

Principles of Biological Science Lecture (Biol. 101)

Course Outline and Schedule

Biol 101-D010-89376-Thompson

Fall 2020

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Email: cat4@sunywcc.edu OR feel free to email me through Blackboard

Live Online Meeting Days/Times

In Blackboard via Zoom

Monday, Tuesday, Thursday / 12:00 – 12:50

Catalog Description of the Course

A one-semester scientific literacy, laboratory course in biology for non-science majors with a limited background in science. Fundamental issues in biology, such as the cellular basis and evolution of life, the molecular mechanisms behind reproduction and heredity, as well as the impact of biology on technology and society are covered.

Credits 4 (Lecture and Lab Combined)

How This Course Will Be Taught Through Remote Learning

This course will be taught by a combination of live lectures (that will be given through Zoom) and along with the completion of Homework Assignments (administered through McGraw Hill's Connect platform). The Zoom lectures will be live (synchronous) and your attendance is expected, whereas homework assignments, which are also online, are self-paced. Tests are scheduled to be taken during regularly scheduled meetings (see Schedule) and are delivered synchronously online. Note that all aspects of this course will be accessed through Blackboard (see "Accessing this Course Through Blackboard" - below).

Accessing This Course Through Blackboard In the upper left-hand corner in Blackboard you will find the following tabs...

Connect Registration

This course requires you to buy access to Essentials of Biology + Virtual Lab (ISBN: **9781264359288**). You can purchase this book here [https://sunywcc.bncollege.com/shop/suny-wcc/page/find-textbooks_\(use Biol 101 as the course and D005 as the section\)](https://sunywcc.bncollege.com/shop/suny-wcc/page/find-textbooks_(use Biol 101 as the course and D005 as the section)). Please note that the book is actually the online ebook delivered through the McGraw Hill Connect platform. When you purchase it at the school's online bookstore, you will be emailed an access code within 24 hours. This access code will be good for the lecture and the lab, therefore you do not need to buy it twice. However, after you have your access code you will need to go to the Blackboard shell in both the lecture and the lab and follow the instructions there in order to access the resources for lecture and lab.

Announcements

In the announcements section I will occasionally post information about upcoming tests, helpful learning resources or suggestions, or adjustments to our schedule (if needed).

Course Outline and Schedule

This is a folder with information about this course, all of which is included in this document (i.e. the Course Outline).

Course Content

In this folder you will find all of the information that I will provide as we move through the semester. You should check this folder before each meeting, so you can watch any posted videos and download PowerPoint presentations if you wish. Since this course is using an online textbook with HW options, we will utilize this feature. **Homework Assignments** - After you register for online access, you will notice

that there are Smart Book assignments with a set of questions that appear for each lecture in each unit. These assignments are to be done by the due dates that are posted on the schedule (See Schedule). The questions in these homework assignments are graded by the Connect program automatically and you can repeat the assignment as many times as you wish to get the highest score possible. **If your work is late:** Each homework assignment is graded out of 100 points and there is a 10-point penalty for each day that the homework is late. *Please note that each due date has a time that it is due. If the assignment is not completed by that time but it is turned in later that day, then it is a “day late.” If it is turned in the next day, it is “two days” late, and so on.* You should also realize that these homework assignments help you to prepare for the lectures and the tests. In fact, my tests are based on the topics covered in these questions, so if you do not do them you will not be fully prepared for the test.

Online Testing

Each test will be timed (see schedule for dates and times). If I have your testing accommodations documented I will add your extended time automatically. All testing will be performed through Blackboard. These assessments are all multiple choice, T/F, and some fill-ins. These tests are open-book but they are timed. You can expect on a 50-minute test that you will be asked 50 questions. These questions are based on what was covered in the lecture of that unit plus what was asked in the homework assignments. Therefore, as you participate in the live lectures online make sure that you complete all of the homework that was due prior to the lecture. That way you can maximize your learning by actively participating in the discussion. This is important because the tests are developed to measure what you should have learned in that unit. Therefore, make sure that you prepare for every lecture/discussion and are ready to ask questions if you have them. If you do this, then you will be studying throughout the unit and most likely will just have to review a little bit prior to the test to do well.

If you miss a test: All test dates are set from the start of the semester (See Schedule) and you are expected to take all tests as scheduled. If you miss a test, please be aware that all missed tests will be recorded as a zero, but since I drop the lowest test grade, then that one missed test grade (that is recorded as a zero) would be dropped from the average. However, if you miss two tests then both of those zeroes will be added to the gradebook, meaning that the second zero will be averaged into the grade. Therefore, if you miss two tests you must contact me through email within 24 hours of the second test so a make-up can be given.

Academic Honesty: Although all tests are open book, all work is to be your work. You should not exchange answers with other students or receive help from any individual during the test. It is expected that you will be honest in the work that you submit. Any form of **cheating (including plagiarism) will result in a failing grade for the COURSE. NO WARNINGS!!!**

Online Meetings

This tab is a link to Zoom. To attend class you will need to click on this link at the scheduled class time. My advice would be to “arrive” at the meeting a few minutes prior to the start of the meeting to get yourself familiar with Zoom. During the class meeting I will be reviewing the main ideas around the reading that is due for that day. If you have already done the reading and the homework questions you will be well prepared for that meeting to ask questions and actively participate. If you have not, come anyway and listen, and try to be better prepared for the next meeting. For the first couple of meetings I will try to familiarize everyone with how these meetings will be conducted but I will mention two things right here. First, it is up to you as to whether or not you have your camera on or not. I am fine either way but if you are verbally asking a question, I would prefer if you turned your camera on (but that is not required). Second, for each class I will provide a period of time at the end for questions, discussion, or other types of non-graded participation activities (usually 10-15 minutes). Therefore, what I ask of you is that when you are doing your pre-class homework and taking notes during my presentation, write down some questions or concerns that you may have that you can bring up during this time. This means that unless you see a technical issue during my presentation (like my screen isn’t showing, etc.) I will ask you to keep your microphone off until the discussion period.

Important note about online meetings and recordings: Since this is a synchronous course, class meetings **will not** routinely be recorded, so if you miss a meeting you will have to just rely on the PowerPoint Slides and the readings. However, occasionally I may create some prerecorded lectures that I may post and make available for viewing if there is a need to do so but these will not replace the need for attending the live Zoom lessons. Also please note that anyone recording a live session must first receive permission to do so from me, this is according to College’s Recording Policy (see below). In the event that recording class sessions is part of a Disability Accommodation, proper notifications must be provided to me in advance from the

Disabilities Office. For information about these types of accommodations and how to obtain them; <http://www.sunywcc.edu/student-services/disability-services>

Grade Book

This gradebook will contain all of your grades as well as an up-to-date average of your work throughout the semester (See “How Your Grade is Calculated”).

Other Important Information About This Course:

How your grade is calculated

5 Unit Tests (Timed and on Blackboard – See schedule *)	35%
Connect Homework	15%
Final Exam (Timed and on Blackboard – See schedule)	25%
Lab Work (Completed in the lab section)	25%

*At the end of the semester I will drop your lowest unit test grade

Lab Requirement

A grade below a 60 in either the lecture class or lab will result in an F grade for the course.

Attendance

Although you are expected to attend all online meetings, your attendance is not factored directly into your grade, but it is strongly encouraged. Therefore, if you are absent during a lecture/discussion you should review the slides that correspond to that lecture and/or watch any recordings (if available) so you do not get behind. For all official purposes of recording attendance, your logging onto Blackboard and submitting work constitutes attendance and is automatically recorded by the system.

Withdrawal Period: September 22nd to November 2nd

Between these dates you may request for a “W” grade for the course if you feel that it is in your best interest to do so. If you feel like exploring this option please see me so we can discuss if this is the best option for you. “W” grades do not affect your GPA but do appear on your transcript and may affect your financial aid package. After the last day for withdraw you cannot exercise this option and are committed to the A-F grading scale, however please contact me if you are in a failing situation after this date so I can best advise you. The college’s official academic calendar can be found at the following link: <https://www.sunywcc.edu/academics/academiccalendar/>

College Recording Policy

Unless otherwise specified as part of a disabilities accommodation *, students may not record, reproduce, screenshot, photograph, or distribute any video, audio, or visual content from their courses taught in any modality, including remote/online courses without the written permission of the instructor. This restriction includes but is not limited to: Pre-recorded and live lectures; Live discussions; Discussion boards; Simulations; Posted course materials; Faculty feedback forms; Visual materials that accompany lectures/discussions, such as slides; Virtual whiteboard notes/equations, etc.

* Any case for class recordings that is deemed necessary under the Rehabilitation Act of 1973 and the ADA of 1990 needs to be properly documented and presented to the instructor prior to any recordings being made. Such requests for these accommodations must be made and approved through the college's Disability Services Office. Additionally, any materials obtained through this accommodation must be limited to personal academic study and review use only and may not be distributed to any other persons without the instructor’s written consent.

Disability Services Information

A message from that office: “Westchester Community College (WCC) is committed to creating a learning environment that meets the needs of its diverse student body. If a student has a documented disability, it is the student’s responsibility to self-identify by signing up through the Disability Services Office (DSO) either online or in person. Once signed up for accommodations, the student must inform the professor via a Referral to Faculty notification provided by the DSO.” **Link to website:** http://www.sunywcc.edu/student-services/disability-services_ If you are a student with a documented disability, please email me to discuss the circumstances of your accommodations (cat4@sunywcc.edu). If your disability entitles you to extended time when taking exams, contact me to discuss options to satisfy your accommodation. Keep in mind that it is your responsibility to get all required paperwork to me in a timely manner and please realize that accommodations are not retroactive.

Getting Help

Tutoring: The college provides free tutoring services for this course. More information is available at this link: <https://www.sunywcc.edu/academics/asc/>

Student Success Hours: Student Success Hours are hours that I am available for meeting with students outside of class meeting times. During the following hours, I am available by appointment for a video conference via Zoom: Monday 9:00 – 10:50; Thursday 10:00- 10:50; and Friday 12:00 – 12:50.

To schedule a video conference during an office hour, please email me at least one day in advance and let me know which office hour you wish to attend. I will send a confirmation email shortly thereafter with a link and specific time.

Semester Schedule

Below is the plan for this semester. Occasionally, modifications need to be made due to unforeseen events that may occur which could affect coverage or meeting days. In the event of a class cancellation you will receive an email to your college email account noticing the cancellation and schedule change. Additionally, any changes to this schedule will be reflected in Blackboard.

Week Date	Schedule of Topics and Tests
1 Tuesday 9/1	12:00 – 12:50: Check-in Session (Course Introduction) Assignment Released on Connect: Chapter 1.1 (due by 9/3 at 12:00 a.m.)
1 Thursday 9/3	12:00 – 12:50: Live Lecture/Discussion via Zoom: The Characteristics of Life Assignment Released on Connect: Chapter 1.2 (due by 9/8 at 12:00 a.m.)
1 Monday 9/7	No Class – Labor Day
2 Tuesday 9/8	12:00 – 12:50: Live Lecture/Discussion via Zoom: Evolution – The Core Concept of Biology Assignment Released on Connect: Chapter 1.3 (due by 9/10 at 12:00 a.m.)
2 Thursday 9/10	12:00 – 12:50: Live Lecture/Discussion via Zoom: Science as a Way of Knowing Assignment Released on Connect: Chapter 1.4 (due by 9/14 at 12:00 a.m.)
2 Monday 9/14	12:00 – 12:50: Live Lecture/Discussion via Zoom: Problems Facing Science Assignment Released on Connect: Chapter 2.1 (due by 9/15 at 12:00 a.m.)
3 Tuesday 9/15	12:00 – 12:50: Live Lecture/Discussion via Zoom: Atoms and Bonds Assignment Released on Connect: Chapter 2.2 (due by 9/17 at 12:00 a.m.)
3 Thursday 9/17	12:00 – 12:50: Live Lecture/Discussion via Zoom: Water's Importance to Life Assignment Released on Connect: Chapter 2.3 (due by 9/21 at 12:00 a.m.)
3 Monday 9/21	Unit I Test (50 questions total – 12:00 - 12:50 on Blackboard) Assignment Released on Connect: Chapter 3.1-3.2 “Carbs” (due by 9/22 at 12:00 a.m.)
4 Tuesday 9/22	12:00 – 12:50: Live Lecture/Discussion via Zoom: Organic Molecules - Carbohydrates Assignment Released on Connect: Chapter 3.2 “Lipids” (due by 9/24 at 12:00 a.m.)
4 Thursday 9/24	12:00 – 12:50: Live Lecture/Discussion via Zoom: Organic Molecules - Lipids Assignment Released on Connect: Chapter 3.2 “Proteins and Nucleic Acids” (due by 9/28 at 12:00 a.m.)

4 Monday 9/28	12:00 – 12:50: Live Lecture/Discussion via Zoom: Organic Molecules – Proteins and Nucleic Acids Assignment Released on Connect: Chapter 4.1 (due by 9/29 at 12:00 a.m.)
5 Tuesday 9/29	12:00 – 12:50: Live Lecture/Discussion via Zoom: Microscopes and Cells Assignment Released on Connect: Chapter 4.2 (due by 10/1 at 12:00 a.m.)
5 Thursday 10/1	12:00 – 12:50: Live Lecture/Discussion via Zoom: The Cell Membrane Assignment Released on Connect: Chapter 4.3 (due by 10/5 at 12:00 a.m.)
5 Monday 10/5	12:00 – 12:50: Live Lecture/Discussion via Zoom: Prokaryotic vs. Eukaryotic Cells Assignment Released on Connect: Chapter 4.4 (due by 10/6 at 12:00 a.m.)
6 Tuesday 10/6	12:00 – 12:50: Live Lecture/Discussion via Zoom: Inside the Eukaryotic Cell Assignment Released on Connect: Chapter 4.5 (due by 10/8 at 12:00 a.m.)
6 Thursday 10/8	Unit II Test (50 questions total – 12:00 - 12:50 on Blackboard) Assignment Released on Connect: Chapter 5.1 (due by 10/12 at 12:00 a.m.)
6 Monday 10/12	12:00 – 12:50: Live Lecture/Discussion via Zoom: The Concept of Energy Assignment Released on Connect: Chapter 5.2 (due by 10/13 at 12:00 a.m.)
7 Tuesday 10/13	12:00 – 12:50: Live Lecture/Discussion via Zoom: ATP – Energy for Cells Assignment Released on Connect: Chapter 5.3 (due by 10/15 at 12:00 a.m.)
7 Thursday 10/15	12:00 – 12:50: Live Lecture/Discussion via Zoom: Metabolic Pathways and Enzymes Assignment Released on Connect: Chapter 5.4 (due by 10/19 at 12:00 a.m.)
7 Monday 10/19	12:00 – 12:50: Live Lecture/Discussion via Zoom: Cellular Transport Assignment Released on Connect: Chapter 8.1 (due by 10/20 at 12:00 a.m.)
8 Tuesday 10/20	12:00 – 12:50: Live Lecture/Discussion via Zoom: Overview of Cellular Reproduction Assignment Released on Connect: Chapter 8.2 (due by 10/22 at 12:00 a.m.)
8 Thursday 10/22	12:00 – 12:50: Live Lecture/Discussion via Zoom: The Cell Cycle Assignment Released on Connect: Chapter 8.3-8.4 (due by 10/26 at 12:00 a.m.)
8 Monday 10/26	12:00 – 12:50: Live Lecture/Discussion via Zoom: Cell Cycle Control and Cancer Assignment Released on Connect: Chapter 8.5 (due by 10/27 at 12:00 a.m.)
9 Tuesday 10/27	Unit III Test (50 questions total – 12:00 - 12:50 on Blackboard) Assignment Released on Connect: Chapter 9.1 (due by 10/29 at 12:00 a.m.)
9 Thursday 10/29	12:00 – 12:50: Live Lecture/Discussion via Zoom: Overview of the Sexual Life Cycle and Meiosis Assignment Released on Connect: Chapter 9.2 and 9.3 (due by 11/2 at 12:00 a.m.)
9 Monday 11/2	12:00 – 12:50: Live Lecture/Discussion via Zoom: Phases of Meiosis (Comparison to Mitosis) Assignment Released on Connect: Chapter 9.4 (due by 11/5 at 12:00 a.m.)

10 Tuesday 11/3	No Class – Election Day
10 Thursday 11/5	12:00 – 12:50: Live Lecture/Discussion via Zoom: Consequences of Changes to Chromosome Numbers Assignment Released on Connect: Chapter 10.1 (due by 11/9 at 12:00 a.m.)
10 Monday 11/9	12:00 – 12:50: Live Lecture/Discussion via Zoom: Patterns of Inheritance Assignment Released on Connect: Chapter 10.2 (due by 11/10 at 12:00 a.m.)
11 Tuesday 11/10	12:00 – 12:50: Live Lecture/Discussion via Zoom: Mendel's Laws and Human Inheritance Assignment Released on Connect: Chapter 10.3 – 10.4 (due by 11/12 at 12:00 a.m.)
11 Thursday 11/12	12:00 – 12:50: Live Lecture/Discussion via Zoom: Beyond Mendel's Laws Assignment Released on Connect: Chapter 10.4 (due by 11/16 at 12:00 a.m.)
11 Monday 11/16	Unit IV Test (50 questions total – 12:00 - 12:50 on Blackboard) Assignment Released on Connect: 11.1 (due by 11/17 at 12:00 a.m.)
12 Tuesday 11/17	12:00 – 12:50: Live Lecture/Discussion via Zoom: DNA and RNA Structure and Function Assignment Released on Connect: Chapter 11.2 – 11.3 (due by 11/19 at 12:00 a.m.)
12 Thursday 11/19	12:00 – 12:50: Live Lecture/Discussion via Zoom: Gene Expression and Gene Regulation Assignment Released on Connect: Chapter 12.1 – 12.2 (due by 11/23 at 12:00 a.m.)
12 Monday 11/23	12:00 – 12:50: Live Lecture/Discussion via Zoom: Biotechnology and Products of Biotechnology Assignment Released on Connect: Chapter 12.3 – 12.4 (due by 11/24 at 12:00 a.m.)
13 Tuesday 11/24	12:00 – 12:50: Live Lecture/Discussion via Zoom: Stem Cells and Genomics Assignment Released on Connect: Chapter 13.1. – 13.2 (due by 11/30 at 12:00 a.m.)
13 Thursday 11/26	No Class: Thanksgiving
13 Monday 11/30	12:00 – 12:50: Live Lecture/Discussion via Zoom: Gene and Chromosomal Mutations Assignment Released on Connect: Chapter 13.3 – 13.4 (due by 12/1 at 12:00 a.m.)
14 Tuesday 12/1	12:00 – 12:50: Live Lecture/Discussion via Zoom: Genetic Testing and Gene Therapy Assignment Released on Connect: Chapter 14.1 – 14.2 (due by 12/3 at 12:00 a.m.)
14 Thursday 12/3	12:00 – 12:50: Live Lecture/Discussion via Zoom: Evidence of Evolutionary Change Assignment Released on Connect: Chapter 15.1 (due by 12/7 at 12:00 a.m.)
14 Monday 12/7	12:00 – 12:50: Live Lecture/Discussion via Zoom: Mechanism of Evolution Revisited: Selection Assignment Released on Connect: Chapter 15.2 (due by 12/8 at 12:00 a.m.)
15 Tuesday 12/8	12:00 – 12:50: Live Lecture/Discussion via Zoom: Mechanism of Evolution Revisited: Microevolution Assignment Released on Connect: Chapter 16.1- 16.2 (due by 12/10 at 12:00 a.m.)
15 Thursday 12/10	12:00 – 12:50: Live Lecture/Discussion via Zoom: Mechanism of Evolution Revisited: Macroevolution “Final Thoughts and Tips on Reviewing for the Final” Video Released

15 Monday 12/14	12:00 – 12:50: Live Lecture/Discussion via Zoom: Discussion about the Final
16 Tuesday 12/15	Unit V Test (50 questions total – 12:00 - 12:50 on Blackboard) <i>See note about final exam below</i>
16 Thursday 12/17	Final Exam Part 1 on Units 1 and 2 (50 questions total – 12:00 - 12:50 on Blackboard) <i>See note about final exam below</i>
16 Monday 12/21	Final Exam Part 2 on Units 3 and 4 (50 questions total – 12:00 - 12:50 on Blackboard) <i>See note about final exam below</i>

Note about the Final. The final exam grade will be calculated in the following manner:
 $(\text{Unit V Score} \times 0.2) + (\text{Final Exam Part 1 Score} \times 0.4) + (\text{Final Exam Part 2 Score} \times 0.4) = \text{Final Exam Score}$
NOTICE: The instructor reserves the right to make changes to the course outline.

Principles of Biological Science

Student Learning Outcomes (SLO)

Learning Objectives

SLO/Objectives - Upon successful completion, the student will be able to:
SLO 1: Demonstrate an understanding of the methods scientists use to explore and analyze within the biological sciences.
Objective 1: Describe the nature of Scientific Inquiry
Objective 2: Demonstrate introductory-level proficiency using scientific instrumentation and mathematical analysis in a laboratory setting (see topic outline for lab).
SLO 2 Demonstrate an understanding of Scientific Theories within the biological sciences and how they impact our understanding of living things and their environment.
Objective 1: Explore how Evolutionary Theory has deepened our understanding of living things and natural history
Objective 2: Describe the Hierarchical levels of Biological Organization
Objective 3: Recognize the relationship between structure and function at the molecular and cellular levels
Objective 4: Explore the Cell Theory and its relationship to organismal metabolism, cellular reproduction, and organismal propagation.
Objective 5: Explore the Theory of Inheritance and its relationship from genetic informational coding to the transmission the classical genetic patterns seen in offspring.
Objective 6: Describe the relationship between homeostatic regulation and a non-disease state.
Objective 7: Apply concepts developed in lecture to laboratory experiences (see topic outline for lab).
Objective 8: Apply scientific knowledge to healthful practices.
SLO 3 Demonstrate introductory-level proficiency in informational literacy and critical thinking skills in order to be a productive citizen and an informed consumer of scientific information.

Objective 1: Demonstrate an ability to independently read to build upon and broaden personal scientific knowledge.

Objective 2: Explore various types of media and analyze the validity of a claim in the light of the scientific method.