

BIOL 1306: Biology for Science Majors I

Class: 3 Semester Credit Hours

BIOL 1306.195 Online

BIOL 1106: Biology for Science Majors I Lab

Lab: 1 Semester Credit Hours

BIOL 1106.195 Online

Clarendon College
Division of Science and Health
Course Syllabus
Summer I 2019

Assistant Professor: Mrs. Scarlet Estlack

Office: ADMN 205 Clarendon

E-mail: scarlet.estlack@clarendoncollege.edu

The “Messages” feature in Moodle is the main method you should use to contact me. I will make every effort to check the course website every week day and respond to your message requests within 24 hours on business days.

Online Course website: This online course uses Moodle as its online course management program. All instructions, tutorials, exams, and assignments are provided at the course website. All assignments will be submitted there. Due dates for all assignments are listed in the “Course Schedule” at the course website. Most communication between you and your instructor and fellow classmates will be handled in Moodle through the “Messages” feature and discussion forums. You will be able to log into the course website once you have officially registered for the course and once you have been added to the course website. The course website will become available to you by the first day of the semester. If you register late, you will generally have access to the course within 24 hours after you register. In order to be successful in completing BIOL 1306, a 3-credit hour course, and BIOL 1106, a 1-credit hour course, you should plan to spend between 9-12 hours per week on the courses.

The information explaining how to log into your course website can be obtained by going to [Clarendon College's](#) home page, and clicking on the **Login to Online Classes** button. If you have any difficulty logging in, email our help desk at: administrator@clarendoncollege.edu

Required Enrollment Verification Activity

Students who fail to complete the Syllabus Agreement & Enrollment Verification Activity by the official census date may not be able to continue in the course. This could result in an F for the course and forfeiture of Financial Aid. The census date for this term can be found on the Academic Calendar located at the Inside CC link on Clarendon College’s home page.

Course Description: This course is an introduction to the fundamental principles of Biology. Class material addresses biological molecules, cell structure and function, photosynthesis, cellular respiration, DNA, cellular reproduction, genetics, principles of evolution, and systematics. Laboratory involves techniques employed in microscopy, cell anatomy recognition, metabolism experiments, mitosis and meiosis comprehension, genetic problem solving, DNA extraction, and construction of a dichotomous key.

Statement of Purpose: Biology for Science Majors I partially satisfies the requirements for the Associates Degree at Clarendon College and is designed for transfer to a senior college.

Required Instructional Materials Supplies: Textbook and materials listed in the labs that can be purchased at a grocery store.

Required Text: *Biology 11th* Edition by Raven, Johnson, Mason, Losos, & Singer. **ISBN-13:** 978-1259188138

Class will be based on the book chapters, but not all of the material in the text will be covered in class. **You are, nevertheless, responsible for reading the text.** Further, supplemental material may be presented that is not in the book, and thus it is essential that you attend the class regularly.

Methods of Instruction: This course will utilize Readings, PowerPoint presentations, Forum discussions, audio-visual materials, and lab instruction.

Student Rights and Responsibilities: Student Rights and Responsibilities are listed on the College website at: <http://www.clarendoncollege.edu/Resources/Student%20Services/StudentRightsResponsibilities.pdf>

In accordance with recommendations from the Texas Higher Education Coordinating Board, all life and physical science courses at Clarendon College will address the following core objectives:

- **Critical Thinking Skills** – including creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- **Communication Skills** – including effective written, oral, and visual communication.
- **Empirical and Quantitative Skills** – including application of scientific and mathematical concepts.
- **Teamwork** – including the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Student Learning Outcomes: Upon successful completion of Biology I, the student should demonstrate these core objectives by being able to...

Critical Thinking Skills

- Identify the major phyla of life with an emphasis on animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
- Compare different sexual and asexual life cycles noting their adaptive advantages.

Communication Skills

- Describe phylogenetic relationships and classification schemes.
- Describe basic animal physiology and homeostasis as maintained by organ systems.

Empirical and Quantitative Skills

- Describe modern evolutionary synthesis, natural selection, Mendelian inheritance, micro and macroevolution, and speciation.
- Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

Student Learning Outcomes for Lab: Upon successful completion of Biology I lab, the student should demonstrate these core objectives by being able to...

Critical Thinking Skills

- Identify the major phyla of life with an emphasis on animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.
- Describe basic animal physiology and homeostasis as maintained by organ systems.
- Compare different sexual and asexual life cycles noting their adaptive advantages.

Communication Skills

- Distinguish between phylogenetic relationships and classification schemes.
- Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.

Empirical and Quantitative Skills

- Demonstrate knowledge of modern evolutionary synthesis, natural selection, Mendelian inheritance, micro and macroevolution, and speciation.
- Be able to apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.

Teamwork

- Communicate effectively the results of investigations.
- Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.

Course Expectations:

- You may expect a response time from me of a day (24hrs) on business days for messages or email, and perhaps two to three days for Forum grades.
- Etiquette expectations (netiquette) for all types of communication: You are expected to take responsibility in

helping to maintain a classroom environment that is conducive to learning. Please be polite and maintain a professional tone in your writing. NO abusive language will be tolerated in this course.

Computer/Technology Requirement: This course uses a variety of web resources that require a good Internet connection and an up-to-date browser. You should use the latest version of Mozilla Firefox, Google Chrome, or Internet Explorer. The course will have its best appearance and functionality utilizing Mozilla Firefox.

Note: If you use your iPad or iPhone to work in this course, download and use Mozilla Firefox to access the course instead of using Safari as your internet browser. Some activities cannot be completed on a mobile device.

You must have the following programs on your computer in order to use and complete these Moodle courses:

- Adobe Reader (to view the PDF documents)
- Flash Player
- PowerPoint program (to complete your favorite species assignment)
 - A free version of this program is available through the Office 365 link on the college website. Refer to this [tutorial](#).

Grading Policies: You will receive one letter grade for BIOL 1306 and one letter grade for BIOL 1106. Those grades come from the components described below.

BIOL 1306: Biology for Science Majors I Class

1. Before the Moodle Course becomes active you must complete a Syllabus Agreement EVA and answer "True." This is a Course Contract that submits that you understand and will abide by my class policies.
 - a. **Required Enrollment Verification Activity (EVA):** Students who fail to complete the Syllabus Agreement & Enrollment Verification Activity by the official census date may not be able to continue in the course. This could result in an F for the course and forfeiture of Financial Aid. The census date for this term can be found on the Academic Calendar located at the Inside CC link on Clarendon College's home page.
2. **Class participation will count as 10%** of your final course grade.
 - a. This portion of your grade comes from your participation in class Forum Discussions and exercises.
 - i. If you choose not to participate in lab or Class Forum Discussions, you won't receive any credit.
 - b. For BIOL 1306, I will submit an attendance report each Tuesday morning and on the census date. Students who are following the online attendance policy and participating in each week's forums will be marked "present."
 - c. For every week that you do not participate in the Forum Discussions, you will have 15 points deducted from your class participation grade.
 - i. If you are asked to leave a Forum discussion due to disrespectful behavior, you will receive be recorded as "absent" and have 15 points deducted from your class participation grade.
3. **Weekly Quizzes will count as 10%** of your final course grade.
 - a. By clicking on the quiz icon in Moodle you can access the weekly quizzes which begin the week of June 2, 2019.
 - b. The quizzes can be taken in sequence as you finish the requirements to activate them.
 - c. There will be only **One Attempt** per quiz. Even though these quizzes are open book/open notes; it would be to your advantage to watch the introductory videos, read the chapter, view the PowerPoint, and read any posted notes before taking the quiz.
4. **Biology Presentation will count as 20%** of your final course grade.
 - a. This exercise will be over your favorite wild plant/animal species in a PowerPoint presentation for a duration of 7 to 9 minutes.
 - b. Requirements for the PowerPoint will be listed in the Submit Presentation Topic icon. The Topic is due in Moodle by Monday, June 10, 2019, and the PowerPoint Presentation must be submitted within 3 weeks by Monday, July 1, 2019.
5. **Class exams will count as 60%** of your final course grade.
 - a. All class exams, including the final, will be weighted equally.
 - b. Each exam covers the material covered since the last test (not comprehensive).
 - c. The exams will utilize a variety of question formats (objective, matching, multiple choice, true/false, etc.)
 - d. Exams will be 50 questions and be timed to 45 minutes. You will only have **One Attempt** on exams.
 - e. During the exams, electronic communication devices are NOT allowed, and the exam is closed book.

BIOL 1106: Biology for Science Majors I Lab

1. Before the Moodle Course becomes active you must complete a Syllabus Agreement EVA and answer “True.” This is a Course Contract that submits that you understand and will abide by my class policies.
 - a. **Required Enrollment Verification Activity (EVA):** Students who fail to complete the Syllabus Agreement & Enrollment Verification Activity by the official census date may not be able to continue in the course. This could result in an F for the course and forfeiture of Financial Aid. The census date for this term can be found on the Academic Calendar located at the Inside CC link on Clarendon College’s home page.
2. **Class participation will count as 10%** of your final course grade.
 - a. This portion of your grade comes from your participation in class Forum Discussions and exercises.
 - i. If you choose not to participate in lab or class Forum Discussions, you won’t receive any credit.
 - b. For BIOL 1106, I will submit an attendance report each Tuesday morning and on the census date. Students who are following the online attendance policy and participating in each week’s forums will be marked “present.”
 - c. For every week that you do not participate in the Forum Discussions, you will have 15 points deducted from your class participation grade.
 - i. If you are asked to leave a Forum discussion due to disrespectful behavior, you will receive be recorded as “absent” and have 15 points deducted from your class participation grade.
3. **Weekly Lab quizzes will count as 40%** of your final lab grade.
 - a. By clicking on the lab quiz icon in Moodle you can access the weekly quizzes.
 - b. The quizzes can be taken in sequence as you finish the requirements to activate them.
 - c. There will be **One Attempt** per quiz. Even though these quizzes are open notes; it would be to your advantage to watch the Video, read the Lab Exercise, and perform any required lab activities before taking the quiz.
4. **Lab practicals will count as 50%** of your final lab grade.
 - a. You will take a midterm practical exam and a final practical exam in lab.
 - b. These exams are equally weighted and non-comprehensive.
 - c. You will only have **One Attempt** on the practicals. Neither will be dropped. They are closed book.

Grading Scale for the class and lab:

<u>Letter Grade</u>	<u>Numeric Grade</u>
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Your official final course grade will appear in your Student Portal.

Grades earned for each graded activity will be available in Moodle. However, in your Moodle gradebook, assume that any activity you did not complete is a zero, even if a hyphen appears beside the activity in the gradebook. The current course average shown in the Moodle gradebook will not be correct until I have replaced the hyphens with zeroes.

Academic Integrity Policy

Clarendon College is committed to a philosophy of honesty and academic integrity. It is the responsibility of all members of the Clarendon College community to maintain academic integrity at Clarendon College by refusing to participate in or tolerate academic dishonesty. Any act of academic dishonesty will be regarded by the faculty and administration as a serious offense.

Academic dishonesty violations include, but are not limited to: (1) obtaining an examination, classroom activity, or laboratory exercise by stealing or collusion; (2) discovering the content of an examination, classroom activity, laboratory exercise, or homework assignment before it is given; (3) observing the work of another during an examination or providing answers to another during the course of an examination; (4) using an unauthorized source of information during an examination, classroom activity, laboratory exercise, or homework assignment ; (5) entering an office, classroom, laboratory, or building to obtain unfair advantage; (6) taking an examination for another person; (7) completing a classroom activity, laboratory exercise, homework assignment, or research paper for another person; (8) altering grade records; (9) using any unauthorized form of an electronic communication device during an examination, classroom activity, or laboratory exercise; and/or, (10) plagiarism. (Plagiarism is defined as the using, stating, offering, or reporting

as one's own, an idea, expression, or production of another person's work without proper credit. This includes, but is not limited to, turning in a paper purchased or acquired from any source, written by someone other than the student claiming credit, or stolen from another student.)

Students are responsible for reporting known acts of academic dishonesty to a faculty member, the program coordinator, and/or the Vice President of Academic Affairs. Any student with knowledge of a violation who fails to report it shall him/herself be in violation and shall be considered to have committed an act of academic dishonesty. Additionally, any student who reports him/herself in violation of this code before it is likely that another might consider this possibility will be understood as repentant and acting in good faith. Though the confession will not excuse the student for the violation, the confession will be considered and the violation should not result in suspension from school except in the most extreme cases.

While academic integrity and honesty are the responsibility of the individual student, each individual faculty member, teaching assistant, and/or laboratory instructor is responsible for classroom management and for maintaining ethical behavior within the classroom and/or laboratory. Faculty who discover or suspect a violation should discuss the matter with the suspected violator(s) and attempt to resolve the case at that point. In cases of convincing evidence, the faculty member should take appropriate action. The faculty member and student should complete a Counseling Sheet regarding the violation. (The Counseling Sheet should contain at a minimum the date and time of the violation, the course, the instructor's name, the student's name, an explanation of the infraction or facts of the case, and the resolution to the incident.) This form should be signed by the student, faculty member, program coordinator, and the Vice President of Academic Affairs. The Vice President of Academic Affairs will maintain a file on all violations. If a faculty member prefers to report the case directly to the Vice President of Academic Affairs, it remains his/her prerogative to do so. Additionally, if the faculty member and the accused student cannot reach a resolution or if the faculty member believes that suspension from school is the only fair sanction, the case should immediately be reported by the faculty member, in writing, to the Vice President of Academic Affairs. If the Vice President of Academic Affairs observes any trends in student behavior which involve more than one violation or act of academic dishonesty, the Vice President of Academic Affairs is responsible for notifying all faculty members involved, for contacting the student(s) involved, and after consultation with the faculty member(s) involved for taking the appropriate action. The Vice President of Academic Affairs is responsible for the timely notification (normally within two weeks) to all parties of an action taken.

Students wishing to appeal a disciplinary decision involving academic integrity or acts of academic dishonesty may do so through the Vice President of Student Services.

Class Policies:

- 1. Online Attendance Policy:** Regular attendance is mandatory in all online courses. Specific activities will be identified each week or during each chapter that must be completed in order for students to be considered "in attendance." Failure to complete these assignments can result in forfeiture of Financial Aid and failure of the class.
 - For this course, I will submit an attendance report each Tuesday morning and on the census date. Students who are following the online attendance policy and participating in the weekly Forum Discussions are marked "present."
- 2. Make-up work:** Late will not be accepted unless the missed assignment is due to an emergency (with documentation). Allowing a student to make up late work is solely at the discretion of the instructor.
- 3. Final Class and Lab Exams:** Students must take a final for each of their academic courses. The schedule of final exam times is published at the beginning of the semester. I will not give any early finals except in extreme emergencies after students have provided documentation of said emergency. The lab practical final and class final will be open from 12:01 a.m. CDST on July 8, 2019, through 11:55 p.m. CDST on July 8, 2019.
- 4. Scholastic Honesty:** I adhere to a strict policy regarding academic honesty. Anyone who is dishonest in any way will receive a zero on that assignment or exam with no opportunity to make up the zero and may be dropped from the course with a grade of F.
- 5. Accommodations:** Clarendon College provides reasonable accommodations for persons with temporary or permanent disabilities. Should you require special accommodations, it is your responsibility to notify the Office of Student Services (806-874-3571 or 800-687-9737). We will then work with you to make whatever accommodations we need to make.
- 6. Withdrawal:** If you decide that you are unable to complete this course or that it will be impossible to complete the course with a passing grade, you may drop the course and receive a "W" on your transcript instead. (The last day to drop a course is available on the Academic Calendar, located at the Student link on the Clarendon College website.) Withdrawal from a course is a formal procedure that you must initiate. If you do not go through the formal withdrawal procedure, you will receive whatever grade you have earned.

Whether to drop a class or not requires a lot of thought. According to Texas state law a student is only allowed to drop the same class twice before he/she will be charged triple the tuition amount for taking the class a third time or more. Furthermore, beginning with the Fall 2007 semester, students in Texas may only drop a total of 6 courses throughout their entire undergraduate career. After the 6th dropped class, he/she will no longer be able to withdraw from any classes.

The last day to withdraw from this course with a "W" is Monday, June 24, 2019.

Biology for Science Majors I

Summer I: Course Calendar and Outline

Tentative Course Schedule: This course schedule is also available in the Quick Links block in your Moodle course. The course schedule is subject to change. If changes are made, you will see an announcement from me in the Latest News block on the right side of your Moodle screen as well as in your Bulldog email or email listed in your Moodle profile. I will also change the course schedule itself to reflect any changes made.

** Activities used to determine weekly attendance

WEEKS	CLASS TOPICS	Student Learning Outcome	LAB ACTIVITIES	Student Learning Outcome
Week 1 Starting June 2 DUE by June 10 at 11:55 p.m. CDST	Classes start Monday, June 4 Syllabus & Introduction Complete the Syllabus Agreement EVA located in the Class Orientation unit. **Forum Discussion – Introduce Yourself Ch1: The Science of Biology Quiz 1 – Chapter 1 Ch 2: The Nature of Molecules & Water Ch 3: The Chemical Building Blocks of Life Quiz 2 – Chapters 2 and 3 Ch 4: Cell Structure Ch 5: Membranes Quiz 3 – Chapters 4 and 5 Exam 1 – chapters 1,2,3,4, and 5 My Favorite Wild Species Topic due Monday, June 10 <i>Wed., June 5 - last day to last day to register and add/drop</i> <i>Thurs., June 6 – Census Day - Final day to submit EVA</i>	 Describe the characteristics of life. Describe basic animal physiology and homeostasis as maintained by organ systems. Identify the basic properties of substances needed for life. Describe the structure of cell membranes and the movement of molecules across a membrane.	Complete the Syllabus Agreement EVA located in the Class Orientation unit. **Forum Discussion – Icebreaker Activity – Which scientist do you admire the most? Lab Safety & Protocol Quiz 1 – Lab Safety Ex 1: Microscopy Quiz 2 – Microscopy Ex 2: Onion, Potato, & Cheek Smear Quiz 3 – Cell Anatomy Quiz 4 – Cell Biology <i>Wed., June 5 - last day to last day to register and add/drop</i> <i>Thurs., June 6 – Census Day - Final day to submit EVA</i>	 Explain the reasoning used by scientists. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory. Identify the basic properties of substances needed for life.

Biology for Science Majors I: Course Calendar and Outline – Summer I 2019

WEEKS	CLASS TOPICS	Student Learning Outcome	LAB ACTIVITIES	Student Learning Outcome
<p>Week 2 Starting June 9</p> <p>DUE by June 17 at 11:55 p.m. CDST</p>	<p>Ch 6: Energy & Metabolism Ch 7: How Cells Harvest Energy Quiz 4 – Chapters 6 and 7</p> <p>Ch 8: Photosynthesis Quiz 5 – Chapter 8</p> <p>Exam 2 – chapters 6, 7, and 8</p> <p>**Forum Discussion – Photosynthesis Concept Map</p>	<p>Identify the substrates, products, and important chemical pathways in metabolism.</p>	<p>Ex 3: Prokaryotic & Eukaryotic Cell ID Quiz 5 – Prokaryotic vs. Eukaryotic Cells</p> <p><i>Life's Greatest Miracle</i> Video Quiz 6 – Life's Greatest Miracle</p> <p>Ex 4: Cellular Respiration in Peas Quiz 7 – Cellular Respiration</p> <p>**Forum Discussion – Help! I'm trapped!</p>	<p>Describe the structure of cell membranes and the movement of molecules across a membrane.</p> <p>Identify the substrates, products, and important chemical pathways in metabolism.</p>
<p>Week 3 Starting June 16</p> <p>DUE by June 24 at 11:55 p.m. CDST</p>	<p>Ch 10: How Cells Divide Ch 11: Sexual Reproduction & Meiosis Quiz 6 – Chapter 10 and 11</p> <p>Ch 12: Patterns of Inheritance Quiz 7 – Chapter 12</p> <p>Ch 13: The Chromosomal Basis Quiz 8 – Chapter 13</p> <p>Exam 3 – chapters 10, 11, 12, and 13</p> <p>**Forum Discussion – Bless his pea-picking heart!</p>	<p>Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.</p> <p>Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.</p> <p>Identify the principles of inheritance and solve classical genetic problems.</p>	<p>Ex 5: Cyclosis in Elodea Chloroplasts Structure & Function Quiz 8 – Cyclosis & Chloroplast Structure</p> <p><i>The Amazing Lives of Plants</i> Video Quiz 9 – Private Life of Plants</p> <p>Ex 6: Mitosis & Meiosis Quiz 10 – Mitosis Quiz 11 - Meiosis</p> <p>**Midterm Practical</p>	<p>Describe the structure of cell membranes and the movement of molecules across a membrane.</p> <p>Compare different sexual and asexual life cycles noting their adaptive advantages.</p>

Biology for Science Majors I: Course Calendar and Outline – Summer I 2019

WEEKS	CLASS TOPICS	Student Learning Outcome	LAB ACTIVITIES	Student Learning Outcome
<p>Week 4 Starting June 23</p> <p>DUE by July 1 at 11:55 p.m. CDST</p>	<p>Ch 14: DNA The Genetic Basis Ch 15: Genes & How They Work Quiz 9 – Chapters 14 and 15</p> <p>Ch 17: Biotechnology Quiz 10 – Chapters 17</p> <p>Exam 4 – chapters 14,15, and 17</p> <p>**Forum Discussion – GMO's, the Pros and the Cons</p> <p><i>Monday, June 24 - last day to drop with a "W"</i></p> <p>My Favorite Wild Species PowerPoint due today, Monday, July 1</p>	<p>Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.</p> <p>Identify the principles of inheritance and solve classical genetic problems.</p> <p>Explain the reasoning used by scientists.</p>	<p>Ex 7: Mendelian Genetics Quiz 12 – Mendel's Laws Quiz 13 – Monohybrid and Dihybrid Genetics Problems</p> <p>DNA <i>The Secret of Life</i> Video Quiz 14 – DNA: The Secret of Life</p> <p>Ex 8: DNA Fruit Extraction **Quiz 15 – Forum Discussion: Banana DNA Extraction</p> <p>Ex 9: Molecular Biology & Plasmids Quiz 16 – Genetic Engineering & Plasmids</p> <p><i>Monday, June 24 - last day to drop with a "W"</i></p>	<p>Identify the principles of inheritance and solve classical genetic problems.</p> <p>Be able to apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.</p> <p>Use critical thinking and problem-solving to make informed decisions in the laboratory.</p> <p>Describe the reasoning processes applied to scientific investigations and thinking.</p> <p>Describe basic animal physiology and homeostasis as maintained by organ systems.</p>

Biology for Science Majors I: Course Calendar and Outline – Summer I 2019

WEEKS	CLASS TOPICS	Student Learning Outcome	LAB ACTIVITIES	Student Learning Outcome
<p>Week 5 Starting July 1</p> <p>DUE by July 8 at 11:55p.m. CDST</p>	<p>Ch 20: Genes within Populations Quiz 11 – Chapter 20</p> <p>Ch 21: The Evidence of Evolution Quiz 12 – Chapter 21</p> <p>Ch 22: The Origin of Species Quiz 13 – Chapter 22</p> <p>Ch 23: Systematics, Phylogenies, & Comparative Anatomy Quiz 14 – Chapter 23</p> <p>**Forum Discussion – Investigating Population Genetics</p>	<p>Describe the unity and diversity of life and the evidence for evolution through natural selection.</p> <p>Explain the reasoning used by scientists.</p>	<p>Ex 10: Hardy-Weinberg Population Genetics Quiz 17 – Population Genetics</p> <p>Ex 11: Virtual Fossil Tour Darwin Video Quiz 18 – Charles Darwin</p> <p>Ex 12: Dichotomous Keys **Quiz 19 – Forum Discussion: Dichotomous Key</p>	<p>Demonstrate knowledge of modern evolutionary synthesis, natural selection, Mendelian inheritance, micro and macroevolution, and speciation.</p> <p>Illustrate the relationship between major geologic change, extinctions, and evolutionary trends.</p> <p>Distinguish between phylogenetic relationships and classification schemes.</p> <p>Communicate effectively the results of investigations.</p> <p>Identify the major phyla of life with an emphasis on animals, including the basis for classification, structural and physiological adaptations, evolutionary history, and ecological significance.</p>
<p>FINAL EXAMS</p> <p>OPEN July 8 at 12a.m. CLOSE July 8 at 11:55p.m. CDST</p>	<p>**Final Exam – chapters 20, 21, 22, and 23 to be taken online July 8 between 12 a.m. –11:59 p.m.</p>		<p>**Final Lab Practical – quizzes 12 through 19 to be taken online July 8 between 12 a.m. –11:59 p.m.</p>	