Course Syllabus

BIOL 1406:
Biology for Science Majors I
Section 45480
Summer I 2019
Eastfield College
STEM DIVISION

4 credit hours
Course runs 6/6/19-7/3/19

Class meeting times:
Lecture: online MTWRFSU
Lab: M-F 2:00pm-4:00pm Rm. 307

Prerequisite: One of the following must be met: 1) Developmental Reading 0093 AND Developmental Writing 0093; 2) English as a Second Language (ESOL) 0044 AND 0054; or 3) have met the Texas Success Initiative (TSI) Reading and Writing Standards AND DCCCD Writing score prerequisite requirement.

Instructor Information:
Brie Kathleen Day, M.S., A.B.D.
Professor, Biology
Email: BrieDay@dcccd.edu
YouTube Channel: Brie's BioWorld

Ever pondered the meaning of life??
You might just figure it out this semester!
Welcome to BIOL 1406: Biology for Science Majors I!!!!!
Course Description
An introductory survey of contemporary biology for students majoring in the sciences. Topics emphasized will include the chemical basis of life, structure and function of cells, energy transformations, and molecular biology and genetics. (3 Lec., 3 Lab.) (Coordinating Board Academic Approval Number 2601015103)

Course Lecture Learning Outcomes:
1. Describe the characteristics of life.
2. Explain the reasoning used by scientists.
3. Identify the basic properties of substances needed for life.
4. Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.
5. Describe the structure of cell membranes and the movement of molecules across a membrane.
6. Identify the substrates, products, and important chemical pathways in metabolism.
7. Identify the principles of inheritance and solve classical genetic problems.
8. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
9. Describe the unity and diversity of life and the evidence for evolution through natural selection.

Course Lab Learning Outcomes:
1. Apply scientific reasoning to investigate and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Describe the characteristics of life.
5. Explain the methods of inquiry used by scientists.
6. Identify the basic properties of substances needed for life.
7. Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.
8. Describe the structure of cell membranes and the movement of molecules across a membrane.
9. Identify the substrates, products, and important chemical pathways in metabolism.
10. Identify the principles of inheritance and solve classical genetic problems.

11. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.

12. Describe the unity and diversity of life and the evidence for evolution through natural selection.

**Important Dates:**
- Census Date: 6/10
- 7/3 term ends

**Required Course Textbook & Materials**
- **Textbook:** Campbell Biology (ModMasteringBiology etext SA Access Card) Edition: 11th ($117.50 in the campus bookstore) (note – you do not have to get a hard copy of the textbook unless you want one, but the eText version is required)
- **Laboratory Manual:** None – Lab handouts will be provided on Blackboard

- Box of nitrile or vinyl gloves (no latex) brought daily to lab
- Lab goggles (if you don’t want to use the used goggles provided in lab)
- Regular (at least twice weekly) access to high-speed internet

**Anticipated Grading Table**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 (non-cumulative) Exams @ 100 pts. each</td>
<td>200</td>
<td>15.9</td>
</tr>
<tr>
<td>Cumulative Final Exam</td>
<td>150</td>
<td>11.9</td>
</tr>
<tr>
<td>20 online chapter practice assignments @ 15 points each</td>
<td>300</td>
<td>23.8</td>
</tr>
<tr>
<td>Genetic Disease YouTube Presentation</td>
<td>50</td>
<td>4.0</td>
</tr>
<tr>
<td>6 Learning Unit Discussion Boards @ 10 points each</td>
<td>60</td>
<td>4.8</td>
</tr>
<tr>
<td>6 Learning Unit Focus Assignments @ 10 points each</td>
<td>60</td>
<td>4.8</td>
</tr>
<tr>
<td>12 Lab Write-Ups @ 20 points each</td>
<td>240</td>
<td>19.0</td>
</tr>
<tr>
<td>2 Lab Practical @ 100 points each</td>
<td>200</td>
<td>15.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1260</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

At the end of the course, your final grade is computed on the basis of total points earned divided by total possible points possible for the semester. This value is then turned into a percentage, with grades being assigned as follows:

A=90.0%-100; B=80.0-89.9%; C=70.0-79.9%; D=60.0-69.9%; F=59.9% and below
I reserve the right to curve or not curve final grades at the end of the term. Class participation and general academic attitude may be taken into account in cases of students who are border-line between two grades. If you have any questions as to your grade at any point during the semester, contact the instructor, who also keeps an updated Excel file of grades. At any point you can calculate your own grade by dividing the number of points you earned on all work up to that point, divided by the total points available up to that point, times 100%. All Mastering assignment grades may be viewed in Mastering after their due date. Blackboard may take up to 24 hours to update Mastering scores in the gradebook. Turn-around time for hand-graded work is normally 1-2 weeks after the due date.

Developmental Courses

The Texas Success Initiative (TSI) is a statewide program designed to ensure that students enrolled in Texas public colleges and universities have the basic academic skills needed to be successful in college-level course work. The TSI requires assessment, remediation (if necessary), and advising of students who attend a public college or university in the state of Texas. The program assesses a student's basic academic skills in reading, writing and math. Passing the assessment is a prerequisite for enrollment in many college-level classes such as English 1301/1302, History 1301/1302, Math 1414, etc. Students who do not meet assessment standards may complete prerequisite requirements by taking developmental courses in the deficient area and passing them with a grade of C or higher. In some cases retesting will also be required. It is up to each student to be aware and informed about requirements that are subject to change. Additional information is available from the TSI office.

https://www1.dcccd.edu/cat0910/admiss/tsi.cfm?loc=4

BIOL 1406 develops the following CORE objectives:

- **Critical Thinking** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.

- **Empirical and Quantitative Skills** - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

- **BIOL 1406 develops Critical Thinking and Empirical and Quantitative Skills** by requiring students to research, analyze and interpret data derived from an experimental setting and drawing a well-informed conclusion of the data through the application of sound biological concepts. Examples: research paper, case studies, and/or lab reports.

- **Communication** - to include effective development, interpretation and expression of ideas through written, oral and visual communication.

- **Teamwork** - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
**BIOL 1406 develops Teamwork and Communication** by requiring students to effectively work in a small group on an assigned problem, exercise or course concept that will then be presented in a written, oral or visual format. Example: lab exercises

**Chapter Practice Assignments**
Chapter Practice Assignments will be online and may be multiple choice, True/False, fill-in the blank, essay, or a combination of these. They are untimed, but **leaving the assignment idle on your computer for too long may cause your internet to shut off or freeze and for you to consequently lose your answers.** I recommend taking assignments on a high-speed internet.

The number of questions on an assignment may vary, but the total point value will not. You may take the assignment at any time between its posting and due date, but once you decide to take the assignment, you cannot go back.

Online assignments are open note/book/website/etc., but require more than just your ability to look up answers. To perform well on assignments, it is important you master the concepts of the material presented in that unit **before** you take the assignment.

**Exams**
Exams are taken face-to-face in the Eastfield College testing center and are closed book/notes/websites. They may be multiple choice, True/False, fill-in the blank, essay, or a combination of these. Exams cannot be made up. The final exam is cumulative of the course. The date of final assessment posting will be announced in class based on the college’s final exam schedule. The final exam cannot be made up.

**Lab Activities**
Students are required to attend and fully participate in all lab activities **Missed lab activities cannot be made up.** Points on lab activities or lab practicals may be lost for missing portions of lab sessions. Students are expected to come to lab on time and prepared having already read the lab activity(-ies) for the day. All lab safety protocols must be followed at all times in the lab room. Failure to adhere to safety protocols is ground for dismissal from lab and loss of associated points.

**Lab Practical Exams**
Lab practical exams are taken in-lab and are closed book/notes/websites. They are based on the lab exercises, including theories, concepts, procedures, and results/conclusions. **A missed lab practical exam cannot be made up.**

**Late Policy**
Modified MasteringBiology Homework Assignments, Focus Assignments, and Extra Assignments are accepted late, but will be docked 20% per calendar day late. **Exams, the Final Exam, lab activities, discussion posts, and the lab practicals are not**
accepted late. The instructors reserve the right to make exceptions in extenuating circumstances. Documentation may be required.

Writing Across the Curriculum
Writing is a part of all biological courses. You will have writing assignments determined by your instructors.

Institutional Policies and Services
Institutional policies relating to this course can be accessed from the following link:

Communication Guidelines

Communicating in an online setting = Netiquette!!!

All students must adhere to proper “Netiquette”.

It is expected that you will communicate issues and concerns in a professional manner by e-mailing the instructor if the issue is personal, or posting information in the “Q the Prof.” discussion thread if the information possibly relates to other students (do not post issues that are of a personal nature, such as personal grade questions, on the “Q the Prof.” forum; those should be e-mailed directly to me…I will remove such posts!).

Because of the anonymity of text based conversation and the inability to discern body language and nonverbal cues, it is imperative that all communication be professional and appropriate (this is called good “Netiquette”!) for a classroom setting within an institution of higher learning. Visit the Netiquette site to learn all about using proper “Netiquette”. There is a self-quiz at the end you can take to see how good your netiquette is! Failure to comply with these requirements will result in disciplinary action and potential dismissal from the class. I also expect that all written work will be written professionally and will be proofread prior to submission (including grammar, spelling, punctuation, typos, etc.). Be extra careful about using acronyms and computer jargon, especially on the discussion board, as some people may not be familiar with those and could possibly take offense (I have seen this happen!).
Do not write messages in all caps (this means you are yelling in the computer world!), crazy colors like hot pink, or overuse exclamation marks. Thank you for your cooperation and good Netiquette!

Instructor Expectations

Summary of Expectations

All e-mails to the instructors must include your name and “BIOL 1406” in the subject line or may not get read. If you do not receive a response to your e-mail within 24-48 hours during the business week, re-submit your e-mail, ensuring this information is present in the subject line.

Work that is not submitted correctly may receive a grade of zero. It is your responsibility to ensure assignments are submitted correctly and on time. The instructor may not always notify students that did not submit assignments correctly…the grade will simply be recorded as a zero.

If a technical problem should arise while taking an assignment or assessment, you should immediately e-mail the instructor about the problem. If the instructor has not been e-mailed within 24-48 hours after the problem occurred in which no answers were recorded by MasteringBiology, the grade on that assessment will be recorded as a zero. Assessments may not be made-up, except in extenuating circumstances as judged by the instructor (documentation may be required). While I always do my best to promptly answer e-mails and discussion board submissions, expect at least a 24-48 hour (weekday) turn-around time for responses due to the high volume of e-mails received. Also, please kindly remember that professors are human too, with families and lives outside of school. I will not often be answering e-mails on weekends, at night, or on holidays. Thank you for your patience and understanding.

Everything you write in this course must be written in complete sentences and be of college-level quality, and must use proper Netiquette. Except in extenuating circumstances as decided by the instructor, work submitted after the deadline will no be accepted. Please do not request extensions.

On the discussion board, all viewpoints related to subject material are welcome. However, personal attacks against classmates, and/or the professor are not permitted, and any such inappropriate attacks will be removed and are cause for further disciplinary action. Profanity is also not permitted. Do not write in all caps or in weird colors/fonts. Use proper grammar, capitalization, and punctuation.
Academic Dishonesty

Plagiarism

*Everything you write in this course must be your own work.* If you put something in your work in this class that is not your own words and you do not give credit to the author (this includes not just putting someone else’s words down, but even just their idea(s)!), you have committed **PLAGIARISM**.

Academic honesty is expected, and integrity is valued in the Dallas County Community Colleges.

Scholastic dishonesty is a violation of the Code of Student Conduct. The purpose of the Student Code of Conduct is to provide guidelines for the educational environment of the Dallas County Community College District. Such an environment presupposes both rights and responsibilities. Disciplinary regulations at the college are set forth in writing in order to give students general notice of prohibited conduct. Students should be aware of disciplinary actions for all forms of academic dishonesty, including but not limited to, cheating on a test, plagiarism, and collusion. As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct publishes in the DCCCD Catalog. More information is available on the internet at [https://www1.dcccd.edu/ss/code.cfm](https://www1.dcccd.edu/ss/code.cfm).

Cheating on a Test/Assessment shall include:

- a. Copying from another student’s test paper/online assessment.
- b. Using test material not authorized by the person administering the test.
- c. All forms of academic dishonesty, including cheating, fabrication, facilitating academic dishonesty, plagiarism, and collusion.
- d. Collaborating with or seeking aid from another student during a test without permission from the test administrator.
- e. Knowingly using, buying, selling, stealing, or soliciting, in whole or in part, the contents of an unadministered test.
- f. The unauthorized transporting or removal, in whole or part, of the contents of the unadministered test.
- g. Substituting for another student, or permitting another student to substitute for one’s self, to take a test.
- h. Bribing another person to obtain an unadministered test or information about an unadministered test.

Plagiarism: Shall be defined as the appropriating, buying, receiving as a gift, or obtaining by any means another’s work and the acknowledged submission or incorporation of it in one’s own written work (i.e., taking someone else’s words or ideas and using them as your own). Plagiarism is academic dishonesty and plagiarized
materials/assignments will receive a grade of zero and the student will be subjected to the disciplinary actions under academic dishonesty.

Collusion: Shall be defined as the unauthorized collaboration with another person in preparing written work for fulfillment of course requirements. Committing any form or amount of plagiarism may result in an automatic “F” on your work and is grounds for further disciplinary action, such as being reported to the college’s administration. This includes plagiarizing from websites and other text documents, the professor’s lectures, the textbook, from classmates, etc. Doing so will result in a grade of zero on the plagiarized work and is ground for further disciplinary action, as committing plagiarism is a violation of the college’s code of conduct.

Course Syllabus: “Navigating the Course”

Content Buttons
Located to the left of your screen in your Blackboard course space are navigation content buttons. If you’re reading this, you’ve already clicked on one…the “Syllabus!” content button. In this section, you are able to access all the course syllabus components, course schedule, etc. Other content buttons will enable you to read instructor announcements (“Announcements!!”), access the learning units where you will find the actual course content - course lectures, assignments, lab activities, etc. (“Learning Units!!!”), submit Focus Assignments and link to the Modified MasteringBiology chapter practice homework assignments, link to the unit discussion forums on the BioChat Café Discussion Board, view your grades (“Gradebook!”), and search for help on specific technical aspects of the Blackboard site (“Help”).

Below is a description of the types of things you’ll find under some of the content tool buttons:

Announcements
You should click the “Announcements!!” button to check for new announcements every time you login to the course. Any changes to course material, due dates, emergency school closures, mishaps, lab information, etc. will be posted here. Announcements will also be emailed to you. If you want to stay in the loop, you’d better read these regularly!

Learning Units
The main content area of the course is the “Learning Units!!!” button. This is where you will access the course learning units (and the lessons within each unit), which include lectures, focus assignments/activities (including links to assignments and video clips, etc. in MasteringBiology), etc. There are also links in each unit that will link you to the discussion board content area so you can participate in the discussion forums for the lessons in that unit. Follow the course schedule to keep track of when all components of that unit are due. After clicking on the link for the unit, you will see
a series of links that contain the information you should master and complete for that unit.

**Getting through each learning unit:**
The course is divided into 6 Learning Units. As you proceed through the course, you should go through each folder and sub-folder within each learning unit.

**Course Syllabus – Online Lecture Stuff!**
Below are directions for specific lecture-associated areas within each unit:

**Lectures:**
In each lesson within each learning unit, you will click on first folder for that unit and study the lectures that are contained within. You may want to take notes as you go through the lectures. For lectures done with “talking-head/Powerpoint” synchronization via YouTube or other YouTube videos, you can pause, rewind, etc. so you don’t have to listen to the entire thing at once. The “talking head” types of lectures are created using a special software that combines PowerPoint presentations/writing with instructor-led video (in other words, I'll be lecturing in your living room!). Exams are taken on campus at the Testing Center unless otherwise noted. These regular assessments are non-cumulative, and may include any combination of multiple choice, true-false, short essay, and/or short-answer questions. The final assessment will also be on campus and will be cumulative of the course. A number of graded assignments and discussion forums will take place within each unit throughout the course. Students are responsible for all textbook and handout readings, lecture and written assignments/activities.

**It is imperative that you read the textbook chapters associated with the lectures,** which are outlined in the course schedule. Our textbook is an eText that is located within the Modified MasteringBiology software. You may wish to also purchase a hard copy of the text if you prefer not to read on-screen. You are urged to go over lecture material with classmates in the Discussion Board, ask me questions in the “Q the Prof.!” discussion board forum for clarification, send me an email, attend instructor virtual office hours, and participate in the online discussion board chats. Remember, I am always happy to help!

**Modified (“MyLab & Mastering”) MasteringBiology interactive software:**
After studying the lectures and textbook, you should click on the assignment link and complete all assignments under that link (this will link to assignments in Modified MasteringBiology. Follow the directions included with each assignment for submission.

In this course we will extensively use Pearson Publisher’s “Modified MasteringBiology” interactive software. You'll need to purchase the “Modified MasteringBiology for for Campbell Biology: 11e with eText. Modified MasteringBiology is a state-of-the-art interactive software that includes
wonderful 3D animations, assessments, tutorials, study guides, etc., etc., etc.! We will be using this software for our chapter assignments.
Be sure to save electronic copies of all your written work, discussion posts, etc. you do in this class in case of Blackboard/MasteringBiology failure, grade contesting, or other technical glitches.

**Discussion Board Forums:**
Each learning unit has associated lecture discussion board forums that deal with different topics presented in the unit.
In EACH discussion forum, at least 2 of your posts MUST BE AT LEAST 24 HOURS APART. You must be active in each discussion board forum of a unit at least 3 times per learning unit...one original response to the instructor’s post to you (worth 5 points), and at least 2 responses to classmates’ posts (worth 2.5 points each). This helps to ensure that the class stays lively (otherwise, people tend to all “discuss” on one day....not surprisingly, the night before the deadline!...makes the course rather boring!). All entries must involve critical thinking, good Netiquette, and academic maturity to get full credit (in other words, everyone is entitled to their opinions, but those opinions need to be backed up with evidence demonstrating a learning of the course material to receive credit).
You do not have to have completed all lectures/readings/lab activities by the date of your original submissions, but need to have thought enough about the topic to submit a paragraph or more about the lecture topics that will spark further discussion from classmates. Grading for Discussion Board participation is on a sliding scale.
PLEASE FEEL FREE TO EXPRESS YOUR PERSONAL OPINIONS OF THE TOPICS on the discussion board. All viewpoints related to the subject material are welcome. However, personal attacks against classmates, and/or the professor, are not permitted, and any such inappropriate attacks will be removed (without being given credit) and are cause for further disciplinary action. Profanity is also not permitted.

Also, especially when we get to controversial topics, please remember that while personal opinions are welcome, all entries must include critical, scientific thinking to get credit. Simply stating that you don’t accept a topic without analyzing it from a scientific perspective (as this is a science course) may not award you full or even partial points. I URGE you to really participate in the discussion board….this is how you (and everyone else) will get the most out of the course! While I encourage you to participate fully on the discussion board, please don’t “hog” the board by replying to every other person’s submission, especially with very short replies. This often discourages others from participating.
Course Syllabus – Lab Overview

Lab Activities and Lab Safety
Labs are fun and hands-on (albeit challenging) and will help you apply concepts you learn in lecture. They normally require a good deal of work and effort. Closed toed shoes must be worn at all times and lab gloves, lab coat, and lab goggles must be worn at all times during potentially dangerous lab activities. Hair longer than mid-neck length must be tied back during lab activities. Violation of any lab safety rule may result in you being asked to leave the lab. There will be two lab practical exams during the course. These cannot be made up.

Course Syllabus: Technical Requirements

It is REQUIRED that you take this course using a HIGH-SPEED internet connection.

High-speed internet connections are available on college campuses and at public libraries and internet cafes. Dial-up modems or slow internet connections may shut off, and take too long to download and upload items, particularly video-rich content. You will best benefit from the web-based materials presented in this class by using Google Chrome or Firefox for either the Windows or Macintosh operating systems.

Additionally, you should set your display at 1024 x 768 24-bit true color (800 x 600 will be okay; however, it may require more scrolling horizontally.) This will afford you the opportunity to view the materials in a congruent fashion. If you would like to be able to converse with me live face-to-face via Blackboard Collaborate during my virtual office hours, you will need a video camera for your computer. The link to each Blackboard Collaborate session is found under the “Tools” content button within the Blackboard coursespace. Finally, you may need to download plugins to view some of the multimedia materials. Links for downloading these are located in a separate folder under the “Syllabus!” content button.

If you have technical difficulties as you go through the semester…..let me know! E-mail, visit my face-to-face office hours, or if your question might apply to others in the class, post it on the “Q the Prof.!” forum on the BioChat Café Discussion Board! If I can’t answer it, I will find someone who can!
Course Syllabus – Summary of Steps for the 1st Few Days of Class:

Here’s a summary of what to do during the first few days of the course:

Step 1: Read the Course Syllabus content and Schedule
To get started with the course, read all course syllabus and schedule material located in the “Syllabus!” section. Be sure to study the course syllabus and the course schedule well. Make sure you can comply with everything presented in the syllabus content area before continuing. I suggest printing out the syllabus and (most importantly) the course schedule and refer to them constantly during the course!!

Step 2: Check-in to the Course!!!
You must check-in to the course on the “Yo! I’m Here!” discussion board forum located in the “BioChat Café Discussion Board” content area, before the start of class and no later than the after the first day of class. Students who have not checked-in on the “Yo! I’m Here!” discussion forum by the third day of class may be dropped from the course!

Step 3: Begin the course!
Beginning the first official day of class go to the “Learning Units” content tool button to the left of your screen to begin the course with the “START HERE! Orientation to Your Learning Units” folder and Unit 1 of the course material. You should go through all lesson folders and content links within the unit. Check the course schedule for due dates for the completion of each unit (all unit assignments, discussion posts, and assessments are due by the completion date for that unit). Use the course schedule to keep yourself on track…but be sure to check the Announcements content area and your college email account regularly in case of any changes to the course schedule! Also always check the Q. the Prof.! discussion forum….often your question may have already been asked by a classmate and answered by the prof. there! Don’t forget to attend lab!

Attendance Requirements
I monitor frequencies of student logins and participation as a means of taking attendance. If you decide to no longer participate in the course, do not assume the instructor will drop you. It is your responsibility to drop yourself, otherwise you will be given the grade you deserve at the end of the course. If you do not check-in to the course via the “Yo! I’m Here!” discussion forum due date, you will be assumed to be a “no-show”. Lab attendance is required.
Are you ready to take an online course?

Being that this is an online course, the information you gain is dependent upon the effort you put into it. I am making the assumption that you are ready and qualified to take an online course. **Do not make the mistake of thinking this course would be easier than the fully face-to-face version.** This is not the case. I advise making sure you have the time to devote to this course before continuing with it.

Successful online students are self-disciplined, self-directed, and take individual responsibility for their learning. For example, students who take responsibility for their own learning read their textbook chapters, study the learning units, read announcements posted within the announcements area, look for the answers to their questions rather than waiting to have someone answer them for them, visit websites when required (and even when not required!), complete and submit assignments per requirements for the assignment in a timely manner, and provide information in the discussion boards related to the topics under discussion.

You should recognize that online courses require a degree of technical (computer) ability. Please also recognize that neither the technology, nor the instructor is perfect...there will undoubtedly be errors on occasion. Please be patient while the errors are corrected.

**Remember….I, and the rest of the Eastfield faculty and staff, are always here to help and encourage. So, sit back, relax, and have a great course! 😊**

**Good luck, and let’s get this bio-show on the road!**

---

**Note:** The instructor reserves the right to modify the assignments/assessments and the course syllabus & schedule at any time.
<table>
<thead>
<tr>
<th>Unit #</th>
<th>Dates</th>
<th>eText Chapter(s)</th>
<th>Lecture/Book Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit 1</strong></td>
<td>6/6-6/17</td>
<td>1, 2</td>
<td>Evolution, the Themes of Biology, &amp; the Scientific Method</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The Chemical Context of Life</td>
</tr>
<tr>
<td><strong>Unit 2</strong></td>
<td>6/18-6/24</td>
<td>3, 4, 5</td>
<td>Carbon &amp; the Molecular Diversity of Life</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The Structure &amp; Function of Macromolecules</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>Water &amp; Life</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A Tour of the Cell</td>
</tr>
<tr>
<td><strong>Exam 1</strong></td>
<td></td>
<td></td>
<td>(covers Units 1 &amp; 2): Taken in the Testing Center by Wednesday, 6/19 by close of business</td>
</tr>
<tr>
<td><strong>Unit 3</strong></td>
<td>6/18-6/24</td>
<td>7, 8, 9</td>
<td>Membrane Structure &amp; Function</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>An Introduction to Metabolism</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>Cellular Respiration &amp; Fermentation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Photosynthesis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11</td>
<td>Cell Communication</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12, 13</td>
<td>Mitosis, Meiosis &amp; Sexual Life Cycles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td>Mendel &amp; the Gene Idea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td>The Chromosomal Basis of Inheritance</td>
</tr>
<tr>
<td><strong>Exam 2</strong></td>
<td></td>
<td></td>
<td>(covers Units 3 &amp; 4): Taken in the Testing Center by Wednesday, 6/26 by close of business</td>
</tr>
<tr>
<td><strong>Unit 4</strong></td>
<td>6/25-7/1</td>
<td>16</td>
<td>The Molecular Basis of Inheritance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17</td>
<td>Gene Expression: From Gene to Protein</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18</td>
<td>Regulation of Gene Expression &amp; Epigenetics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20, 21</td>
<td>DNA Tools and Biotechnology</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Genomes and their Evolution</td>
</tr>
</tbody>
</table>

*Genetic Disorder YouTube Project Due 7/3*

*Cumulative Final Exam (Units 1-6: ~70% Units 5 & 6, ~30% Units 1-4): Taken in the Testing Center by Wednesday, 7/3 by close of business*

*I reserve the right to make changes to this course schedule at any time.*
<table>
<thead>
<tr>
<th>Week #</th>
<th>Date</th>
<th>Lab #</th>
<th>Lab Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6/6 (R)</td>
<td>1</td>
<td>Lab Safety; Introduction to Microscopy and the Cell</td>
</tr>
<tr>
<td></td>
<td>6/7 (F)</td>
<td></td>
<td>Introduction to Microscopy and the Cell (cont’d)</td>
</tr>
<tr>
<td>2</td>
<td>6/10 (M)</td>
<td>2</td>
<td>pGLO Bacterial Transformation</td>
</tr>
<tr>
<td></td>
<td>6/11 (T)</td>
<td></td>
<td>pGLO Bacterial Transformation (cont’d)</td>
</tr>
<tr>
<td></td>
<td>6/12 (W)</td>
<td>3</td>
<td>Take-Home Lab: Virtual Biotechnology (no in-class lab)</td>
</tr>
<tr>
<td></td>
<td>6/13 (R)</td>
<td>4</td>
<td>Chemical Composition of Cells (Part I): Nucleic Acids (cheek Cell DNA Extraction) &amp; Proteins</td>
</tr>
<tr>
<td></td>
<td>6/14 (F)</td>
<td>5</td>
<td>Chemical Composition of Cells (Part II): Carbs and Lipids</td>
</tr>
<tr>
<td>3</td>
<td>6/17 (M)</td>
<td>6</td>
<td>Enzyme Activity</td>
</tr>
<tr>
<td></td>
<td>6/18 (T)</td>
<td></td>
<td>Optional Review/Open Lab</td>
</tr>
<tr>
<td></td>
<td>6/19 (W)</td>
<td></td>
<td><strong>LAB PRACTICAL EXAM I</strong></td>
</tr>
<tr>
<td></td>
<td>6/20 (R)</td>
<td>7</td>
<td>Forensic DNA Fingerprinting</td>
</tr>
<tr>
<td></td>
<td>6/21 (F)</td>
<td></td>
<td>Forensic DNA Fingerprinting (cont’d)</td>
</tr>
<tr>
<td>4</td>
<td>6/24 (M)</td>
<td>8</td>
<td>Crime Scene PCR Reaction Set-up</td>
</tr>
<tr>
<td></td>
<td>6/25 (T)</td>
<td>9</td>
<td>Balloon Yeast Fermentation</td>
</tr>
<tr>
<td></td>
<td>6/26 (W)</td>
<td>10</td>
<td>Photosynthesis</td>
</tr>
<tr>
<td></td>
<td>6/27 (R)</td>
<td>11</td>
<td>Cellular Reproduction</td>
</tr>
<tr>
<td></td>
<td>6/28 (F)</td>
<td>12</td>
<td>Take-Home Lab: Human Genetics and Variation (no in-class lab)</td>
</tr>
<tr>
<td>5</td>
<td>7/1 (M)</td>
<td>13</td>
<td>Take-Home Lab: Tracking the Evolution of a Gene - MEGA! (no in-class lab)</td>
</tr>
<tr>
<td></td>
<td>7/2 (T)</td>
<td></td>
<td>Optional Review/Open Lab</td>
</tr>
<tr>
<td></td>
<td>7/3 (W)</td>
<td></td>
<td><strong>LAB PRACTICAL EXAM II</strong></td>
</tr>
</tbody>
</table>

*I reserve the right to make changes to this course schedule at any time.