

# BC 353 COURSE SYLLABUS

## INSTRUCTOR INFORMATION

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## TECHNICAL SUPPORT

Need technical assistance with your online course? Try the following:

- Visit the [Canvas Student Resources](#) for guides and videos.
- Visit [Central I.T. Technical Support Helpdesk](#) for technical support.
- Call 970-491-7276.
- Email [Help Desk Support](#).

## COURSE DESCRIPTION

Biochemistry is the chemical and molecular underpinnings of how and why life (cells and organisms) works. Pre-Health Genetics will focus on the structure and function of macromolecules built from nucleotides and the cellular processes based on nucleic acids. Until we invent cameras to record the processes firsthand, understanding biochemistry means interpreting data providing indirect evidence for how things work.

Students will learn core concepts and definitions in molecular genetics. Understanding and critical thinking are most important and lasting but knowing a certain amount of content knowledge and learning the biochemistry “language” is required for hanging that understanding on.

Students will gain an “appreciation” for the field of molecular genetics. I hope you come away from this class thinking that molecular genetics is cool and excited to learn more and in greater depth. This course will only give you the tip of the iceberg, but I hope it will provide a springboard for delving into your future areas of interest in more detail.

## COURSE PREREQUISITES AND COREQUISITES

BC 351

## COURSE GOALS

Upon the completion of BC 353, a successful student will be able to:

- Apply and advocate for the centrality of biochemical principles to molecular genetics;
- Illustrate and analyze molecular genetic processes in terms of biochemical principles - the chemical properties of the molecular components (parts) and the biophysical driving forces;
- Name, categorize and explain the composition and structure of nucleic acids in biochemical terms;
- Define, outline and sketch DNA-based technology and the structure of genes and chromosomes;

- Describe, illustrate and differentiate the protein and nucleic acid components of DNA and RNA metabolism (DNA repair, etc. and RNA transcription, translation, etc.)
- Restate, examine and interpret the various aspects of the regulation of gene expression in prokaryotic and eukaryotic cells;
- Review, inform, demonstrate and justify how all the molecular genetic core concepts and big ideas inform the current understanding of cancer biology.

## REQUIRED TEXTS

Lehninger Principles of Biochemistry, 5<sup>th</sup>, 6<sup>th</sup> or 7<sup>th</sup> edition, by Nelson and Cox, W. H. Freeman Publishers, ISBN-13: 978-0716771081 SBN-10: 071677108X ISBN-13: 978-1429234146 ISBN-10: 1429234148

The course textbook is available through the **CSU Bookstore's Inclusive Access Program** in partnership with Unizin Engage. You have immediate access to the online e-text by clicking on the "Manage eResources" link within the course menu in the BC 353 course. Please note, there is a cost for the e-text. The bookstore will charge your student account for the cost of the e-text after the Add/Drop date, February 3, 2021. You must "opt-out" of the eTextbook before the Add/Drop date to avoid bookstore charges. Please look for emails from the "CSU bookstore" about accessing the eTextbook and 'opting out', as well, as charges to your student account. These emails will be sent to your official CSU email address. To opt out, follow the link in the emails or click on the Manage eResources tab in Canvas. This letter is also posted under the Course Information Module on the BC 353 Canvas course. Once you choose to "opt-out," you will no longer be allowed to access the e-text in Canvas.

## OTHER REQUIRED AND SUPPLEMENTAL MATERIALS

### Assignments

How will you know that you have learned and understood the BC 353 core concepts and ideas? What will your grade be based upon?

#### 1. **12 Module Quizzes** – 50 points total

The quizzes will be administered on Canvas. They are all available starting August 24 or the same day as the previous exam (for example Module 5-7 Quizzes are available starting September 14), but will be due (must be completed) each Sunday night at 11:29 PM. There will be 12 quizzes and you will be allowed two attempts on each and will receive your highest score.

#### 2. **4 Exams** – 400 points total

There will be four exams worth 100 points apiece. The exams will be administered on Canvas. Each exam will be available for a five-day period (for example exam 1 is available starting February 8 at 12:01 AM and ending February 12 at 11:59 PM. You will have two hours to complete the exam. Exams will consist of two matching, ten multiple choice and two five-part free response questions. The exams will only cover what I talk about in class and emphasize in the study guides and quizzes. Exams are closed notes, text, Internet, etc. Exams are proctored (for details see section on proctored exams below).

#### 3. **Discussion Board Posts** (Coffee Shop) and **Weekly Questions Surveys**

Submission of Discussion Board posts under the pinned Coffee Shop threads and completing the Weekly Questions Surveys are not required. However, each Discussion Board post and survey completion is worth 1 extra credit point.

### Course Materials

I will provide materials on Canvas to help you grasp my organization of the course content. These materials define what concepts I want you to know and understand. The materials also aid your studying for exams.

1. Textbook pages and supplemental article reading
2. Module outlines
3. Lecture slides for taking notes
4. Module study guides (and answers)
5. Lecture Recordings

## COURSE PRESENTATION AND PROCEDURES

Organization of content: 1 module/half week comprised of readings, recordings, learning activities and quizzes. | Students should complete all tasks in each module before moving on.

## SUGGESTED STUDY METHODS

### How to Study

View the lectures prepared (know something about what I will talk about) having read the textbook pages and supplemental articles and looked over the lecture outlines and the study guide questions for the lecture. Review lecture notes and the study guide questions and attempt to answer these questions. If you do not have a good understanding of the questions and how to answer them ask about them by email or by posting your question on the Canvas Discussion Board (Coffee Shops). Use the quizzes as practice for the exams. Study your notes including key terms and concepts, and then take the quiz the first time without your notes. If you do not do as well as you would like, review your notes again and take the quiz a second time with your notes and book open. Use a similar approach with the practice exams. Finally, I strongly suggest that you *practice drawing out* the molecular genetic processes on a white board multiple times rather than just looking over them to study them. You will find the information sticks in your memory much more quickly and you will recognize gaps in your understanding more readily. Using this approach in a study group is even more effective.

Online education requires skills and habits that may be less essential in traditional courses. To be successful in your online course you will need:

- Space—Establish a comfortable and well-organized physical workplace.
- Time management skills—Set personal study and "classroom" time as you would do for a traditional course.
- Organization skills—Print out all class material (modules, PowerPoints, assignments, additional resources, and any work you generate) and keep everything in a single location. Maintain electronic backups of all class materials.
- Communication skills—Demonstrate a willingness to interact with your instructor and classmates through email, phone calls, discussion boards, and active participation in all class activities.
- Initiative—Seek help from your instructor and classmates, ask questions as they arise on the Canvas Discussion Board Coffee shops.
- Discipline—Pace yourself, complete all activities and assignments before the due date, follow through on all class requirements to completion. Start studying immediately after an exam for the next exam.

The more closely you adhere to the recommendations above the greater your chances of having a successful semester and a rewarding online experience.

## GRADING

As a student enrolled in this course, one of your responsibilities is to submit course work by the due dates listed in the Course Schedule. With that said, I take my role as your instructor very seriously, and, in fact, I care about how well you do in this course and that you have a satisfying, rewarding experience.

Each of the 4 exams in BC 353 will be worth 100 points each (400 total). Each of the 12 quizzes will be worth 5 to 7 points but their value in your final grade will be scaled to 50 points total possible (for example, 60 points/1.2 = 50 points possible). If you achieve the following point totals for BC 353 you will be assured of the minimum letter grade shown:

405-450 ( $\geq 90\%$ )	A
360-404 (80-90%)	B
315-359 (70-80%)	C
270-314 (60-70%)	D
<270 (<60%)	F

Each exam will not be curved individually, but the final total points required for a course grade might be curved downward depending on the averages and distribution of points. In addition, your grade for BC 353 will be determined based on the total 450 points (combined). Students in BC 353 have averaged at least 80% of the total points possible over the past several years. Thus, there is usually no grading curve. Please note that plus/minus grading will be used.

### Missed Exams and Re-grading of Exams

There will be no make-up exams offered. Exams or quizzes you have missed without an excuse will be graded as zero. If you have an excused absence (based on written or other verifiable evidence) from an exam or quiz, your final grade will be based on a percentage of the total possible points for the exams and quizzes you did take. Students can schedule to take an exam early with the instructor if they know they cannot take the exam at the regularly scheduled date and time. If you have questions concerning the grading of any of your exams or quizzes, the questions you want re-graded should be circled and the exam or quiz should be turned in to the instructor within one week of the date of its return to the class after grading. You must also provide a written explanation as to why you feel the question should be re-graded. Exams will not be accepted for re-grading after this one-week period, so go over your exam carefully soon after it has been returned to you.

## ASSIGNMENT DETAILS

Quizzes will consist of 10 to 12 multiple choice questions taken on Canvas. Exams will consist of matching (2 five part questions worth 10 points each), multiple choice (10 questions worth 4 points each) and two free response (2 five part questions worth 20 points each).

## OPTIONS FOR EXAM PROCTORING

This course requires that all exams are proctored. Proctors are individuals who administer the exam process following the guidelines provided by Colorado State University to ensure academic integrity.

In accordance with Colorado State University proctoring guidelines, students have two options for

having online exams proctored for this course:

1. Take the exam at the **University Testing Center (UTC)** on-campus in Fort Collins, CO. Schedule an appointment in advance at <http://tilt.colostate.edu/testingCenter/csuOnline/> or by calling 970-491-6498. The cost to take an exam at the UTC is included in the cost of the course for the 801 section and is \$5 per half hour for section 401.

2. **Honorlock** will proctor your exams this semester. Honorlock is an online proctoring service that allows you to take your exam from the comfort of your home. You DO NOT need to create an account, download software or schedule an appointment in advance. Honorlock is available 24/7 and all that is needed is a computer, a working webcam, and a stable Internet connection.

To get started, you will need Google Chrome and to download the Honorlock Chrome Extension. You can download the extension at: <https://static.honorlock.com/install/extension>.

When you are ready to test, log into the LMS, go to your course, and click on your exam. Clicking Launch Proctoring will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Honorlock will be recording your exam session by webcam as well as recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device.

Good luck! Honorlock support is available 24/7/365. If you encounter any issues, you may contact us by live chat, phone (844-243-2500), and/or email ([support@honorlock.com](mailto:support@honorlock.com)).

If you have any questions or concerns about proctoring, see <http://www.online.colostate.edu/current-students/proctoring.dot> or contact the University Testing Center at 970-491-6498 or [Paula.Rodriguez@colostate.edu](mailto:Paula.Rodriguez@colostate.edu).

## GRADE DESCRIPTION

97.5-100 % = A+	90-97.4 % = A	88.8-90 % = A-
87.5-88.7 % = B+	80-87.4 % = B	78.8-80 % = B-
77.5-78.7 % = C+	70-77.4 % = C	
	60-69.9 % = D	
	0-59.9 % = F	

## MAKE UP POLICY

There will be no make-up exams offered. Exams or quizzes you have missed without an excuse will be graded as zero. If you have an excused absence (based on written or other verifiable evidence) from an exam or quiz, your final grade will be based on a percentage of the total possible points for the exams and quizzes you did take. Students can schedule to take an exam early with the instructor if they know they cannot take the exam during the regularly scheduled dates.

## ACADEMIC INTEGRITY POLICY

This course will adhere to the CSU Academic Integrity [Policies and Guiding Principles](#) as found in the General Catalog and the [Student Conduct Code](#).

Academic integrity is conceptualized as doing and taking credit for one's own work. Violations of the university's academic integrity standards include, but are not limited to:

- Cheating—includes using unauthorized sources of information and providing or receiving unauthorized assistance on any form of academic work or engaging in any behavior specifically prohibited by the faculty member.
- Plagiarism—includes the copying of language, structure, ideas, or thoughts of another, and representing them as one's own without proper acknowledgment.
- Unauthorized Possession or Disposition of Academic Materials—includes the unauthorized selling or purchasing of examinations or other academic work; stealing another student's work; unauthorized entry to or use of material in a computer file; and using information from or possessing exams that an instructor did not authorize for release to students.
- Falsification—includes any untruth, either verbal or written, in one's academic work.
- Facilitation—includes knowingly assisting another to commit an act of academic misconduct.

At a minimum, violations will result in a grading penalty in this course and a report to the Office of Conflict Resolution and Student Conduct Services.

## CSU HONOR PLEDGE

Academic integrity lies at the core of our common goal: to create an intellectually honest and rigorous community. Because academic integrity, and the personal and social integrity of which academic integrity is an integral part, is so central to our mission as students, teachers, scholars, and citizens, I will ask that you affirm the CSU Honor Pledge as part of completing your work in this course. *While you will not be required to affirm the honor pledge*, you will be asked to affirm the following statement at the start of your exams:

*"I have not given, received, or used any unauthorized assistance."*

Further information about Academic Integrity is available at CSU's [Practicing Academic Integrity](#).

## UNIVERSAL DESIGN FOR LEARNING

I am committed to the principle of universal learning. This means that our classroom, our virtual spaces, our practices, and our interactions be as inclusive as possible. Mutual respect, civility, and the ability to listen to others carefully are crucial to universal learning.

If you are a student who will need accommodations in this class, please contact me to discuss your individual needs. Any accommodation must be discussed in a timely manner prior to implementation. A verifying memo from [Resources for Disabled Students](#) may be required before any accommodation is provided.

## SYSTEM, MULTIMEDIA, AND SOFTWARE REQUIREMENTS

Having trouble with the multimedia in this course? See the solutions below. Also, it is highly recommended that you access your course via a **high-speed Internet connection**.

- Problems with opening PDFs?
  - Download [Adobe Reader](#).
- Canvas acting funny?
  - Review Canvas guide for [Supported Browsers](#).
- YouTube videos not playing?
  - Download [Flash Player](#).
- Videos not opening or playing on your Mac?
  - Download [Windows Media Components for QuickTime](#).
- Still having issues:
  - Call the **CSU Help Desk at 970-491-7276** or [Email Help Desk Support](#)

You must have speakers installed and working properly on your computer before beginning the course. You may need access to Microsoft Word, PowerPoint, and/or Excel to complete assignments. If you do not have access to the Microsoft Office applications, you may use one of the following free resources that allow you to save your files with Microsoft Office file extensions (.doc, .docs, .ppt, .xls.):

- [Google Apps for CSU](#)—a free, outsourced communications suite endorsed by The University Technology Fee Advisory Board (UTFAB)
- [Office 365](#)—the full version of Microsoft Office free of charge for CSU students.