

BIOL 1408 -- CONTEMPORARY BIOLOGY LAB

Spring – 2017

This Syllabus is Subject to Change for Logistical and/or Pedagogical Reasons at the Discretion of the Biology Lab Coordinator!

Laboratory Coordinator: Mrs. Rose Lab Instructor:
LDB 300-F
(936) 294-1542
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→ This Lab Class will meet in the Lee Drain Building Room 305!

- **Required Books** (Yes, this means you *really* need to get the books!):

1. *Biology 1408 Laboratory Manual for Contemporary Biology 2016-2017* by the Department of Biological Science, Sam Houston State University. Hayden-McNeil Publishers. ISBN 978-0-7380-8521-0.
Laboratory Manuals must be purchased NEW each semester. If you have one from last semester, you will still need a new one. You will need to re-complete any work done in previous semesters.
2. *What is Life? A Guide to Biology, 3rd edition* by Jay Phelan, W. H. Freeman Publishing, ISBN 978-1-464-13595-8. There may be additional study help and/or an ebook available on the publisher's website, www.whfreeman.com/phelan3e.
OR: *Biology: The Core* by Eric J. Simon, Pearson Publishing, ISBN 978-0-134-15219-6. There may be additional study help and/or an ebook available on the publisher's website www.pearsonhighered.com.
OR: *Biology Now, Core Edition*, Houtman, Norton Publishing. ISBN 978-0-393-90633-2. You may find additional information at: <http://books.wwnorton.com/books/webad-detail-students.aspx?id=4294986796>.
OR: *Discover Biology, 5th edition*, Singh-Cundy & Cain, Norton Publishing. ISBN 978-0-393-93570-7. This book is accompanied by an online study area found at: <http://wwnorton.com/college/biology/discoverbio5/>.
This text can also be purchased as an ebook on the publisher's website: <http://wwnorton.com/college/biology/discoverbio5/ebook.aspx>.
3. *The A Game: Nine Steps to Better Grades, 1st edition*, Kenneth J. Sufka, Nautilus Publishing. ISBN # 978-1-936946-02-0. **You will find the information in this book EXTREMELY HELPFUL if you apply it to your entire academic life! ☺ Students applying this information to their academics have reported a one to two letter grade increase in their grades in ALL courses; that translates to a much improved GPA! ☺**
Read pages 19-23 and you will understand why it is so very important for you to purchase your books and READ them BEFORE coming to lab (or even to your lecture).

If you choose not to purchase the appropriate reading materials and/or not to read them, please do not expect to do well in this lab. Earning “good” grades (in any course) requires the student to commit to being in class, prepared before class, fully engaged in class, and studying appropriately when not in class. Always remember, “There is a big difference between can’t and won’t.” (Dr. Kenneth Sufka)

LAB DATES	Reading Assignments (In your Lab Manual &/OR Textbook) TO BE READ BEFORE COMING TO LAB
30 January – 02 February 2017	<p>Read Contemporary Biology Lab Course Syllabus & Peer Evaluation Form</p> <p>Read “The A Game: Nine Steps to Better Grades” by Kenneth J. Sufka</p> <p>Read Chapter 1 in <i>What is Life?</i> OR Read Chapters 1 & 8 in <i>Biology: The Core</i> OR Read Chapter 1 in <i>Biology Now</i> OR Read Chapter 1 in <i>Discover Biology</i> Chapter 6, Sect. 2, pgs. 144-146 in <i>Discover Biology</i></p> <p>Read 1. Introduction to Biology (In the Lab Manual)</p> <p>2. Using the Microscope to Investigate the Diversity of Life (In the Lab Manual). Set up experiment cultures this week. You will continue this lab exercise next week.</p> <p>There will be an individual pre-lab quiz, a group quiz, and in-class group exercise.</p>
02 February 2017	<p>12th CLASS DAY, Last day to change lab schedule!</p> <p>LAST DAY to drop a course without receiving a Q on your transcript!</p>
06-09 February 2017	<p>2. Using the Microscope to Investigate the Diversity of Life (In the Lab Manual). Continuing. Examine experiment and cultures.</p> <p>Also Read Chapter 1 in <i>What is Life?</i> OR Read Chapters 1 & 8 in <i>Biology: The Core</i> OR Read Chapter 1 in <i>Biology Now</i> OR Read Chapter 1 in <i>Discover Biology</i> Chapter 6, Sect. 2, pgs. 144-146 in <i>Discover Biology</i></p> <p>There will be an individual pre-lab quiz, a group quiz, and in-class group exercise.</p>
13-16 February 2017	<p>3. Investigating the Diversity of Life by Examining Eukaryotic Cells (In the Lab Manual)</p> <p>Also Read Chapter 3 in <i>What is Life?</i> OR Read Chapters 3, 8, 9 & 10 in <i>Biology: The Core</i> OR Read Chapter 3 in <i>Biology Now</i> OR Read Chapter 6, Sect. 2, pgs. 144-146 in <i>Discover Biology</i> Chapter 6, Sect. 2-5 in <i>Discover Biology</i></p> <p>There will be an individual pre-lab quiz, a group quiz, and in-class group exercise.</p>

20-23 February 2017	<p>4. “What Happened to Alice Newfield?”: An Investigative Case Study to Review the Diversity of Life and the Nature of Science (In the Lab Manual)</p> <p>Also Read Chapters 1 & 3 in <i>What is Life?</i> OR Read Chapters 1, 3, 8, 9, & 10 in <i>Biology: The Core</i> OR Read Chapters 1 & 3 in <i>Biology Now</i> OR Read Chapter 1-4 in <i>Discover Biology</i></p> <p>This week is a review of everything covered to date; it will help you review for the mid-term exam. 😊</p> <p>There will be an individual pre-lab quiz, and in-class group exercise that will be graded for the group quiz and lab exercise grades.</p>
27 February – 02 March 2017	<p>5. Stems Cells and Development (In the Lab Manual)</p> <p>Also Read Page 208 in <i>What is Life?</i> OR Read Pages 114-115 in <i>Biology: The Core</i> OR Read Chapter 5 in <i>Biology Now</i> OR Read Chapter 11, Sect. 1, pgs. 252-260 & 272 in <i>Discover Biology</i></p> <p>There will be an individual pre-lab quiz, a group quiz, and in-class group exercise.</p>
<p>05-09 March 2017</p> <p>10 March 2017</p>	<p>Mid-Term Exam given during your regular lab time. Lab Manual Chapters 1-5. Multiple-choice! Taken and scored as individuals – this is NOT a GROUP test! Notation Reduction Study Exercise = 15 points of exam grade!</p> <p>Mid-term Make-up Exam, LDB 305, 12:00 p.m. You MUST notify Mrs. Rose (294-1542) before 9:00 a.m. on Friday, 09 March 2017. You <i>must</i> bring appropriate <i>documentation</i> for your <i>totally unavoidable</i> absence from a major exam!</p>
13-16 March 2017	
20-23 March 2017	<p>6. Genetic Engineering (In the Lab Manual)</p> <p>Also Read Chapter 5 in <i>What is Life?</i> OR Read Chapter 6 in <i>Biology: The Core</i> OR Read Chapter 3, 8, & 9 in <i>Biology Now</i> OR Read Chapter 16 – DNA Technology in <i>Discover Biology</i></p> <p>There will be an individual pre-lab quiz, a group quiz, and in-class group exercise.</p>

27-30 March 2017	<p>7. Introduction to Meiosis and Genetics (In the Lab Manual)</p> <p>Also Read Chapters 6 & 7 in <i>What is Life?</i> OR Read Chapter 5 in <i>Biology: The Core</i> OR Read Chapters 6 & 7 in <i>Biology Now</i> OR Read Chapter 10, Sect. 5 & Chapters 12-13 in <i>Discover Biology</i></p> <p>There will be an individual pre-lab quiz, a group quiz, and in-class group exercise.</p>
03-06 April 2017	<p>8. Evolutionary Processes (In the Lab Manual)</p> <p>Also Read Chapter 8 in <i>What is Life?</i> OR Read Chapter 7 in <i>Biology: The Core</i> OR Read Chapters 10-14 in <i>Biology Now</i> OR Read Chapters 17-19 in <i>Discover Biology</i></p> <p>There will be an individual pre-lab quiz, a group quiz, and in-class group exercise.</p>
07 April 2017	The LAST DAY to DROP a fall course or lab with a "Q."
10-13 April 2017	<p>9. Population Genetics and Evolution (In the Lab Manual)</p> <p>Also Read Chapter 8 in <i>What is Life?</i> OR Read Chapter 7 in <i>Biology: The Core</i> OR Read Chapters 10-14 in <i>Biology Now</i> OR Read Chapters 18 & 22 in <i>Discover Biology</i></p> <p>There will be an individual pre-lab quiz, a group quiz, and in-class group exercise.</p>
17-20 April 2017	<p>10. Introduction to Ecology (In the Lab Manual)</p> <p>Also Read Chapter 15 in <i>What is Life?</i> OR Read Chapter 12 in <i>Biology: The Core</i> OR Read Chapters 15-18 in <i>Biology Now</i> OR Read Chapters 23 & 24 in <i>Discover Biology</i></p> <p>There will be an individual pre-lab quiz, and in-class group exercise that will be graded for the group quiz and lab exercise grades.</p>

Clothing that is contaminated should be removed and washed before being worn again. The handling and heating of chemicals should be done with care. Use protective goggles to prevent eye injury. First aid kits are in each lab room as are fire extinguishers. Always follow any safety procedures outlined by your lab instructor.

Attendance Policies

This course abides by University Policy and Regulations concerning attendance (See the Undergraduate Catalog). Accordingly, “regular and punctual attendance is expected of each student at Sam Houston State University. Regular, punctual attendance in *all* labs and lectures enhances your learning experience. Additionally, in a course such as this, in which group effort is such a significant part of the grade, students *genuinely need* to come to class so they can contribute to their group’s success. Those who are prepared and contribute positively will be highly valued by their group! In short, attendance matters; so, please take advantage of the opportunity to learn, to help your group, and to excel by coming to *all* classes.

It is almost impossible to “make-up” a lab. Your work is done with your group! The one individual quiz grade, one group quiz grade and one group lab exercise grade that is dropped is your only reliable means of covering an absence. Any allowed make-up lab must be completed the same week it is missed.

1. In addition to the required attendance policy, it is important that you please come to class on time. Also, please do not leave the class room early unless you are sick or have cleared it with the lab instructor before class begins.
2. Make-up exams/labs are only allowed based on the lab coordinator’s approval. **In order for an exam to be made up, some form of documentation MUST be provided, such as a doctor’s note, a legal notice, a note from the SHSU athletic/orchestra/choir/band director, etc... This is not “High School,” a note from Mom or Dad is not valid documentation.**
3. **School Related Absences** Students involved in school related events and activities will be allowed to reschedule their lab class when conflicts arise. ***Prior to the absence***, the student must bring a written confirmation of participation in the activity from the faculty sponsor to the Laboratory Coordinator in LDB 300-F. Arrangements will be made for the student to make up the absence. ***You Must Do This BEFORE your absence and the make-up lab must be completed the same week it is missed! If you contact Mrs. Rose after the fact, it is too late.***

Academic Honesty: All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in academic experiences both in and out of the classroom. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials. Removing a copy of the quiz or exam from the lab room is considered academic dishonesty. Accepting a copy of a quiz or exam outside of the lab room is also academic dishonesty. Plagiarizing any materials from any source is also academic dishonesty. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action that is consistent with university policies. Please read the following:

Students are encouraged to study in groups to prepare for lab pre-tests and complete lab exercises and post-quizzes. However, “group effort” is definitely not permitted when taking a pre-lab quiz, Mid-term or Final Exams! This will result in an automatic zero on the quiz or exam and can result in an F in the course. Any special written assignments **MUST** be written by the individual receiving credit for the assignment.

Proper Course Behavior: All of these rules are standard and are based on common courtesy, respect, and honesty. The purpose of these rules is to help maintain a positive classroom environment for learning. You may notice that some of these statements are made more than once; that's because they are important and essential to a successful classroom environment!

- 1) Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. ***Cellular telephones, pagers and ALL other electronic equipment must be turned off before class begins.*** Your lab instructor may occasionally allow use of electronic devices when they are used for educational purposes during a lab exercise. **Students are prohibited from eating or drinking in class, using tobacco products,** making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

Any successful learning experience requires mutual respect on the part of the student and the instructor. Neither instructor nor student should be subject to others' behavior that is rude, disruptive, intimidating, or demeaning. The instructor has primary responsibility for and control over classroom behavior and maintenance of academic integrity.

Instructor responsibilities:

- Start and end class on time.
- Treat all students with courtesy and respect.
- Be open to constructive input from students in the course.
- Ensure that opportunities to participate are enjoyed equally by all students in the course.

Student responsibilities:

- Come to class on time and prepared, and refrain from packing up belongings before class ends.
 - Turn off all electronic devices that might create a disruption in class.
 - Be quiet; give full respectful attention while either the instructor or another student is speaking.
 - When speaking, use courteous, respectful language and keep comments and questions relevant to the topic at hand.
- 2) Please come to class on time—there is no reason to be late to class on a frequent basis. If you arrive late, you may miss the quiz and ***will not be allowed to make up*** the missed quiz or work. It is always to your advantage to be present and on time. Be prepared by reading assignments before coming to lab.
 - 3) Please remain in class until it is finished. **Leaving early will count as an absence unless it is an emergency that you clear with the lab instructor.**
 - 4) ***For Your Safety Please Observe the Following Requirements:*** Do not bring food or drink into the lab. Do wear enclosed shoes and long pants to lab. Please ***do not wear*** sandals or any other type of open shoe in the lab room. Please be aware that the lab instructor will ask you to leave lab if your attire is deemed unsafe for the lab environment. You may want to carry a spare pair of shoes and/or full length jeans/pants in your bag as a back-up set of clothes.
 - 5) Hats must be removed and put away during lab.

- 6) During lab, especially during quizzes and exams, cell phones and any other equipment capable of receiving, recording and/or transmitting information, must be put away in a book bag or purse. In short, it must not be readily accessible or accessed during an exam. ***The use of such devices during a quiz or exam will result in a zero for that test and possibly the lab course.*** Chatting and/or texting/tweeting/posting/blogging on the phone during lab (even in the hallway) is a waste of your lab/learning time as well as your group's time; it's also a rude way to treat your classmates.
- 7) **DO NOT LEAVE THE ROOM DURING AN EXAM or QUIZ!** If this happens, the test will be taken up and you will NOT be allowed to finish.
- 8) **Visitors in the Classroom:** Unannounced visitors to the classroom must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not the visitor will be allowed to remain in the classroom. This policy is not intended to discourage occasional visiting of classes by responsible persons.
- 9) **Americans with Disabilities Act:** It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail disability@shsu.edu). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For a complete listing of the university policy, see: <http://www.shsu.edu/dept/academic-affairs/documents/aps/students/811006.pdf>

- 10) **Religious Holy Days:** Any student that will miss lab due to Religious Holy Day(s) must notify the Laboratory Coordinator in writing BEFORE the absence occurs and present appropriate documentation of the reason for the absence. Any assignment or exams that will be missed due to the absence should be completed within a reasonable time (as deemed by the lab coordinator) after the absence, or *preferably before* the absence. This will help you stay on track and not fall behind in the material.
- 11) **Special Circumstances:** If unusual circumstances arise during the semester, such as a medical problem, death in the family, etc., which adversely affects your attendance PLEASE discuss this with the lab coordinator ***immediately*** and provide documentation. Under these conditions, we will gladly do our best to accommodate your situation. However, if you wait until after-the-fact, at the end of the semester, to let the lab coordinator know that you were experiencing these adverse circumstances, there is nothing that can be done about it at that time. ***We cannot retroactively make accommodations and do not give extra credit assignments to make up for grade deficiencies.***

Grading Policies

Lab grades will be determined as follows:

270 pts. = 9 weeks of individual pre-lab quiz + pre-lab exercise, 30 points each

180 pts. = 9 weeks of group lab quiz X peer evaluation grade, 20 points each

90 pts. = 9 weeks of group lab grade X peer evaluation grade, 10 points each

150 pts. = Mid-Term Exam (this is an individual grade)

150 pts. = Final Exam (this is an individual grade)

840 pts. = Total Possible Points for Lab portion of the Course

Please notice that **70% of your lab grade is based solely on your individual effort in lab**; it is extremely important that you read and are prepared for lab (and your pre-lab quizzes) each day. You must also be prepared to do well on the final exam. The portion of your grade resulting from group work is only 30% and will first be weighted by the peer evaluation score you receive from your learning team mates. This score can only hurt your grade if you are an unproductive and/or unprepared and/or absent team member.

Use only this syllabus and instructions from your lab instructor to determine what your lab course grade will be.

DROP GRADE POLICY

Students with *no absences* will be allowed to drop their lowest individual lab quiz and lowest group lab quiz grade and lowest group lab exercise score earned. *If a student misses a lab* during the semester and does not (or cannot *for whatever reason*) make it up the same week, that set of zeroes will be the student's *one and only* drop grade set. Please use this set of drop grades judiciously, save it for an emergency! It is always in your best interest to attend your regular lab section and work with your learning team.

How will your lab grade affect your overall BIOL 1408 Contemporary Biology Course grade?

The lecture and lab grade are merged for one overall course grade. The lab grade will be equivalent to 25% of the course grade. The lecture grade will be 75% of the course grade. You cannot hope to earn better than a "C" in the course if you do not successfully complete your lab. Please be certain to read your lecture syllabus for any further details regarding overall course grading policies.

Cooperative Learning and Peer Evaluation:

In this class, students will be divided into teams by the instructor in such a way as to ensure maximum diversity in the team and to prevent cliques from forming in the class. Each team will consist of 6 or fewer students who will work together throughout the semester on lab exercises. As you will see, **team scores are usually better than individual scores, and so this process normally improves an individual's grade**. In addition, *team effort helps everyone learn the material better because everyone is involved in teaching one another*. So, when individuals participate appropriately in this process, individuals normally do better on tests as a result.

Many students are initially uneasy about the idea of working in teams because it is often the case that some members of the team end up doing all or most of the work, while others do little or nothing. This should **not be a problem** in this course because of both the peer evaluation process, as well as the importance of the evaluation to a student's grade.

The evaluation process is explained in full detail on the Peer Evaluation Form. It will be completed weekly during the semester. There will be a “check-point” average calculated after the mid-term exam so that any team member not doing well can be advised to increase their effort. The final time (the one that actually impacts the grades) will be completed at the end of the semester. **Each time the evaluation is completed; it should be done in private and kept confidential. Do not discuss the evaluation with your team members or complete it in their presence.** You will submit your peer evaluation form confidentially to your lab instructor at the end of **each** lab period; fold it in half length wise while completing it and handing it in.

The Individual Pre-Lab Quiz (30 points each week) are quizzes that cover the reading material upon which the lab is based. So, by reviewing relevant reading material in the lab manual and textbook, one can readily prepare for these quizzes. These quizzes are generally multiple choice (scantron 815-E) but may include an occasional short answer essay question. *The pre-lab quizzes are typically completed by individuals at the beginning of the lab period but may occasionally be take home assignments due at the beginning of the lab period.*

The Group Post-Lab Quizzes (20 points each week) cover the reading material upon which the lab is based and anything covered in lab. These quizzes will be mostly multiple-choice quizzes with some short answer essay questions. *The post-lab quizzes are completed by your learning TEAMS at the end lab period; your average group post-lab score is multiplied by your peer evaluation score to determine your fair share of the grade.* **Only the team members present for the quiz will receive credit for that quiz!**

The Group Lab Activities (10 points each week) are also completed as a team activity. Every individual team member present **MUST** complete the lab exercise in their own lab manual **BEFORE** the lab instructor chooses a single lab manual to grade for the group. Your average lab exercise grade is multiplied by your peer evaluation score to determine your fair share of the grade. **Only team members present (with a completed lab manual) will receive credit for the lab exercise that day.**

Mid-Term & Final Exams (150 points each) These will review the material covered in lab. Questions may be worded in a fashion very similar to those seen on the weekly quizzes and may include numerous multiple choice and practical questions (scantron 882) as well as some essay questions. There will be **approximately** 100 questions and will include a “notation reduction study exercise” that will be worth 15 points. You must take these exams with your regularly scheduled lab section. If you are severely ill and cannot make that time you must take it during the scheduled make-up exam time seen on the first few pages of your syllabus. However, it is always in your best interest to take the exam with your regularly scheduled lab section. **These major exams will be taken and scored as Individuals!**

Any student taking a “make-up” mid-term or final exam *must* present appropriate documentation for their totally unavoidable absence from their regularly scheduled major exam. Example: doctor’s note requiring an absence from class, obituary, court summons, proof of incarceration during exam time, etc. If you are experiencing one of these terribly unfortunate events, you must contact the Laboratory Coordinator, Mrs. Rose, as soon as possible to arrange for the make-up exam. Please make note of these important dates listed on the first three pages of the syllabus. **Students must also present a photo ID when attending the “make-up” exam.** If a student misses their regular exam and the make-up exam time stated on the syllabus, they may not be allowed to make-up the exam. **No student will be allowed to complete a make-up exam without appropriate documentation. No Exceptions!** If you are sick enough to miss a major exam, then you really need to see a doctor! **Inappropriate reasons for missing an exam include, but are not limited to:** “I forgot,” “I didn’t know it was this week,” “My alarm clock didn’t go off,” “I couldn’t find a parking space,” “I had/have another test the same day,” “I’m going on vacation,” etc.