study time. Although each exam focuses on the material covered in its corresponding unit, each unit builds upon the material from the preceding unit so the exams are effectively cumulative.

Assignments – Top Hat will be used for in-class assignments and the in-lecture questions which all combined count as one assignment. There are also homework assignments completed on Blackboard. All assignments

are equally weighted evenly though some assignments are easy while others are hard. Do not miss the opportunities to score easy points. Twenty percent of your grade will be based on your performance on assignments.

Course Grade – Letter grades will be assigned based on a 10 point scale (i.e. 90% and up is an A, 80-89% is a B, etc.). The grading breakdown is as follows: $((\text{Average of 4 Unit Exams and the Final}) \times 0.8) + ((\text{Assignment Grade}) \times 0.2) = \text{Course Grade}$. I round to the nearest, eg. 89.5 = 90, **but** 89.4 = 89.

Exam 1	16%
Exam 2	16%
Exam 3	16%
Exam 4	16%
Final Exam	16%
Activities	20%
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Course Grade	100%

Campus emergency information

What to know and do to be prepared for emergencies at VCU:

- Sign up to receive [VCU text messaging alerts](#). Keep your information up-to-date. Within the classroom, the professor will keep his or her phone on to receive any emergency transmissions.
- Know the safe evacuation route from each of your classrooms. Emergency evacuation routes are posted in on-campus classrooms.
- Listen for and follow instructions from VCU or other designated authorities. Within the classroom, follow your professor's instructions.
- Know where to go for [additional emergency information](#).
- Know the emergency phone number for the VCU Police (828-1234).
- Report suspicious activities and objects.
- Keep your permanent address and emergency contact information current in eServices.

Class registration required for attendance

Students may attend only those classes for which they have registered. Faculty may not add students to class rosters or Blackboard. Therefore, if students are attending a class for which they have not registered, they must stop attending.

Honor System: upholding academic integrity

The VCU Honor System policy describes the responsibilities of students, faculty and administration in upholding academic integrity, while at the same time respecting the rights of individuals to the due process offered by administrative hearings and appeals. According to this policy, "Members of the academic community are required to conduct themselves in accordance with the highest standards of academic honesty and integrity." In addition, "All members of the VCU community are presumed to have an understanding of the VCU Honor System and are required to:

- Agree to be bound by the Honor System policy and its procedures;
- Report suspicion or knowledge of possible violations of the Honor System;
- Support an environment that reflects a commitment to academic integrity;
- Answer truthfully when called upon to do so regarding Honor System cases;
- Maintain confidentiality regarding specific information in Honor System cases."

More information can be found at in the [VCU policy library](#) under the Education and Student Life tab.

Important dates

You can view important dates for the semester in the [academic calendar](#).

Faculty Responsibility to Report Misconduct (Title IX Requirements)

Mandatory responsibility of faculty members to report incidents of sexual misconduct

It is important for students to know that all faculty members are mandated reporters of any incidents of sexual misconduct/violence (e.g., sexual assault, sexual exploitation and partner or relationship violence). This means that faculty cannot keep information about sexual misconduct/violence confidential if you share that information with them and they must report this information immediately to the university's Title IX Coordinator. In addition, department chairs, deans, and other unit administrators are required to report incidents of sex or gender-based discrimination to the university's Title IX Coordinator.

Confidential reporting sources include staff in Sexual Assault and Domestic Violence at the Wellness Resource Center, University Counseling Services and University Student Health Services. The Policy on Sexual Misconduct/Violence and Sex/Gender Discrimination - Interim, can be found in the [VCU policy library](#) and as a PDF [here](#).

Military short-term training or deployment

If military students receive orders for short-term training or for deployment/mobilization, they should inform and present their orders to Military Student Services and to their professor(s). For further information on policies and procedures contact Military Student Services at 828-5993 or access the corresponding policies. Student conduct in the classroom

According to the [Faculty Guide to Student Conduct in Instructional Settings](#), "The university is a community of learners. Students, as well as faculty, have a responsibility for creating and maintaining an environment that supports effective instruction. In order for faculty members (including graduate teaching assistants) to provide and students to receive effective instruction in classrooms, laboratories, studios, online courses, and other learning areas, the university expects students to conduct themselves in an orderly and cooperative manner." Among other things, cell phones should be turned off while in the classroom. The Student Code of Conduct also prohibits the possession of or carrying of any weapon. For more information see <http://register.dls.virginia.gov/details.aspx?id=3436>.

Student email policy

Email is considered an official method for communication at VCU because it delivers information in a convenient, timely, cost-effective, and environmentally aware manner. Students are expected to check their official VCU email on a frequent and consistent basis in order to remain informed of university-related communications. The university recommends checking email daily. Students are responsible for the consequences of not reading, in a timely fashion, university-related communications sent to their official VCU student email account. This policy ensures that all students have access to this important form of communication. It ensures students can be reached through a standardized channel by faculty and other staff of the university as needed. Mail sent to the VCU email address may include notification of university-related actions, including disciplinary action. Please read the policy in its entirety [here](#).

Student financial responsibility

Students assume the responsibility of full payment of tuition and fees generated from their registration and all charges for housing and dining services, and other applicable miscellaneous charges. Students are ultimately responsible for any unpaid balance on their account as a result of the University Financial Aid Office or their third party sponsor canceling or reducing their award(s).

Students representing the university – excused absences

Students who represent the university (athletes and others) do not choose their schedules. Student athletes are required to attend games and/or meets. All student athletes should provide their schedules to their instructors at the beginning of the semester. The Intercollegiate Athletic Council strongly encourages faculty to treat missed classes or exams (because of a scheduling conflict) as excused absences and urges faculty to work with the students to make up the work or exam.

Students with disabilities

Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, as amended, require that VCU provide "academic adjustments" or "reasonable accommodations" to any student who has a physical or mental impairment that substantially limits a major life activity. To receive accommodations, students must register with the Disability Support Services Office on the Monroe Park Campus (828-2253) or the Division for Academic Success on the MCV campus (828-9782). Please also visit the [Disability Support Services website](#) and/or the [Division for Academic Success website](#) for additional information.

Once students have completed the DSS registration process, they should schedule a meeting with their instructor (s) and provide their instructor (s) with an official DSS accommodation letter. Accommodation letters will outline the required classroom accommodations. Additionally, if coursework requires the student to work in a lab environment, the student should advise the instructor or a department chairperson of any concerns that the student may have regarding safety issues related to a disability. Students should follow this procedure for all courses in the academic semester.

VCU Mobile

The VCU Mobile application is a valuable tool to get the latest VCU information on the go. The application contains helpful information including the VCU directory, events, course schedules, campus maps, athletics and general VCU news, emergency information, library resources, Blackboard and more. To download the application on your smart phone or for more information, please visit <http://m.vcu.edu>.

Withdrawal from classes

Before withdrawing from classes, students should consult their instructor as well as other appropriate university offices. Withdrawing from classes may negatively impact a student's financial aid award and his or 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.

Lecture Schedule

Lecture Topics	Chapter Reading	Lecture (Date)
Syllabus, Intro to Biology	Syllabus, Ch. 1	Tue Jan 17
Chemistry for Biology	Ch. 1 & 2	Thur Jan 19
Molecules of Life	Ch. 2 & 3	Tue Jan 24
Cellular Organization	Ch. 5, Ch 10	Thur Jan 26
Roll of DNA	Ch. 3	Tue Jan 31
RNA Synthesis	Ch. 3	Thur Feb 2
Proteins and Protein Synthesis	Ch. 4	Tue Feb 7
Exam 1		Thur Feb 9
Metabolism – Energy Transfer	Ch. 6	Tue Feb 14
Photosynthesis	Ch. 8	Thur Feb 16
Photosynthesis	Ch. 8	Tue Feb 21
Respiration	Ch. 7	Thur Feb 23
Respiration	Ch. 7	Tue Mar 28
Exam 2		Thur Mar 2
<i>Spring Break Mar 4-12</i>		
Cell Communication	Ch. 9	Tue Mar 14
Cell Communication – The Cell Cycle	Ch. 9 & 11	Thur Mar 16
Mitosis & Meiosis	Ch. 11	Tue Mar 21
DNA Synthesis	Ch. 12.1 & 12.2	Thur Mar 23
DNA Mutation & Repair	Ch. 14	Tue Mar 28
Genomes & Bio Complexity	Ch. 13.1, 13.3, 13.4	Thur Mar 30
Exam 3		Tue Apr 4
Genotype & Phenotype	Ch. 15	Thur Apr 6
Patterns of Inheritance	Ch. 16	Tue Apr 11
Exceptions to Mendel's Laws	Ch. 17	Thur Apr 13
Complex Traits & the Environment	Ch. 18	Tue Apr 18
Epigenetics	Ch. 19	Thur Apr 20
Lac Operon	Ch. 19	Tue Apr 25
Exam 4		Thur Apr 27
Guest Lecture w/ Dr. Hancock	Attendance Counts	Tue May 2
Cumulative Final Exam	8:00 am – 10:50 am	Tue May 9