Biology 111, Introductory Biology I
Lecture/Lab Syllabus, Fall, 2017
Sections 501-512
TR 9:35-10:50, BSBE 115

Lecture Professor: Dr. Brigitte LeBoeuf E-mail: b_leboeuf@tamu.edu

Office: BSBW 349A Phone: 979-458-0896 Office Hours: T 11:15a-12:15p, Weds 3:30p-5:00p or by appt.

Course Description: Biology 111 is the first half of an introductory two-semester survey of contemporary biology that covers the chemical basis of life, structure and biology of the cell, molecular biology, and genetics. The Course includes laboratory that reinforces and provides supplemental information related to the lecture topics. Biology 111 is intended for life-science majors and other students intending to pursue a career in biomedical sciences. It is not designed for students who just need to fulfill the science-course requirement in the core curriculum. BIOL 107 or BIOL 113 may be more suitable for non-science majors. If you have any question about which biology course you should take, please see your academic advisor.

Course Objectives: Biology 111 is a 4-credit hour course that consists of 150 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 biological structure and function. Upon completion of Biology 111, students should be able to demonstrate a basic grasp of the major themes of Biology, including the importance of water, carbon, and macromolecules to life on Earth. Students should be able to discuss basic cell structure and describe significant processes that occur in the cell such as membrane function, cellular respiration, photosynthesis, communication, and cell division. Finally, the successful student will be able to demonstrate an understanding of the processes and relationships of genetics, protein synthesis, the regulation of gene expression, and the role of biotechnology in the study of molecular genetics, viruses, and the evolution of genomes.

Texts/Materials: Texts are on reserve in the Evans library, 4th Floor Annex.

- *Campbell Biology* (11th edition) by Reece, et al. - **required**.
- *Biology 111 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 online 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.

General Information:

Lower Division Biology Instruction Office: Administrative questions pertaining to Biology 111 may be referred to 315 Heldenfels (HELD), Mon. through Fri. 8 am to 5 pm, 845-4651, e-mail introbio@mail.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 111 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 or in person from faculty during office hours.

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 lecture professor 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 lecture professor.

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 ≤ 59%

The course percentage is 75% lecture and 25% laboratory and will be calculated as follows:

Lecture Percentage = Total points earned from lecture exams + total points earned from online problem sets + points earned from LC (a maximum of 30 points) / 525 × 100

Lab Percentage = Total points earned from lab / 175 × 100

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

Grades are awarded only on the basis of your performance in the class.

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).

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 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 for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, or call 845-1637 (website http://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 ~40-45 multiple-choice questions. The final exam is cumulative and will have ~60-65 multiple-choice questions. Exams cover both lecture and text book material. For each exam, you are required to bring a #2 pencil and your TAMU student ID. *The scantrons will be provided to you for each exam*. A water bottle and a purse may be carried to your desk, but the latter must be closed and left on the floor. No calculators, phones, backpacks, laptops or other items will be permitted at your desk.

Lecture Exam Schedule:

Lecture Exam	Date	Exam Time	Location
Exam 1 (100 points)	Thurs, Sept. 21th	9:35-10:50	BSBE 115
Exam 2 (100 points)	Thurs, Oct. 19th	9:35-10:50	BSBE 115
Exam 3 (100 points)	Thurs, Nov. 16th	9:35-10:50	BSBE 115
Final Exam (150 points)	Fri, Dec 8th	12:30-2:30	BSBE 115

Exam Challenges: After each lecture exam, a copy of the key will 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 or posted, and have no challenge period.

Scantron Grade Checks: Submit grade check requests at 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.

Make-up Exams: Will be given **only** in the event of an authorized university approved absence (see Absence Policy). The exam may be essay, short answers etc. 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 make-up exam. You may not take a make up 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 **12 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, which will be **noon on Wednesday to noon on Wednesday of the following week**. 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.

Problem Set Due Dates (due at noon)

Wed, Aug 30	Problem Set 1 opens
Wed, Sept 6	**Problem Set 1 due**/Problem Set 2 opens
Wed, Sept 13	**Problem Set 2 due**/Problem Set 3 opens
Wed, Sept 20	**Problem Set 3 due**/Problem Set 4 opens
Wed, Sept 27	**Problem Set 4 due**/Problem Set 5 opens
Wed, Oct 4	**Problem Set 5 due**/Problem Set 6 opens
Wed, Oct 11	**Problem Set 6 due**/Problem Set 7 opens
Wed, Oct 18	**Problem Set 7 due**/Problem Set 8 opens
Wed, Oct 25	**Problem Set 8 due**/Problem Set 9 opens
Wed, Nov 1	**Problem Set 9 due**/Problem Set 10 opens
Wed, Nov 8	**Problem Set 10 due**/Problem Set 11 opens
Wed, Nov 15	**Problem Set 11 due**/Problem Set 12 opens
Wed, Nov 22	**Problem Set 12 due**

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 quizzes are **unannounced.** A **maximum of 30 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. You need to purchase a 12 month subscription as LC will be used in both BIOL 111 and BIOL 112.

BIOLOGY 111 TENTATIVE LECTURE SCHEDULE

Tues, Aug 29	Syllabus/Introduction to Biology and Chapter 2 Introduction Basic Chemistry
Thurs, Aug 31	Chapter 2 contd. and 3 – Water
Tues, Sep 5	Chapter 4 Carbon
Thurs, Sep 7	Chapter 5 Macromolecules, part 1
Tues, Sep 12	Chapter 5 Macromolecules, part 2
Thurs, Sep 14	Chapter 7 Membrane Structure and Function part 1
Tues, Sep 19	Chapter 7 Membrane Structure and Function part 2
Thurs, Sep 21	**EXAM 1**

Tues Sep 26	Chapter 8 Introduction to Metabolism
Thurs, Sep 28	Chapter 9 Respiration, part 1
Tues, Oct 3	Chapter 9 Respiration, part 2
Thurs, Oct 5	Chapter 10 Photosynthesis, part 1
Tues, Oct 10	Chapter 10 Photosynthesis, part 2
Thurs, Oct 12	Chapter 11 Cell communication
Tues, Oct 17	Chapter 12 Cell Cycle
Thurs, Oct. 19	**EXAM 2**
Tues, Oct 24	Chapter 13 Meiosis
Thurs Oct 26	Chapter 14 Mendelian Genetics, part 1
Tues, Oct 31	Chapter 14 Mendelian Genetics, part 2
Thurs, Nov 2	Chapter 15 Chromosomal Basis of Inheritance, part 1
Tues, Nov 7	Chapter 15 Chromosomal Basis of Inheritance, part 2
Thurs, Nov 9	Chapter 16 Molecular Basis of Inheritance, part 1;
Tues, Nov 14	Chapter 16 Molecular Basis of Inheritance, part 2
Thurs, Nov. 16	**EXAM 3**
Tues, Nov 21	Chapter 17 Transcription and Translation, part 1
Tues, Nov 28	Chapter 17 Transcription and Translation, part 2
Thurs, Nov 30	Chapter 18 Regulation of Gene Expression, part 1
Tues, Dec 5	Chapter 18 Regulation of Gene Expression, part 2
Fri, Dec 8	**FINAL EXAM (12:30-2:30 pm)**

Lab Information:

Lab Instructor: _____ E-mail: _____

Section: _____ Office: _____ Office Hours: _____ Phone: _____

Lab Safety:

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

Lab Exams: There will be one 50 point practical exam. It 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 will be **10** homework 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 HELD 317E. 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!**

Regrading: Is at the discretion of the lab instructor. 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. Evidence of academic dishonesty constitutes grounds to initiate an honors system violation proceeding (see Academic Integrity).

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 make-up 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. **Make-up 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 make-up 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 - zero lab grade for the course.

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, or other students without proper credit is plagiarism and will be considered cheating. Do not resubmit work done for a prior semester. If you quote from another source, you must credit that source in your text and properly cite the reference in a literature cited section. The following is an example of a proper citation:

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

Assignment 1 – Termite Behavior (5 pts). Give a short, in-class presentation of the termite behavior experiment with special reference to how the experiment followed the scientific method.

Assignment 2 – Properties of water (5 pts). Work independently. Write a one-page report describing the **diffusion** (starch tube) experiment (pp. 28-30, including Table 2-5) and its results. Be sure to include your hypotheses and null hypotheses. Submit the text via turnitin.com, print the receipt, and attach the originality report to your paper when you submit it to your instructor.

Assignment 3 – Biomolecules (5 pts) Your TA will assign one of the experiments performed in lab. Write a 1 to 2 page summary, including your hypothesis and null hypothesis, materials, what positive and negative results look like, and results. Submit the text to turnitin.com and attach report to your paper when you submit to your instructor.

Assignment 4 – Cell case study (5 pts). Work individually! Write a one-page report on the results of your gram tests, complete Table 5-2 on page 83, and answer all questions on pages 83 and 84. Submit the text to turnitin.com (for the questions, submit only the answers, written in complete sentences), and print the receipt. Submit the receipt, report, table, and questions to your instructor.

Assignment 5 – Cellular Metabolism (5 pts). Work Independently. Write a 1- to 2- page paper over your team's fermentation experiment (pp 96-99), including what variable you investigated, a brief description of your method, a data table and explanation of the results. Don't forget your hypothesis and null hypothesis. Submit your text to turnitin.com and print the receipt. Attach the receipt to your text and data table when you submit them to your instructor.

Assignment 6 – Photosynthesis (15 pts). Work Independently. Follow the guidelines in Appendix B (p. 247) to write a scientific lab report over the light intensity, action spectrum, and absorption spectrum exercises.

Graph your data from Tables 7-3, 7-4, and 7-6. Attach data tables and graphs. Label and title all tables and graphs. Submit the text via Turnitin.com, print the receipt, and attach it to your report when you submit it.

Assignment 7– Theory of Heredity (5 points). For the Multiple Alleles portion of the chapter, p. 172-173, construct the indicated Punnett square, complete Table 9-5, and answer the questions. Submit your work to your instructor during the following lab period.

Assignment 8– Forensic Biology (5 pts). Work individually! Write a one-page summary of the DNA, presumptive blood, hair, and fingerprint analyses. Describe the results and discuss whether the evidence exonerates or focuses attention on one of the suspects. Submit the text via turnitin.com, print the receipt, and attach it to your report when you submit it.

Assignment 9– PCR/PCR analysis (5 pts). **Due at the beginning of lab.** Construct and submit a flowchart outlining each step to be taken from DNA extraction through the PCR reaction setup and process. Note reagents and temperatures used.

Assignment 10– PCR and DNA Typing (5 pts) Work independently. Summarize the results of the class DNA analysis by completing Table 11-2, answering the questions on pages 214 and 215, and completing the table on page 221. Submit your work to your instructor during the next class period.

Student Support:

Biology Image Library: Images of lab slides and specimens 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 a.m. of the practical exam week.

The review is in two parts. The password for both parts is Biology 111
Part 1: Username: Biology 111
Part 2: Username: Biology 111-2nd

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

BIOLOGY 111 LABORATORY SCHEDULE
Fall 2017

LAB MANUAL CHAPTER	**DATES**	**ASSIGNMENT DUE**
Ch. 1 - The Discovery Process	Sept. 4-Sept. 7	Assignment 1 (in-class)
Ch. 2 - The Properties of Water, **Quiz 1**	Sept. 11-14	
Ch. 3 - Biomolecules, **Quiz 2**	Sept. 18-21	Assignment 2 (turnitin.com)
Ch. 4 - Enzymes - Protein Catalysts, **Quiz 3**	Sept. 25-28	Assignment 3 (turnitin.com)
Ch. 5 - Cells - The Basic Unit of Life, **Quiz 4**	Oct. 2-5	
Ch. 6 - Cellular Metabolism, **Quiz 5**	Oct. 9-12	Assignment 4 (turnitin.com)
Ch. 7 - Photosynthesis, **Quiz 6**	Oct. 16-19	Assignment 5 (turnitin.com)
Ch.8 - Cell Division, **Quiz 7**	Oct. 23-26	Assignment 6 (turnitin.com)
Ch. 9 - Theory of Heredity, **Quiz 8**	Oct. 30-Nov. 2	
Ch. 10 - Forensic Investigation, **Quiz 9**	Nov. 6-9	Assignment 7
Ch. 11 - PCR and DNA Typing, Ch.12 - Protein Synthesis, and PCR analysis, **Quiz 10**	Nov. 13-16	Assignment 8 (turnitin.com) Assignment 9 (in-class)
Thanksgiving	Nov. 20-23	
LAB PRACTICAL EXAM	Nov. 27-30	Assignment 10

*Goggles are required every week.
*Open shoes are prohibited in lab.

Lab Practical Make up Exam Schedule

Lab Make up Exam	TBA