

Biology 1
Fundamental Biological Concepts
(Section 1010)
Hartnell College, Fall 2024

Instructor: Alexander Edens

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Office: S-233

Class Hours: Lecture: Tuesday and Thursday
9:40 am - 11:05 am S-131

Laboratory Tuesday and Thursday
11:20 am - 2:30 pm S-120

Office Hours: Monday and Wednesday 8:30 am - 9:30 am Room S-233
Tuesday and Thursday 2:40 pm - 3:40 pm Room S-233

Required Materials:

(1) Textbook: <https://openstax.org/details/books/biology-2e>

The electronic version of our textbook is available for free from the above internet address. Printed versions can be purchased for about 50 dollars from Amazon.com. The citation for the textbook is:

Choi, Clark, and Douglas, Biology2e, second edition (2018). OpenStax College. ISBN: 978-1-947172-52-4

(2) Laboratory exercises: These are available free on the class website (see link below).

Course website:

All of the course materials (syllabus, laboratory handouts, grades, review questions, etc) are found at this website:

<http://www.lightsinheaven.com/Hartnell/Bio1/Bio1home.html>

(Note that we will not use the Canvas course shell for Biology 1)

Student Learning Outcomes (SLOs) for Biology 1:

- 1) The student will analyze the structural and dynamic characteristics of cells.
- 2) The student will apply the principles of heredity at the molecular, cellular, and organismal levels.
- 3) Given a molecular biology or cell biology research technique, students will demonstrate understanding of the technique and hands-on skills in performing the technique.

Important class dates:

Last day to withdraw from class with
a No-Grade-of-Record (NGR)----- Thursday, September 19

Last day to withdraw from class
with a "W"----- Friday, November 15

Exams: There are five midterm exams and one final exam. The exams will cover lecture and laboratory topics. The exams are given on the days and times listed below during the laboratory period in S-120. Exam dates are subject to change depending on course circumstances.

Midterm 1-----Thursday, September 12, 11:20 am - 1:20 pm.

Midterm 2 ----- Thursday, October 3, 11:20 am - 1:20 pm.

Midterm 3----- Tuesday, October 29, 11:20 am - 1:20 pm.

Midterm 4----- Thursday, November 14, 11:20 am - 1:20 pm.

Midterm 5----- Tuesday, November 26, 11:20 am - 1:20 pm.

Final exam-----**Thursday, December 12, 11:20 am – 2:30 pm**

Evaluation:

Each student's grade in the class will be determined by the total points they accumulate throughout the semester. A total of 700 points are possible:

<u>Point total:</u>	<u>% of total</u>	<u>Grade</u>
700 - 630	100 - 90	A
629 - 560	89 - 80	B
559 - 455	79 - 65	C
454 - 350	64 - 50	D
349 - 0	49 - 0	F

Points:

700 possible points can be earned throughout the semester. Points are earned through midterms, laboratory exit quizzes, laboratory weekly quizzes, and the final exam. Points can be **lost** for unsafe, disruptive, or inappropriate behavior.

<u>Points</u>	<u>Source</u>	<u>Computation</u>
400	Midterms	100 * 4 highest (out of 5 midterms)
46	Lab exit quizzes	2 * 23 highest (out of 24 labs)
104	Lab weekly quizzes	8 * 13 highest (out of 14 quizzes)
150	Final exam	

Earning points:

Midterms: There are five-100 point midterm exams. Midterms are given during laboratory periods and cover both lecture and laboratory topics. There are no make up midterms. All missed midterms will be recorded as a zero score. However, the single lowest score of the five midterms will not be counted, so only the four highest midterm scores will be applied to the student's overall point total.

Final exam: There is one 150-point comprehensive final exam at the end of the semester. A missed final exam cannot be dropped or made up.

Laboratory exit quizzes: There are twenty-four 2-point laboratory exit quizzes given throughout the semester. They will be given at the end of each laboratory period and they will cover the concepts of that laboratory assignment. Students must attend and complete the laboratory to take the exit quiz. Missed exit quizzes cannot be made up and will be counted as a zero. Each student's single lowest laboratory exit quiz will not be counted so at total 46 points (23 highest exit quizzes * 2 points each) can be earned.

Laboratory weekly quizzes: There are fourteen 8-point laboratory weekly lab quizzes given throughout the semester. They will be given once a week, at the beginning of the first laboratory period of the week. They will cover the concepts of the previous week's laboratory assignments. Students who did not attend and complete the previous week's laboratory assignment will lose half the weekly quiz points. Missed weekly quizzes cannot be made up and will be counted as a zero. Each student's single lowest laboratory weekly quiz will not be counted so at total 104 points (13 highest weekly quizzes * 8 points each) can be earned.

Losing points:

Unsafe, disruptive, or inappropriate behavior may result in **being dismissed from the classroom (which may result in loss of points), a letter of reprimand being placed in the student's permanent file at Hartnell College, and being dropped from the course.** These behaviors include anything that might interfere with your or any other students' safety or learning the material. Examples include talking during instruction, using any non-course materials/objects during class, not following covid safety or laboratory safety directions, or not cleaning up properly. In addition, chronic unsafe or disruptive behavior will result in the student being dropped from the course.

Student personal electronic devices (such as phones, laptops, and tablets) are allowed only on the condition that the instructor deems they are being used for Biology 1 course-related instructional purposes. No personal electronic devices are to be used during midterms, quizzes, or the final exam. Any form of academic dishonesty (cheating) will result in receiving zero points for the assignment, loss of three times the maximum point value of the assignment, being dismissed from all sections of the course for up to two days (which will result in loss of additional points due to missed quizzes and other assignments during the dismissed days), and a letter of reprimand being placed in the student's permanent records at Hartnell College. Cheating includes (but is not limited to) having any books, notes, or any electronic device (whether in use or not) not completely zipped shut in a backpack/purse during an exam or quiz, having any written information on desktops or other places that might be visible during an exam period or quiz, supplying or receiving information about questions or answers on exams or quizzes without notifying me immediately, and any other form of obtaining or providing information during an exam or quiz other than the information provided by the instructor on the student's own exam or quiz itself.

If you receive any information about questions or answers on exams or quizzes, you are guilty of academic dishonesty unless you must notify me immediately regarding your name, what information you received, and who provided you with this information. You may notify me about the information you received in any way you wish but be aware that there is a reporting link on the course website:

<http://www.lightsinheaven.com/Hartnell/Bio1/Bio1AcademicHonesty.php>

You may also use this link to anonymously report any academic dishonesty that you observe but that do not involve you or to anonymously report any other course-related concerns that you have.

Other class policies:

There are no extra-credit points and no make-up labs, quizzes, or midterms available in this class. All missed assignments will be counted as zeros. Students have one week to review the grading and corrections on all returned materials. After one week no change in score will be considered.

A student absent for two weeks of instruction (consecutive or non-consecutive) may be dropped from the class. That is, a student may be dropped after missing one more class meeting than twice the number of class meetings per week.

Lecture outlines and study problems:

All lecture outlines are posted on the course website as PDF files. You are encouraged to print the outlines and use them for taking study notes and working the review problems. Because the lecture presentation will be keyed to the outlines and the textbook, bringing both of these to class will make your note taking easier and more effective. You are highly encouraged to do the review problems (which are posted on the course's website) to test your understanding of the material.

Lecture and laboratory schedule:

This is the tentative schedule for lecture topics and laboratory exercises.

<u>Week</u>	<u>Lecture topics (by chapters)</u>	<u>Laboratories</u>
Aug 26-30 (week 1)	Introduction to biology (Ch. 1) Chemistry (Ch. 2) Water chemistry (Ch. 2)	Tue: Course introduction Thr: Water chemistry
Sept 2-6 (week 2)	Carbon chemistry (Ch. 2 and 3) Carbohydrates (Ch. 3) Lipids (Ch. 3) Proteins (Ch. 3, 5, and 6)	Tue: Diffusion and osmosis Thr: Carbohydrates
Sept 9-13 (week 3)	Proteins (Ch. 3, 5, and 6) Nucleic acids (Ch. 3) Cells and Membranes (Ch. 4, 5, and 15)	Tue: Lipids Thr: Exam 1
Sept 16-20 (week 4)	Cells and Membranes (Ch. 6, 7, and 17) Chromosomes (Ch. 4 and 13)	Tue: Proteins Thr: Amylase
Sept 23-27 (week 5)	Chromosomes (Ch. 4 and 13) Mitosis (Ch. 10 and 14) Meiosis (Ch. 11)	Tue: Paper chromatography Thr: Microscopy
Sept 30-Oct 4 (week 6)	Genetics (Ch. 12, 13, and 19)	Tue: Chromosomes Thr: Exam #2
Oct 7-11 (week 7)	Genetics (Ch. 12, 13, and 19)	Tue: Genetics problems I Thr: Genetics problems II
Oct 14-18 (week 8)	Genetics (Ch. 12, 13, and 19) Energy and Metabolism (Ch. 6) DNA technology, part 1 (Ch. 17)	Tue: Hardy-Weinberg genetics problems Thr: Genomic DNA

<u>Week</u>	<u>Lecture topics (by chapters)</u>	<u>Laboratories</u>
Oct 21-25 (week 9)	Photosynthesis (Ch. 8)	Tue: Electrophoresis Thr: Photosynthesis
Oct28-Nov1 (week 10)	Respiration (Ch. 7)	Tue: Exam #3 Thr: Respiration
Nov 4-8 (week 11)	Eukaryotic genes (Ch. 15 and 16)	Tue: DNA to protein Thr: PCR, part I
Nov 11-15 (week 12)	Signal transduction (Ch. 9) DNA technology, part 2 (Ch. 17)	Tue: PCR, part II Thr: Exam #4
Nov 18-22 (week 13)	Viruses and Prokaryotes (Ch. 21 and 22)	Tue: Transformations Thr: Plasmid DNA isolation
Nov25-29 (week 14) <i>No class Thursday</i>	Viruses and Prokaryotes (Ch. 21 and 22) Genomes (Ch. 14 and 17)	Tue: Exam #5
Dec 2-6 (week 15)	Genomes (Ch. 18 and 21) Mitosis and cancer (Ch. 10)	Tue: Restriction digestion I Thr: Restriction digestion II
Dec 9-13 (week 16)	Evolution (Ch. 18, 19, and 20) Final Exam	Tue: Restriction digestion III Thr: Final exam

The final exam will be on Thursday, December 12, from 11:20 am to 2:30 pm in room S-120.

In case of Emergency

In the event of a life-threatening emergency call 911.

To report a non-life threatening incident, safety hazard, or a suspicious activity please contact campus security at (831) 755-6888. From a campus line, dial 6888.

To obtain campus status information, call the campus safety and facilities emergency status bulletin telephone number: 831-796-6222. From a campus line, simply dial 6222

Please visit Hartnell's emergency reporting link here:

<http://www.hartnell.edu/reporting-emergencies>

Non-emergency police business.831-758-7321

NON-LIFE THREATENING INCIDENTS, INJURIES OR ILLNESS

During school hours call Campus Safety 831-755-6888

After school hours call 831-755-6888

UTILITY FAILURE

During school hours call the Facilities Office at x6950 or 831-755-6950

After school hours call 831-755-6888

ANY INCIDENT WITH POTENTIAL FOR ADVERSE PUBLICITY TO THE COLLEGE

Call President's Office, x6900 or 831-755-6900

After school hours call 831-755-6888

DURING A CAMPUS EMERGENCY:

During a campus emergency, you will generally be told to do one of two options, SHELTER IN PLACE or EVACUATE. When either of these are given, vehicle traffic coming onto campus will likely be turned away. Students are required to obey the directions of staff in a timely fashion.

EMERGENCY TEXT NOTIFICATIONS

In the event of an emergency, Hartnell College can contact you by email, text, and voice. Hartnell College has partnered with the Everbridge Mass Notification system to provide emergency notifications. The system is used to send emergency notifications to Hartnell faculty, staff, and students in the event of a campus emergency such as a campus closure or hazardous situation. The system will send notifications through email, voice calls, and text messaging.

Students: If you receive an emergency notification, please tell your instructor immediately.

Students: If you have knowledge of an emergency on campus, share it immediately. If you see something suspicious or potentially hazardous, let someone know.

If you have been notified that the campus has been closed because of an emergency, please do not proceed to the campus until you have confirmed that it is clear to enter the campus.

Evacuation:

Please note the exit(s) in the room. For evacuation, immediately heed official directions by proceeding calmly and quickly to an exterior assembly area as indicated by trained staff. Please stay back at least 200 feet from any building until the “all clear” command is issued. In the event of an alarm or safety threat, uniformed Hartnell personnel equipped with two-way radios--including security, and maintenance staff--have up-to-date information; they also have the authority to order either shelter-in-place or immediate building evacuation.

Shelter In Place:

A shelter in place order is when personnel are told not to leave their immediate area. Shelter in place means that personnel should stay where they are. This could be for safety from an environmental threat, like a chemical leak off campus, to a threat of violence on campus. A LOCKDOWN is a shelter in place. In the event of an alarm or safety threat, uniformed Hartnell personnel equipped with two-way radios--including security, and maintenance staff--have up-to-date information; they also have the authority to order either shelter-in-place or immediate building evacuation.

Lockdown

A lockdown is a Shelter in Place. In the event of a safety threat, instructors and staff will lock classroom doors and direct occupants to stay clear of windows. Occupants are requested to remain quiet. During this time, DO NOT access any exits unless directed by first responders or staff.

In the event of an alarm or safety threat, uniformed Hartnell personnel equipped with two-way radios--including security, and maintenance staff--have up-to-date information; they also have the authority to order either shelter-in-place or immediate building evacuation.

Run, Hide, Fight:

In the event of an Active Shooter Event, there are three things you need to know in order to survive:

Run, Hide, Fight.

[Ready.gov Active Shooter Website](http://Ready.gov)

RUN

Have an escape route and plan in mind
Leave your belongings behind
Keep your hands visible

HIDE

Hide in an area out of the shooter's view
Block entry to your hiding place and lock the doors
Silence your cell phone and/or pager

FIGHT

As a last resort and only when your life is in imminent danger

Attempt to incapacitate the shooter

Act with physical aggression and throw items at the active shooter

AFTER

Keep hands visible and empty

Know that law enforcement's first task is to end the incident, and they may have to pass injured along the way.

Follow law enforcement instructions and evacuate in the direction they come from.

Officers may be armed with rifles, shotguns, and/or handguns and may use pepper spray or tear gas to control the situation.

Officers will shout commands and may push individuals to the ground for their safety.

Consider seeking professional help for you and your family to cope with the long-term effects of the trauma.

Helping the Wounded

Take care of yourself first, and then you may be able to help the wounded before first responders arrive:

If the injured are in immediate danger, help get them to safety.

While you wait for first responder to arrive, provide first aid- apply direct pressure to wounded and use tourniquets if you have been trained to do so;

Turn wounded people onto their sides if they are unconscious and keep them warm.

EMERGENCY PREPAREDNESS:

The first 72 hours of a disaster are often the most difficult, but this period can be less stressful if everyone has extra supplies on hand. The college has a limited amount of emergency supplies, so students and staff should have on campus their own portable emergency kit including snacks, water, and prescription medication; this is especially important for those who may need to shelter on campus.

[Ready.gov lists essential 72 Hour Kit Components here](#)

REPORTING SUSPICIOUS BEHAVIOR:

If you see suspicious behavior on campus, please contact [Campus Safety](#)

ANONYMOUS REPORTING OF INCIDENTS OR CONCERNS:

Hartnell's Behavioral Intervention Team (BIT) accepts and processes anonymous reports from anyone about incidents or concerns on our campus. Please visit the [Behavioral Intervention Team website](#) for more information.

REPORTING FORMS:

Public Incident Report Form

Use the [Public Incident Report form](#) for:

Student Conduct Violations

Academic Integrity Issues

Student Complaints or Grievances

CARE Form

Use the [CARE form](#) for:

Concerns about Well-being

Mental Health Concerns

Unusual or Disruptive Behavior

USEFUL LINKS:

[Campus Maps and Directions](#)

[Emergency online resources](#)

[Campus Safety Policies](#)

[Hartnell's Emergency Alert System](#)

[Hartnell Emergency Action Plan 2017 - 2018](#)

DSPS:

The Department of Supportive Programs and Services (DSPS) coordinates academic accommodations for students with documented disabilities at Hartnell College. If you have, or suspect you may have, a disability that impacts your education, please contact the DSPS Office to determine your eligibility for accommodations. DSPS is located in the Student Services Building B, Room 107 (831) 755-6760. I encourage you to meet with Michelle Peters, Director of DSPS, to discuss your specific accommodations and to have test proctoring forms signed 5 days in advance.