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**Chaffey College – Department of Biology**

**Biology 1 – General Biology (4 units)**

**Fall 2020**

**Online Lecture with Take-Home Lab Kit**



**Instructor: Erik M. Kolb**, Ph.D.

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Office Hours: Mondays, 9:00-11:00am via Zoom

 Wednesday, 9:00-10:00am (by appointment only) via Zoom

**Course Description:**

Introduction to the major themes and principles in Biology through lecture, laboratory and field experiences.
Students investigate topics ranging from molecules to the ecosystem. Meets general education requirements.

**Learning Outcomes**:

1. Scientific Method: Distinguish questions that can be addressed scientifically from those that cannot, and identify basic components of the scientific method as it pertains to biological systems ranging from molecules to the biosphere.
2. Unifying Themes: Recognize unifying theories and concepts in biology (e.g. structure & function, ecological
relationships, organismal diversity, & inheritance) within an evolutionary context.
3. Current Events: Demonstrate the ability to comprehend current events related to biology.
4. Discovery: Experience the sense of discovery achievable through science and demonstrate a motivation to
continue learning about a broad range of biological topics outside the classroom.
5. Scientific Method in the Lab: Identify basic components of the scientific method in laboratory setting.

**I. Required Materials:**

**Textbook (required):** [**Concepts of Biology (OpenStax)**](https://openstax.org/details/books/concepts-biology) **ISBN-10: 1-947172-03-4**

**Computer/Internet:** While cell phones are powerful, they are not advised for certain assignments, and exams
cannot be completed by phone for this fully online course. Chaffey has many [resources and tools for students](https://www.chaffey.edu/toolkit/index.php),
including loaner laptops and other technology assistance.

**Lab Materials:** The college will provide a lab kit and make arrangements for students to pick up their kit during the first week of instruction. Basic kitchen supplies and a few inexpensive grocery store items will also be needed.

**II. Grading Outline:**

 5% Lecture Quizzes 50 pts.

 5% Check-in Meetings (x2) 50 pts.

45% Midterms 1-4 450 pts.
 (15% each; lowest score is discarded)

25% Final Exam 250 pts.

20% Lab Activities 200 pts.

 **Total = 1000 pts.**

* Individual assignments will not be given a letter grade. Only the final grade will be given a letter grade.
The grading scale will be based on a traditional grading scale as follows:

**A+ (≥96%) A (≥92%) A- (≥88%)**

 **B+ (≥86%) B (≥82%) B- (≥78%)**

 **C+ (≥76%) C (≥68%)**

 **D+ (≥66%) D (≥62%) D- (≥58%)**

**F (≤57.9%)**

There are many opportunities to be successful in this class – if you struggle with any one assignment or exam, always remember that there is another chance for success right around the corner!

“*The race goes not always to the swift, but to those who keep on running.”*

**III. Policies**:

* **Add/Drop Policy**:

Please note add and drop deadlines on the weekly schedule. I do not drop students who stop attending. A grade is reported for students still enrolled after the withdrawal deadlines. If you need to drop the course, please follow the drop or withdrawal procedures in the Student Handbook.

* **Attendance Policy**:
**This course is fully online.** Weekly assignments, activities, and assessments should be submitted on or before the due dates posted in Canvas. All students work on the same content each week.

**Required Student Check-in Meetings**: Students are required to meet with Dr. Kolb twice during the semester via a Zoom call. These meetings will occur one-on-one or in small groups. Each student must sign up for two meetings: one in the middle and one near the end of the semester. Sign-ups will be announced ahead of time by Dr. Kolb.

* **Quiz / Exam Policy**:
Quizzes and exams will be available on Canvas. Each assessment has a time limit, depending upon the length. Quizzes and exams are “open-book” and “open-note”, HOWEVER, because each test is time limited, it is essential to study BEFORE attempting the test, and to study thoroughly before you make your attempt. There is not sufficient time to “look it up as you go.”
* **Make Up Exam Policy**:
Because there are no set dates / times for the exams (only due dates), make-up exams are not given except in the case of a documented and prolonged emergency. However, for the midterms, the lowest score is discarded in the calculation of the final grade. Thus, if a student misses any single midterm exam, that score will be dropped and not used in the calculation of the final grade.
* **Assignment Policy**:
Submit assignments on or before the due dates posted in Canvas. College level language is expected in all of your writing in this course including appropriate spelling and grammar. Late assignments will receive a penalty of 10% per working day that the assignment is late. **At 10 working days, the assignment will be awarded zero credit**.
* **Academic Integrity / Inappropriate Behavior Policy**:
Other colleges, employers, and anyone else to whom you represent successful completion of this course assume that your grade represents your true capabilities. Be respectful of yourself, your classmates, your instructor, and your future employers and colleagues by taking responsibility for the grade you earn. **Please adhere to all aspects of the Academic Integrity Policy on pages 85-87 of the** [**Chaffey Student Handbook**](http://globaldatebooksonline.com/flipbooks/chaf/)**.**

*Cheating and plagiarism*

To cheat or plagiarize demonstrates that you do not know or understand course material, even if the cheating event was unintentional. Cheating reveals a lack of confidence to succeed by your own abilities, and negates your academic achievements for the course. It is your responsibility to avoid cheating, and to avoid even the appearance of cheating.

*Plagiarism* includes intentionally or unintentionally presenting someone else’s work as your own, and failing to cite the source. Plagiarism is easily avoided by restating the information in your own words. When using the exact words from source material, quotations and proper citation is required. Copying verbatim from PowerPoint files, textbooks, websites, or other sources is considered plagiarism and will result in zero points.

**If it is determined that you have cheated or plagiarized on any exam or assignment, you will earn a zero on the exam or assignment. Further incidents will result in an F in the course, and/or you may be dropped from the course.**

**You have to** **practice thinking,** rather than practice searching for what someone else thought of. Use the internet with caution and discretion. I have found that, for biology in particular, Google searches can lead students astray with inaccurate and/or confusing information.

*Consequences:* Cheating and plagiarism are both forms of academic dishonesty. An initial incident will result in no credit for the assignment. A second incident of cheating will result in a grade of F for the class.

**IV. Student Resources Fall 2020 | Chaffey College Faculty Senate:**

**Please check out the** [**Student Support Hub**](https://canvas.chaffey.edu/courses/12869) **in Canvas.**

The faculty and staff at Chaffey College encourage and support student success, including everything from health services to tutoring to food provisions from Panther Pantry. Resources are available for veterans, students experiencing housing or food insecurity, and students needing tutoring or academic support in any subject. A complete list of resources and contact info is available at [Campus Resources Fall 2019](https://docs.google.com/spreadsheets/d/1IdleSazjOPVEHOcPauRroxhIkY3_F8sg4Kw4UoM0PTM/edit?copiedFromTrash#gid=1660913423).

**IV. Tentative Schedule (subject to change):**

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| **Unit** | **Week** | **Date** | **Topic** | **Activities / Lab Assignments** |
| Unit 1: The Building Blocks of Life | 1 | Aug. 17 -22 | *Syllabus Quiz – NO POINTS, Attendance only*Course Orientation: *Getting Started in Canvas*Lecture: What is Biology?Reading: Sections 1.1, 1.2 | Lab: Experimental Design and Scientific Communication |
| 2 | Aug 23 – 29 | **Quiz #1**Lecture: WaterLecture: Biological Molecules – Part IReading: Section 2.2, 2.3*8/28: Deadline to add the course* | Lab: Scientific Method: Alka Seltzer Experiment |
| 3 | Aug 30 – Sep 5 | **Quiz #2**Lecture: Biological Molecules – Part IILecture: The Cell – Part IReading: Sections 2.3, 3.2 | Lab: Macromolecules in Food |
| 4 | Sep 6 – 12  | Lecture: The Cell – Part IIReading: Sections 3.3, 3.4. 3.5*9/7: Labor Day Holiday; deadline to drop the course (no W)* | Lab: Cell Diversity Virtual Lab |
| Unit 2: The Energetics of Life  | 5 | Sep 13 – 19 | **Midterm I – Unit 1**Lecture: Metabolism & Cellular Respiration – Part IReading: Sections 4.1, 4.2, 4.3 | Lab: Diffusion and Osmosis Lab |
| 6 | Sep. 20 – 26 | **Quiz #3**Lecture: Metabolism & Cellular Respiration – Part IILecture: PhotosynthesisReading: Sections 4.4, 4.5, 5.1, 5.2, 5.3 | Lab: Enzyme Lab |
| Unit 3: The Blueprint of Life | 7 | Sep 27 – Oct 3 | Lecture: Mitosis & MeiosisReading: Sections 6.1, 6.2, 7.1, 7.2 | Lab: Genetics |
| 8 | Oct 4 – 10  | **Quiz #4**Lecture: Genetics & InheritanceReading: Sections 8.1, 8.2, 8.3, 9.1 | Activity: Check-in Meetings with Dr. Kolb |
| Unit 4: Evolution – The Engine of Diversity | 9 | Oct 11 – 17  | **Midterm II – Unit 2-3**Lecture: Evolution IReading: Sections 11.1, 11.2, 11.3 | Lab: Natural Selection Simulation |
| 10 | Oct 18 – 24  | Lecture: Evolution IIReading: Sections 11.4, 11.5, 12.1, 12.2 | Lab: Phylogeny |
| Unit 5: All Creatures Great and Small | 11 | Oct 25 – 31  | **Quiz #5**Lecture: Prokaryote DiversityLecture: Protists & FungiReading: Sections 13.1, 13.2, 13.3, 13.4 | Lab: Predator-Prey |
| 12 | Nov 1 – 7 | Lecture: PlantsReading: Sections 14.1, 14.2, 14.3, 14.4 | Activity: Check-in Meetings with Dr. Kolb |
| 13 | Nov 8 – 14  | Lecture: Animals – InvertebratesLecture: Animals - VertebratesReading: Sections 15.1, 15.2, 15.3, 15.4, 15.6*11/11: Veterans Day Holiday* | Lab: Virtual Museum Tour |
| Unit 6: How to Build an Animal | 14 | Nov 15 – 21  | **Midterm III – Unit 4-5**Lecture: Homeostasis, ThermoregulationLecture: Selected Systems – DigestionReading: Sections 16.1 (Homeostasis & Thermoregulation only), 16.2 | Lab: TBA |
| 15 | Nov 22 – 28  | Lecture: Selected Systems – Circulation and RespirationReading: Sections 16.3*11/26-11/29: Thanksgiving Holiday* | Lab: Dive Reflex |
| Unit 7: Ecology – How Everything is Connected | 16 | Nov 29 – Dec 5 | **Midterm IV – Unit 6**Lecture: Ecology & EcosystemsLecture: BiomesReading: Sections 19.4, 20.1, 20.3, 20.4  | Lab: Biome Postcards |
| 17 | Dec 6 – 11  | Lecture: Conservation & BiodiversityReading: Sections 21.2, 21.3 | Lab. Ecological Footprint |
| FINALS WEEK |  | Dec 14 - 20 | **FINAL EXAM – Units 1-7**  |  |