

**BIOL 300 – Foundations of Biology**  
**American River College - Summer 2017 – 3 Units**

Instructor: Dr. Adam Telleen  
Email: [telleea@arc.losrios.edu](mailto:telleea@arc.losrios.edu)  
Office Hours: By Appointment (see below)  
Website: <http://www.csus.edu/indiv/t/telleena/biol300/>  
Location/Time: **104 Arts & Sciences**, Monday through Thursday,  
**9-10:20am** (Section #10038), or **12:30-1:55pm** (Section #10602)  
Textbook: ***Concepts of Biology*** (Openstax)  
(available for free @ <https://openstax.org/details/books/concepts-biology>)  
Prerequisites: None  
Advisories: Eligible for ENGRD310/312 and ENGWR 300; or ESLR 340 and ESLW 340

**Course Description:** This **non-majors** science course covers basic biological principles and how they relate to humans. **Concepts covered include:** *the philosophy of science, basic cell chemistry/structure/physiology, basic genetics and biotechnology principles, human body systems, evolution, reproduction and development, ecology, and human impacts on the environment.*

**Student Learning Outcomes:** By the end of this course you should be able to...

1. Explain basic cellular, anatomical, and physiological mechanisms by which organisms, including humans, maintain homeostasis
2. Describe the basic processes of cellular reproduction and genetics.
3. Describe the implications of modern biotechnologies.
4. Apply evolutionary theory to various organisms.
5. Analyze new situations using the scientific method, evaluating the validity of data and forming appropriate conclusions.
6. Propose solutions to biological problems.
7. Analyze data using quantitative reasoning and basic mathematical concepts.
8. Analyze changes in biodiversity over time.
9. Further develop your skills in: critical reading, clear and concise writing, articulating a position on an issue, listening, and effectively communicating with professor and peers.

## **Course Policies**

### **I. Course Structure**

**BIOL 300** is a 3-unit lecture course, consisting of **four 80 minute class meetings each week**. Each class meeting will consist of one or more of the following: lecture, video/film, activities, discussion, student presentations, written assignments, and/or case studies. The schedule below shows the tentative topic(s) to be discussed during each meeting as well as associated reading assignments from the textbook. Additional materials may be distributed in class or posted on the course website. You should preview the assigned readings before attending class. **Lectures** will cover concepts explained in the readings, but may include additional information. It is important

that you attend class every day. Some of the topics covered are challenging for many students, so you will be at a disadvantage if you miss class. **In addition, you will not be able to make up points for in-class assignments and activities that you miss for unexcused absences (see below).**

**In order to succeed in this course, it is critical that you are willing to put in the time and effort to engage with and learn the material.** If there is anything that I can do to help you succeed in this course, please let me know; I'm here to help. If you need any special accommodations (e.g. DSPS) please let me know as soon as possible so that I can make sure that your needs are met.

In addition, American River College has many other campus resources and support services available: [http://www.arc.losrios.edu/Support\\_Services/Academic\\_Support\\_Services.htm](http://www.arc.losrios.edu/Support_Services/Academic_Support_Services.htm)

The Tutorial Center in the Learning Resource Center (LRC) provides individual, drop-in, and online tutoring for students who need academic assistance outside the classroom:  
<http://www.arc.losrios.edu/tutorialcenter>

## II. Course Textbook

**Good news: your textbook for this class is available for free online! If you prefer, you can also get a print version at a very low cost.**

Your book is available in web view and PDF for free. You can also choose to purchase on iBooks or get a print version via the campus bookstore or from OpenStax on Amazon.com.

You can use whichever formats you want. Web view is recommended -- the responsive design works seamlessly on any device. If you buy on Amazon, make sure you use the link on your book page on openstax.org so you get the official OpenStax print version. (Simple printouts sold by third parties on Amazon are not verifiable and not as high-quality.)

Concepts of Biology from OpenStax, ISBN 1938168119, [www.openstax.org/details/concepts-biology](http://www.openstax.org/details/concepts-biology)

## III. Evaluation and Grading

Grades for this course will be determined by total point accumulation:

<b>Exams (4@ 75 pts each)</b>	<b>300 pts</b>
<b>Current Event Article</b>	<b>15 pts</b>
<b>Activities, Worksheets, Etc.</b>	<b><u>~85 pts</u></b>
	<b>~400 pts total</b>

Grade assignment is based on percentage of total points earned:

**A = 90-100%**      **B = 80-89%**      **C = 70-79%**      **D = 60-69%**      **F = < 60%**

Borderline scores may be adjusted higher based on other factors, such as attendance, participation, and positive attitude in class. A borderline score is defined as the intervals 89-90%, 79-80%, 69-70%, and 59-60% of total points.

**Exams** are each worth 75 pts. During exams, you may have assigned seating, and you may be given a specially numbered exam for tracking purposes. The exams assess your understanding of the material covered in class and reading assignments. The questions test your factual knowledge of the learning objectives as well as your ability to integrate concepts and apply this knowledge to

new situations. The exams may include multiple choice, matching, true-false, short answer, and essay questions. **No exam scores are dropped from the course grading, so every exam score counts.**

**Makeup Exams** are discouraged since they have to be scheduled outside regular class time. With my consent, makeup lecture exams may be given, if you have a valid excuse. If you must miss an exam, you must contact me **before** the exam time. Failure to notify me in a timely manner will result in a zero grade for the exam. If you must take a makeup exam, you should take the exam within one week of the original exam date. You must contact me and set up an appointment to take the makeup exam. **No bonus points** are available on makeup exams.

### **Current Event Article**

Each student will be required to identify and present one current event article related to biology. This article should come from a **credible** magazine, newspaper, or internet article. Students will be assigned a date on which to present. The presentation should be 2-3 minutes in length and include a brief summary of the article and discuss why you think the article is credible, what you found interesting, and what important things you learned from the article. At the time of your presentation, students will turn in a paragraph summary of your presentation along with a copy of the article for reference.

### **Worksheets, Quizzes, Case Studies, and Other Assignments/Activities**

During class you may be given worksheets, quizzes, and/or other assignments worth varying amounts of points. The worksheets can be given at any time and consist of questions related to materials covered in class. The questions will help you assess your preparation for the exams, and you may find similar questions on the exams. You are allowed to consult your textbook, notes, or neighboring students. Be sure to bring your textbook and notes to class and keep your notes organized so that you can easily refer to them during the worksheet exercises. Quizzes will be closed book/note, and completed individually. Other types of in-class assignments include activities, case studies, and perhaps an occasional game. There are **no makeup worksheets/quizzes or other in-class activities**, unless you have an excused absence. You must be present during an in-class activity in order to receive points, and these activities are used to assess your participation and attendance in course sessions. Some worksheets may be completed outside of class and will have later due dates.

### **Posting of Grades**

It is your responsibility of keep track of your own grades based on work returned to you, and I will not post grades other than returning your work to you (except for one midterm grade check). You can contact me any time via email or during my office hours to compare your calculated grade to my records. **I will not do grade checks during class** because it is disruptive, so please use email/office hours or wait until after class. Make sure you keep a record of your scores in case there is a discrepancy (like any human, I have been known to make mistakes on occasion).

### **IV. Office Hours**

Although I will not have regular official "office hours" for the summer, I will be on campus from 10:30-11:45am Monday through Thursday between the two sections, so if you want to talk to me just let me know before/during/after class or via email to set up an appointment. Take advantage of this time to receive individual help with the course. If you are unavailable during this time, you can arrange with me to meet at other times, just ask.

## V. Student Conduct

### Academic Integrity

Students are expected to behave according to the standards of American River College's policies of Academic Integrity. Academic misconduct on any coursework is not tolerated. This is a serious academic offense and a violation of campus policy. Any evidence of academic misconduct will result in a **zero** grade for the exam/assignment and notification of the Science and Engineering Dean. Additional consequences are possible depending on the circumstances. Things that constitute academic misconduct include (but are not limited to) using unauthorized materials during an exam, gazing in the direction of another student's paper during an exam, placing your paper where it can be seen by other students during an exam, communicating *in any way* with another student during an exam, copying work from other other student(s), and plagiarism.

### Attendance, Dropping, and Behavior

You are expected to attend all class meetings except under urgent circumstances (e.g. illness, accident, family emergency) or participation in official College functions (e.g. field trips). In the case of absence for special personal reasons, you must consult with me about whether the absence is to be considered as an excused absence. **If you have excessive absences, you may be dropped from the course according to LRCCD policies and regulations. For this course, missing more than THREE class periods is considered excessive absences.** If you decide to drop this course, you are responsible for filing the appropriate forms by the drop deadline. For procedures and deadlines, please refer to the current American River College Catalog and Class Schedule. Please let me know if you decide to drop the course. Students are expected to behave in accordance with the policies of American River College. Disrespectful or disruptive behavior will not be tolerated and the student may be asked to leave or be suspended as per American River College disciplinary policy. Please be respectful of myself and your fellow students.

## Tentative Schedule for BIOL 300 – Foundations of Biology – Summer 2017 – Telleen

Date	Topic	Reading
6/5	Introduction, What is Life?	Syllabus
6/6	Biodiversity, Biology as framed by Evolution	Chapter 1.1, Chapter 12
6/7	Science and the Scientific Method	Chapter 1.2
6/8	Basic Chemistry, Bonding, and Water	Chapter 2.1-2
6/12	Biochemistry and Macromolecules	Chapter 2.3
6/13	Life on Earth and Cells	Chapter 3.1-2
6/14	Cell Structure continued	Chapter 3.3-4
6/15	Transport Across Membranes and Osmosis	Chapter 3.5-6
6/19	<b>Exam 1 (Chapters 1, 2, 3, and 12)</b>	
6/20	Energy, Enzymes, and ATP	Chapter 4.1-2
6/21	Cellular Respiration, Fermentation, and Photosynthesis	Chapters 4, 5
6/22	Respiration continued	Chapters 4, 5
6/26	The Cell Cycle, Mitosis, and Cytokinesis	Chapter 6
6/27	Meiosis and Sexual Reproduction	Chapter 7
6/28	Gregor Mendel and Mendelian Genetics	Chapter 8
6/29	Genetics continued	Chapter 8
7/3	Mendel + Meiosis = Chromosome Theory of Inheritance	Chapter 8
7/4	<b>Independence Day Holiday – No Class Meetings</b>	
7/5	<b>Exam 2 (Chapters 4, 5, 6, 7, 8)</b>	
7/6	DNA as Genetic Material; Watson, Crick, and DNA Structure	Chapter 9.1-2
7/10	Central Dogma of Molecular Genetics	Chapter 9.3-5
7/11	Gene Expression continued	Chapter 9
7/12	Biotechnology	Chapter 10
7/13	Biotechnology continued	Chapter 10
7/17	<b>Exam 3 (Chapters 9, 10)</b>	
7/18	Darwin, Wallace, and Evolution by Natural Selection	Chapter 11.1-3
7/19	Evolution continued	Chapter 11.4-5
7/20	Ecology and Ecosystems	Chapter 19, 20, 21
7/24	Animal Body Structure and Systems	Chapter 16
7/25	Animal Reproduction and Development	Chapter 18
7/26	Immunology	Chapter 17
7/27	<b>Final Exam (Chapters 11, 16, 17, 18, 19, 20, 21)</b>	