

## Biology 3020: Introduction to Evolution

**Professor: Dr. John Lytle**

Email: JLytle1@CSUStan.edu

**Lectures:** P166 1:00-1:50pm, Mondays, Wednesdays, and Fridays

### Final exams:

**Monday, Dec. 17<sup>th</sup>, at 11:15am**

The final exam is comprehensive. It covers recent lectures (~50%) and also previous course material (~50%).

**Grades:** 100-90% = A  
89.9-80% = B  
79.9-67% = C  
66.9-57% = D  
<56.9 = F

**Grades are not rounded**

### Missed exam:

A comprehensive exam is on the day of the final exam for students who missed an exam. This exam covers information from all 4 units. These are new questions, typically at higher difficulty.



### Exams:

#### Bring on exam days:

1. Scantron 882E
2. Number 2 pencils & erasers

**Note:** You must put your full name on everything you submit for grading, or it will not be graded & it will receive a zero. Most students make this mistake only once!

Approx. points:	Number of each	
Lecture Exams:	100	3*
Final Exam:	200	1
Quizzes/Activities:	10	11*
Approx. total*:	<b>500</b>	

**\*Note:** The lowest non-final exam & quiz scores will be dropped & not used for student grade assessment. (Except for zeroes earned from cheating! These will not be dropped)

Grades will be posted on Blackboard after each exam. When you see a mistake, get it corrected right away. **DO NOT** wait until the end of the semester.

You are responsible for calculating your own grade throughout the course.

### Supplies:

#### *Required:*

Scantrons: 100 question: **882E**

Clicker: iClicker

Text: *Tangled Bank: An Introduction to Evolution*, Karl Zimmer. *Second Edition* Note: First edition also ok.

Online book: *Concepts of Biology* by Fowler, Roush, and Wise:

<https://openstaxcollege.org/textbooks/concepts-of-biology>

#### *Recommended:*

Pencil, ruler, good notebook, brain

### Lectures: parts online on blackboard

Print out lectures before classes. If you miss a lecture, fill in blanks from another student

### Locating your professor:

JLytle1@CSUStan.edu

Office Hours: room N252, 2:00-3pm Tuesdays & Thursdays;

11:00-1pm Wednesdays (Please send email for appointment prior to visiting office hours)

Include **BIOL3020** in the subject of your emails when emailing me.

## Weekly Quizzes

There will be an equivalent of a 10 question quiz each week. The days the quizzes are held will not be announced ahead of time. Questions may include material covered in the past 2 lectures **and** the upcoming material, so be sure to read the text ahead of time!

## Expected Learning Outcomes (from CSUS)

1. The student will be introduced to the intellectual significance of the scientific theory of evolution.
2. The student will be presented with an historical timeline of people, places and events that shaped our understanding and development of the modern theory of evolution and its current challenges.
3. The student will learn how evolution works through its different processes (i.e., natural selection, mutation, recombination, gene flow, genetic drift, migration, sexual selection).
4. The student will be presented with the evidence for evolution from several scientific disciplines, for example, biochemistry, paleontology, genetics, biogeography, comparative anatomy, and molecular biology.
5. Through scientific understanding of evolutionary relationships of fossils and living organisms, the student will gain further appreciation of natural history and biological diversity.

## More Learning Outcomes:

- a. Understand the fundamental principles & generalizations of biology.
- b. Understand the fundamental structure & function of living organisms.
- c. Understand genetic, molecular, biochemical, & evolutionary aspects of life science.
- e. Understand physiological & environmental aspects of life science.

**Course Performance:** To do well in this class, you must prepare by reading all required materials prior to lecture. Ask questions about any concepts & materials you don't understand. Attend lecture & take thorough notes. Expect to read, review, & study the lecture material (textbook chapters) several times to earn a passing grade. If you have trouble with the material, please e-mail/call/see me immediately.

**Attendance:** Excessive absences from lecture will result in the student being dropped from the course. Arriving late, leaving early, and/or being

removed from lecture due to disruptive behavior may be considered an absence (& may result in further disciplinary action).

## Suggested Study Approach – Be an active student:

- Read textbook chapter
- Read end of chapter Summary
- Print and answer Study Guides (on Blackboard)
- Answer questions at the end of chapters
- Re-write/re-type your lecture notes
- Review/Study often (short daily study sessions are best vs. long infrequent study sessions - This is the best way to learn new material of any kind)
- Form/join a study group!

## Proverb:

“He who asks a question is a fool for a minute; he who does not ask remains a fool forever”.



There is help on campus for students struggling with biology! The Central Valley Math & Science Alliance, located in 124 Naraghi Hall, is a free walk-in science and math tutoring center that does not require appointments. With both student and faculty tutors available from 8am – 6pm daily, there should be someone available to answer your questions. The Biology Club is a group of students who have gone through general biology courses and they are willing to offer advice and help, especially if you buy them coffee or bring them cookies. Tutoring Services on the ground floor of the CSUS Library (L-112) has drop-in tutoring for biology; check their office or website for their schedule. The Advising Resource Center, Student Support Services and the Program for Academic and Career Excellence (P.A.C.E.) in the MSR Building may be useful sources of aid for you. Of course, I will work hard to help you in class and out. Come to office hours, communicate with me and let me know your frustrations and I will respond.

**Make-Ups:** No make-up quizzes will be offered. Make-up exams will only be permitted for valid documented reasons **and** with approval of the instructor. Additionally, the instructor **must be notified within 24 hours** of the exam that is missed for any make-up to be considered.

Make-up exams are to be scheduled at the prerogative of the instructor.

**Academic Integrity: Dishonesty & Cheating:**

Academic dishonesty defrauds all those who depend upon the integrity of the college, its courses, its certificates & degrees. Students are expected to follow ethical standards & policies at CSUS. These standards & policies will be strictly enforced in this course. Any student caught violating the academic integrity policies will receive a **zero** on the exam/quiz/assignment/etc. in question, will lose any Extra Credit points earned, & may be dropped and/or receive an **F** in the course. Additionally, students may face further disciplinary action & consequences as described in the CSUS Catalog. For specifics on the academic integrity standards & policy see the catalog.

**Classroom Conduct: Policy on Cell Phones, iPhones, PDAs, Electronic Devices, etc.:**

**Please** be courteous & respectful of your instructor & your fellow classmates by **turning off** any cell phones, iPhones, etc., prior to coming to class. Use of these devices (e.g., texting) is not allowed in class. **Note:** During exams, quizzes, etc., the use of electronic devices (cell phones, iPods, etc.) is not permitted. Any student caught using electronic devices will receive a **zero** on the exam/quiz/assignment/etc. in question, & may receive an **F** in the course.

**Note:** Talking and/or whispering during quizzes, exams, etc., will be considered a violation of the academic integrity (i.e., dishonesty and/or cheating). Students may be moved prior to and/or during quizzes, exams, etc. if talking and/or whispering occurs.

**Disruptive behavior:** Disruptive behavior may result in students being removed from lecture and/or dropped from the course (this includes use of electronic devices as mentioned above). Additionally, students may face further disciplinary action & consequences as described in the CSUS Catalog.

**Special Conditions:** Please contact me if you have any special needs that need to be addressed in order for you to perform well in this course. Please register with the DRS *prior* to the week before an exam in order to set up necessary accommodations. **Note:** There are numerous resources available to help students at CSUS. Please feel free to seek help for tutoring, guidance, counseling, health care, etc., during your time at CSUS.

**Note: Course Syllabus and/or Course Schedule are subject to change as needed to meet the course objectives.** Any changes will be announced in class & be distributed to the students (i.e., posted on Blackboard).

## BIO-3020 Tentative Course Schedule

<b>Week #:</b> <b>Start date</b>	<b>Lecture Topic</b>	<b>Readings</b>
1: 8/20	Introduction, Science & Learning	Ch. 1 <i>Concepts of Biology</i>
2: 8/27	History of Evolution Nature of Science Activity	Ch. 1 <i>Concepts of Biology</i> Ch. 1 & 2 <i>Tangled Bank</i>
3: 9/3	<b>No Class Monday</b> Cells: Mitosis & Meiosis	Ch. 6 & 7 <i>Concepts of Biology</i>
4: 9/10	DNA, Mendel & Genetics Inheritance Activity	Ch. 8 & 9 <i>Concepts of Biology</i> Ch. 7 <i>Tangled Bank</i>
5: 9/17	Inheritance, Microevolution <b>Exam #1 (Wednesday)</b>	Ch. 11 <i>Concepts of Biology</i> Ch. 10 <i>Tangled Bank</i>
6: 9/24	Macroevolution	Ch. 13 <i>Concepts of Biology</i> Ch. 11 <i>Tangled Bank</i>
7: 10/1	Evolution of the Microbes Evolution of the Plants & Fungi	Ch.13 & 14 <i>Concepts of Biology</i>
8: 10/8	Evolution of the Plants & Fungi Continued <b>No Class Wednesday</b>	Ch. 15 <i>Concepts of Biology</i>
9: 10/15	Evolution of the Animals	
10: 10/22	<b>Exam #2 (Monday)</b> Evolution of the Animals continued	Ch. 3 & 4 <i>Tangled Bank</i>
11: 10/29	Systematics & Phylogenetics Phylogenetics activity	Ch. 3 & 4 <i>Tangled Bank</i>
12: 11/5	Phylogenetics activity continued The Fossil Record	Ch. 5 <i>Tangled Bank</i>
13: 11/12	<b>No Class Monday</b> <b>Exam #3 (Wednesday)</b> Fossil Record continued Evolution of Sex	Ch. 6 <i>Tangled Bank</i>
14: 11/19	Evolutionary Developmental Biology <b>No Class Friday</b>	Ch. 8 & 9 <i>Tangled Bank</i>
15: 11/26	Evolutionary Developmental Biology	Ch. 19 <i>Concepts of Biology</i> Ch. 12 <i>Tangled Bank</i>
16: 12/3	Coevolution & Community Interactions	
17: 12/10	<b>To be announced</b> (Probably more community Interactions) <b>No Class Wednesday or Friday</b>	
18: 12/17	<b>Final Exam (Monday, Dec. 17<sup>th</sup>, 11:15am)</b>	Everything