Biology 112, Introductory Biology II
Lecture/Lab Syllabus, Fall 2017
Sections 513-524
TR 2:20-3:35, HELD 200

Lecture Professor: Dr. Christopher Lee E-mail: Clee@bio.tamu.edu Office: HELD 315
Phone: (979) 458-3399 Office Hours: Monday-Thursday from 12:00pm - 2pm; OBA

Course Description: Biology 112 is the second half of an introductory two-semester survey of contemporary biology that covers evolution, the history of life, and form and function of organisms. Course includes laboratory that reinforces and provides supplemental information related to the lecture topics. BIOL 111 and 112 is a rigorous sequence intended for life science majors and other students intending to pursue a professional career in biology or the biomedical sciences. It is not designed for students who need only to fulfill the science course requirement in the core curriculum. BIOL 107 or BIOL 113 provides more appropriate course options for non-science majors. If you have any question about which biology course you should take, please confer with your academic advisor.

Course Objectives: Biology 112 is a 4 credit hour course that consists of 150 minutes of lecture and 170 minutes of lab each week. Students are expected to attend both lecture and lab, where they will be introduced to the fundamentals of evolution, biological diversity, and the form and function of organisms, with an emphasis on anatomy and physiology. Upon completion of Biology 112, students should be able to discuss key concepts of evolutionary theory, the history of life on Earth, and evidence for evolution, and construct evidence-based phylogenies to describe biodiversity within an evolutionary framework. Students should also demonstrate an understanding of organs and organ systems, with respect to supporting the evolution and adaptation of complex organisms to different environments.

Texts/Materials: Texts are on reserve in the Evan library annex, 4th floor.

- *Campbell Biology* (11th edition) by Reece, et al. - **required**.
- *Biology 112 Laboratory Manual 9th ed*. (2016) by Tonna Harris-Haller – **required**
- *Learning Catalytics* - **required for bonus point activities in class ONLY**
  Subscription is free and included with a new textbook purchase OR with a combination of Mastering Biology/Learning Catalytics purchase. In case of neither, you may purchase Learning Catalytics on-line by itself at http://www.pearsoncustom.com/tx/tamu_lc for a discounted price.
- *Mastering Biology* - optional**.** Subscription is included with a new text, or may be purchased online at http://masteringbiology.com.
- *Student Study Guide for Campbell's Biology* - optional.

Safety goggles required
Dissection kit required

General Information:

Lower Division Biology Instruction Office: Administrative questions pertaining to Biology 112 may be referred to 315 Heldenfels (HELD), Mon. through Fri. 8 am - 5 pm, 845-4651, e-mail: introbio@bio.tamu.edu.

Webpage: The Lower Division Instruction webpage at http://www.bio.tamu.edu/index.php/undergrad/ldi/ has contact information for faculty, teaching assistants, and staff, as well as exam challenge forms and scantron grade check request forms.

eCampus: Grade information and materials posted by faculty may be located on the course eCampus site.

To access eCampus:
Logon to http://ecampus.tamu.edu/
Choose the **TAMU (Net ID) logon** option.
Logon with your Net ID and password.
Choose the Biol. 112 course list link.

Release of Grades: The Family Educational Rights and Privacy Act (FERPA) prohibits faculty and staff from posting grades to unsecured websites or reporting grades by e-mail or telephone. Individual grade information is available via eCampus.

Lecture Attendance Policies:
Students are expected to attend ALL lecture sessions.

Excused Absences:

"Authorized" excuses for absences in lecture include: serious illness or accident, religious holidays, family emergencies, and university-sponsored activities (see Student Rules 7, Attendance http://student-rules.tamu.edu/rule07). Except for prolonged excused absence (see below), no make-up opportunities will be provided for missed lecture assessments (tests, quizzes, in-class assignments, etc.) unless the student notifies the lecturer of the absence within **2 working days** and provides written and verified documentation of an authorized excuse **within one week of the absence**. In the event of prolonged (more than three consecutive) excused absences, the student should consult with the course instructor of record.
The Texas A&M University Explanatory Statement of Absence Form will NOT be accepted as an adequate verification for an excused absence. . Rule 7.1.6.3, "An absence for a non-acute medical service does not constitute an excused absence." A non-acute medical excuse will not be accepted as a valid reason to miss an exam.

Unexcused Absences:
Any absence without an authorized and verified excuse will be considered unexcused; no make-up opportunities will be given for any points missed as a result of an unexcused absence.

Course Grade: Designation of letter grades should be expected to be determined as follows:

A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F $\leq$ 59%

Total Lecture Points Possible - 525
Total Lab Points Possible - 175
Total Bonus Points possible - 25

Course Percentage = Total Lecture + Lab + Bonus Points/700 total course points X 100

Q-Drop:

Friday, November 17th, (5:00 pm) is the deadline for dropping a course with no penalty (Q grade). If you have any question as to whether or not to Q-drop, see your instructor before this date. After this date, you must take a letter grade or negotiate a W (withdrawal) or NG (no grade) through your academic dean (see Student rule 10.3.)

Honors Contracts:
There will be no Honors Contracts for this course.

Academic Integrity: – "An Aggie does not lie, cheat, or steal – or tolerate those who do."
Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

Academic misconduct involves any of the following offenses: cheating, fabrication, falsification, multiple/duplicate submissions, plagiarism, and complicity in any of these offenses. **All incidents of academic dishonesty will be referred to the Biology Lower Division Program, are subject to academic penalties, and will be reported to the Texas A&M Honors System Office http://aggiehonor.tamu.edu/.**
Copyright: The materials used in this course are copyrighted. This includes, but is not limited to syllabi, lecture notes, quizzes, exams, lab problems, in-class materials, review sheets, and problem sets. You do not have the right to copy or provide course materials to others without the permission of the instructor.

Americans with Disabilities Act (ADA) Policy Statement: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Disability Services in the White Creek portable buildings, call 845-1637, or e-mail disability@tamu.edu.

Lecture Information:
Lecture Exams: There will be three, 100-point lecture exams and one 150-point final exam. Each lecture exam will have 40 multiple-choice questions worth 2.5 points each. ***The final exam is cumulative and will have 60 multiple-choice questions worth 2.5 points each (for a total of 150 points).*** Exams cover both lecture material and text assignments. For each exam, you are required to bring a #2 pencil and your TAMU student ID. Failure to provide positive identification will result in a score of zero for the exam. Your instructor may permit a non-programmable calculator for specified exams. A purse may be carried to your desk but must be closed and left on the floor. No other items will be permitted at your desk.

Lecture Exam Schedule:

Lecture Exam	Date	Exam Time	Location
Exam 1 (100 points)	Thurs., Sept. 28	2:20-3:35	HELD 200
Exam 2 (100 points)	Thurs., Oct. 26	2:20-3:35	HELD 200
Exam 3 (100 points)	Tues., Nov. 21	2:20-3:35	HELD 200
Final Exam (150 points)	Wed., Dec.13	1:00-3:00	HELD 200

***Exam Challenges*:** After each lecture exam, a copy of the key may be posted on eCampus. If you think

there is an error in the key, submit an **Exam Challenge Form** at: http://www.bio.tamu.edu/index.php/undergrad/ldi/ within 24 hours. Give referenced support as to why an alternative answer choice should be accepted. **Note**: Final exams will not be returned, no key will be posted, and there is no challenge period.

Scantron Grade Checks: Submit grade check requests http://www.bio.tamu.edu/index.php/undergrad/ldi/ You will be notified via e-mail when the results are ready. Bring your student ID to 315 HELD to pick up your grade check.

Rescheduling Exams: Lecture exams must be taken within your registered section. A grade of ZERO will be given for any exam taken out-of-section. A final exam may be rescheduled provided you show proof of three or more final exams scheduled for the same day. Make arrangements for an alternate final exam time in 315 HELD during the last week of class.

Makeup Exams: Will be given **only** in the event of an authorized University approved absence (see "Lecture Attendance Policies"). The exam may be essay and will be given **only** with the permission of the instructor. Obtain a signed authorization form from your instructor and bring it to 315 HELD to register for a makeup test. You may not take a makeup to improve a test score

Make up Exam Schedule:

Lecture Make up Exam	Date	Time	Location
Exam 1	Thurs., Oct. 5	5:30-6:30 pm	Held 113
Exam 2	Thurs., Nov. 2	5:30-6:30 pm	Held 113
Exam 3	Thurs., Nov. 30	5:30-6:30 pm	Held 113

Online Problem Sets: There will be ***9 online problem set assignments*** during the semester worth a **total of 75 points**. These **weekly** assignments will be conducted entirely within eCampus and can be completed at any time during the open period. You may rework an assignment 2-3 times as per instructions within the open period. ***Only the highest grade will be recorded.*** Once an assignment is closed, you will be able to see the correct answers. All assignments are individual projects. There are **NO** make-up opportunities for missed assignments.

Bonus points: BONUS point opportunities (short quizzes) will be administered to students **during class period only**, using the *Learning Catalytics* (LC) system in conjunction with a cell phone, smart phone, laptop, or iPod Touch. These LC bonus point opportunities are **unannounced.** A **maximum of 25 bonus points** will be given over the course of the semester. The **bonus points earned by each student are added to his/her total course points at the end of the semester** before finalizing the course grade. There are **NO** make-up opportunities for missed LC activities. If you have purchased a new Campbell Biology (11^{th} ed.) package, LC is included with the provided access code. If you have purchased a used or older version of the textbook, then purchase LC by itself at http://www.pearsoncustom.com/tx/tamu_lc, for a discounted price.

Tentative **Lecture Schedule for BIOL 112 (541-550) – Fall 2017**

Tue, Aug 29	1. Syllabus. Introductions & Begin Ch. 22
Thrs, Aug 31	2. Continue Ch. 22
Tue, Sept 5	3. Finish Ch. 22; Begin Ch. 23
Thrs, Sept 7	4. Finish Ch. 23; Begin Ch. 24
Tue, Sept 12	5. Continue Ch. 24
Thrs, Sept 14	6. Begin Ch. 25
Tue, Sept 19	7. Finish Ch. 25; Begin Ch. 26
Thrs, Sept 21	8. Continue Chs. 25 & 26
Tue, Sept 26	9. Finish Ch. 26
Thrs, Sept 28	***10. Exam I***
Tue, Oct 3	11. Begin Ch. 27
Thrs, Oct 5	12. Finish Ch. 27
Tue, Oct 10	13. Begin Ch. 28
Thrs, Oct 12	14. Continue Ch. 28
Tue, Oct 17	15. Begin Ch. 29
Thrs, Oct 19	16. Begin Ch. 29
Tue, Oct 24	17. Begin & Finish Ch. 30
Thrs, Oct 26	***18. Exam 2***
Tue, Oct 31	19. Begin Ch. 31
Thrs, Nov 2	20. Continue Ch. 31
Tue, Nov 7	21. Begin Ch. 32
Thrs, Nov 9	22. Continue Ch. 32; Finish Ch. 32; Begin Ch. 33:
Thrs, Nov 14	23. Continue Ch. 33; Begin Ch. 34
Tue, Nov 16	24. Continue and Finish Ch. 34
Thrs. Nov 21	***25. Exam 3***
Thrs, Nov 28	26. Begin Ch. 44
Tue, Nov 30	27. Finish Ch. 44; Begin Ch. 48
Thrs, Dec 5	28. Finish Ch. 48; Begin First Section of Ch. 49
Wed. Dec 13	***29. Final Exam 1:00 – 3:00pm***

NOTE – The final exam on 12/13 starts at 1pm *(NOT 2:20pm).*

HW Problem Set Schedule

All on-line problem sets will open at 4:00 p.m. on Wednesdays and close at 11:59 p.m. on the following Monday.

Set	Opens 4:00 p.m. Wed.	Closes 11:59 p.m. Mon.
1	Sept. 6	Sept. 10
2	Sept. 13	Sept. 17
3	Sept. 20	Sept. 24
4	Oct. 4	Oct. 8
5	Oct. 11	Oct. 15
6	Oct 18	Oct. 22
7	Nov. 1	Nov. 5
8	Nov. 8	Nov. 12
9	Nov. 15	Nov. 19

Lab Information:

Lab Instructor: _____ E-mail: _____

Section: _____ Office: **HELD 317 E** Office Hours: _____ Phone: **845-4653**

Lab Safety:

You will be required to sign an **ONLINE** Safety Agreement indicating that you have read, understood, and agree to follow the safety regulations required for this course.

A. Log on to the Howdy Portal, select "My Record"
B. Find the registration box link to LSA (lab safety acknowledgment)
C. Read the LSA and then "Agree" to it

Eating, drinking, and use of tobacco products are prohibited in the laboratory. University safety regulations require closed shoes in the laboratory. You will be refused admittance to the lab if you wear sandals or open-toed shoes. Safety goggles are required. Bring safety goggles to all labs.

Dissection Kit: Required.

Lab Exams: There will be one, 50-point practical exam. The practical exam will have 25 stations with 1 to 4 questions per station, for a total of 50 points per exam.

Quizzes: There will be ten 5-point quizzes. These may be a combination of written and practical questions and will cover the previous week's lab.

Assignments: There are 7 assignments worth a total of 60 points. Two points are automatically deducted for late assignments, and an additional point is deducted for each additional day overdue. Late homework may be logged in at 317E HELD. Should HELD 317E be closed, late homework may be logged in at HELD 315.

***Participation Points*:** Each TA will award a maximum of 15 points based upon cooperation, class participation, attendance, and cleanup.

Bonus Points: **There are no bonus point opportunities in lab!**

Re-grading: Requests for re-grading must be initiated within two weeks of the assignment being returned to the student and must be completed before the last official day of classes.

Laboratory Attendance:

Laboratory attendance is **mandatory**. Students are expected to attend ALL laboratory sessions.

Excused Absences:

"Authorized" excuses for lab absences include: serious illness or accident, religious holidays, family emergencies, and university-sponsored activities (see Student Rules 7, Attendance http://student-rules.tamu.edu/rule07). Except for prolonged excused absence (see below) no makeup opportunities will be provided for missed material, quizzes, or exams unless the student notifies the lab instructor of the absence within **2 working days** and provides written documentation of an authorized excuse **within one week of the absence**. Any absence without an authorized and verified excuse will be considered unexcused. If students have advance knowledge of an excused absence, they should notify their lab instructor and arrange to attend

another lab section the *same week*, if space permits. Attending another lab section the same week requires presenting a written verifiable excuse to and registering with Biology Lower Division personnel in HELD 315. If a student is unable to make up the lab during the same week that the lab is missed, then the student must make arrangements with the lab instructor to obtain and complete a makeup assignment within one week of the missed lab. If neither of the above makeup options is accomplished, a grade of zero will be assigned for the missed material. **Makeup labs or assignments are not offered for more than three excused absences**. In the event of prolonged (more than three) excused absences the student should consult with the course instructor of record.

Note: The Texas A&M University Explanatory Statement of Absence Form will NOT be accepted as an adequate verification for an excused absence. Rule 7.1.6.3, "An absence for a non-acute medical service does not constitute an excused absence." A non-acute medical excuse will not be accepted as a valid reason to miss a practical exam.

Unexcused Absences:

There are NO makeup labs or assignments for unexcused absences. Penalties for unexcused absences are as follows:

First unexcused absence - No points for the missed lab session assignment/quiz/test and deduction of 10 laboratory points.

Second unexcused absence - No points for the missed lab session assignment/quiz/test, deduction of an additional 10 laboratory points, and scheduled meeting with course instructor of record.

Third unexcused absence - Assignment of a grade of zero (0.00) for the lab.

Laboratory Assignments:

Work individually: All laboratory assignments are individual projects. You may not work together on written assignments without the permission of your lab instructor.

Plagiarism and Proper Citation: Copying from texts, lab manuals, internet sources, other students, or your own previously-submitted assignments without proper credit is plagiarism and will be considered cheating. Do not submit work from a previous semester. If you quote from another source, you must credit that source in your text and properly cite a reference in the literature cited section. The following is an example of a proper citation:

Reese et al. 2011. Biology 9th ed., Pearson/Benjamin Cummings Publ. Co., pg. 146.

Assignment 1 - *Population Genetics (3 pts.)* Give a short in-class group presentation. Describe the technique used, the relationship between the sickle cell allele and malaria, and your data analysis and results, culminating in a funding recommendation to the World Health Organization (WHO). If asked to submit a write-up, attach a completed Table 1-3 and answer the questions, in addition to writing a summary statement recommending where WHO should concentrate their malaria eradication and treatment budget.

Assignment 2 – ***Single-celled Organisms (5 pts.)*** **Work individually**. Assume that Bacteria are the most primitive organisms and convert Table 3-1 into a character state matrix, using 0 for the primitive state and 1 for the derived state for each character. Construct a cladogram showing the relationships of the three domains of life, placing the characters on the cladogram. Compare your cladogram with Figure

3-1 and write a 1- or 2-paragraph summary discussing how your cladogram is the same or different and why. Submit the text via turnitin.com, print the receipt, and attach it to the assignment when you submit it to your lab instructor.

Assignment 3 – *Plant Diversity (15 pts.)* Work individually. Using information in chapters 4 and 5 and your textbook, complete Table 5-5 on p. 119, complete the phylogeny (Figure 5-36) on p.120 by supplying characters, and write a one-page summary of how the characters on the cladogram contribute to success in life on land. Draw a generalized life cycle for a land plant. Submit the text via turnitin.com, print the receipt, and attach it to the assignment when you submit it to your lab instructor.

Assignment 4- *Animal Diversity (15 pts.)* Work individually. Summarize the evolutionary relationships of the clades of the animals studied in chapters 7, 8, and 9. Your TA will provide a list of taxa to include. Construct a character state table for the clades. Construct a cladogram, labeling the clades and showing the distinguishing traits at each branch point. Write a one page description of the evolutionary changes present on the phylogeny. Submit the text via turnitin.com, print the receipt and attach the description, receipt, character state table, and cladogram when you submit the assignment to your lab instructor.

Assignment 5 – Cardiopulmonary (15 pts.) Work individually. Use the guidelines in Appendix B to write a report summarizing the effect of exercise on cardiopulmonary function. DO NOT COPY APPENDIX B. Attach an ECG trace. Report on the effect of exercise on heart rate, pulmonary rate, and blood pressure. Use the means of the class data and determine whether there was a gender effect. Submit the text to turnitin.com and print the receipt. Attach it and the cover sheet from Appendix B to your report and turn in the report to your lab instructor.

Assignment 6 - Digestive System (5 pts.) Work individually. Your TA will assign 1 of the 3 digestive enzyme experiments. Write a brief summary of your hypothesis and null hypothesis, materials, method, and results for the assigned experiment. Include the completed data table from the lab manual. Submit the text to turnitin.com. Print the receipt and attach it to your write-up when you submit it to your instructor.

Assignment 7 - Nervous System (2 pts). In-class presentation. With your lab partner, present a brief report on one of the sensory experiments or on your EEG findings. (Your TA will assign a topic.)

Student Support:

***Help desk*:** Students needing individual assistance will find a Teaching Assistant in 317E HELD - phone 845-4653. Check the schedules posted outside of 315/317E HELD.

***Biology Image Library*:** Images of lab slides and specimens for review are available online via the TAMU Biology Images Library at http://biologyimages.tamu.edu. Images will be taken offline Monday Nov. 27 at 7:45 am of the practical exam week.

There review is in two parts. The password for both parts is Biology 112
Part 1: Username: Biology 112
Part 2: Username: Biology 112-2nd

Problems: Courtesy dictates that you first discuss any problem with your laboratory instructor. If the problem has not been resolved, please contact Dr. Christopher Lee (Lower Division Biology Teaching Coordinator) at (979) 458-3399 (or by e-mail at clee@bio.tamu.edu to make an appointment to discuss the situation).

BIOLOGY 112 LABORATORY SCHEDULE
Fall 2017

LAB MANUAL CHAPTER	**DATES**	**ASSIGNMENT DUE**
Chapter 1 - Population Genetics	Sept. 4-7	Assignment 1 (in-class)
Chapter 2 - Evidence of Evolution - **Quiz 1**	Sept. 11-14	
Chapter 3 - Single-Celled Organisms - **Quiz 2**	Sept. 18-21	
Chapter 4- Green Algae and Seedless Plants - **Quiz 3**	Sept. 25-28	Assignment 2 (turnitin.com)
Chapter 5 - Vascular Seed Plants- **Quiz 4**	Oct. 2-5	
Chapter 7 - Invertebrate Diversity I-**Quiz 5**	Oct. 9-12	Assignment 3 (turnitin.com)
Chapter 8 - Invertebrate Diversity II - **Quiz 6**	Oct. 16-19	
Chapter 9 - Deuterostomes - **Quiz 7**	Oct. 23-26	
Chapter 10 - Cardiopulmonary Function - **Quiz 8**	Oct. 30-Nov. 2	Assignment 4 (turnitin.com)
Chapter 11 - Digestive System and Chapter 12- Osmoregulation - **Quiz 9**	Nov. 6-9	Assignment 5 (turnitin.com)
Chapter 13- Nervous System - **Quiz 10**	Nov. 13-16	Assignment 6 (turinitin.com) Assignment 7 (in-class)
Thanksgiving	**Nov. 20-23**	
LAB PRACTICAL EXAM	Nov. 27-30	

*Goggles are required every week.
*Open-toed shoes are prohibited in lab. **Students must wear closed shoes.**

Lab Practical Make up Exam Schedule

Lab Make up Exam	TBA