First Year Learning Community. Biology 1406, Introductory Biology I, Fall 2010
We meet in CI 138 MWF 11:00 or MWF 1:00
Sections meeting at these times are 1406.801, 1406.802, 1406.803, 1406.804, 1406.807, 1406.808, 1406.809, 1406.851, 1406.852, 1406.853, 1406.854, 1406.855, 1406.860 and 1406.870
Labs meet in CI 207 or CI 208

The instructor of record is Dr. David J. Grisé who is assisted by Megan Arnold (SI leader 11:00 section), Trevor Brue (SI leader 1:00 section), Mariela Rivera (STEP mentor) and Caitlin Bailey (STEP mentor). In addition, several CELLS mentors assist with the course and your transition to TAMUCC by visiting seminar sections on a regular basis.

Office ST 311, e-mail david.grise@tamucc.edu, phone 825 3477
class web site: Please see BlackBoard 8
Office hours, other hours by appointment

OVERALL CONTEXT
-Course description: Presentation of basic biological concepts including scientific method, cytology, energetics, nucleic acids and genetics. This course is suitable for all majors. This course counts toward the natural science component of the University Core Curriculum.

-Exemplary education objectives for core courses met by bio 1406 (big hint: These are the broad areas that are covered by all core science courses in the state of Texas. I must demonstrate that I cover these points and that you have a working knowledge of these points. Therefore, I will ask questions on assignments and exams related to each of these points in some way during the semester.)
1. To understand and apply method and appropriate technology to the study of natural sciences. (design and conduct experiments in lab, enzyme lab and yeast lab)
2. To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing. (interdisciplinary project)
3. To identify and recognize the differences among competing scientific theories. (questions on assignments and exams)
4. To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies. (questions on assignments and exams)
5. To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture. (questions on assignments and exams, PCR lab)

-General student learning outcomes for all sections of bio 1406
1. To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry.
2. Understand the chemical basis of processes in living organisms.
3. Have a functional knowledge of the theory of evolution and understand its importance as the unifying theme in biology.
4. Understand the process of inheritance.
5. To recognize DNA technology as an interdependence of science and technology and understand the influence of DNA technology on, and contribution to, modern culture.

-Specific learning outcomes for these sections of bio 1406 (another big hint: Because I need to show that students have mastered these learning outcomes, I will ask questions related to these learning outcomes on assignments and exams! Read these learning outcomes before exams so you have an idea what I am going to ask about on the exam.)
1. To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry. (questions on assignments and exams)
2. Be able to formulate testable hypotheses and predications from these hypotheses. (questions on assignments and exams, enzyme lab and yeast lab)
3. Have a functional knowledge of the theory of evolution and understand its importance as the unifying theme in biology. (questions on assignments and exams)
4. Understand the importance of biochemical pathways and the importance of cellular respiration and photosynthesis to organisms and the relationship between these processes. (questions on assignments and exams)
5. To identify and recognize the differences among competing theories about DNA as the genetic material and the mechanism of DNA replication. (questions on assignments and exams)
6. To understand the importance of DNA to organism function and the basic mechanisms of inheritance. (questions on assignments and exams, genetics lab)
7. To recognize DNA technology as an interdependence of science and technology and understand the influence of DNA technology on, and contribution to, modern culture. (questions on assignments and exams, PCR lab)
8. To understand and apply method and appropriate technology to the study of problems with a biological basis. (questions on assignments and exams, design and conduct experiments in lab such as enzyme lab and yeast lab)
9. Be able to collect, analyze and interpret results from experiments and communicate your findings to your colleagues. (questions on assignments and exams, lab experiments and the interdisciplinary project)

-A community of learners. You are part of the first year learning community at Texas A&M University-Corpus Christi. I hope you are, or will become, an active member of this learning community. Each time I teach a course, I learn from students. I hope to establish an atmosphere in which students learn from each other. As a result of taking my class and working with your fellow students, I hope you learn how to learn about issues that have a biological basis. We should all be learning from each other and learning how to learn from each other. As a result of our collective efforts, I hope I continue to improve as an instructor and that you benefit from taking my course.

RESOURCES TO ASSIST YOU IN BIO 1406.
SI sessions for all non-STEP students
-Students in STEP should participate in mentoring sessions facilitated by Mariela Rivera and Caitlin Bailey. For information about STEP sessions see the section for STEP students below. **ALL** other students should participate in SI sessions facilitated by Megan Arnold (11:00 section) or Trevor Brue (1:00 section). Supplemental Instruction is for all students of all abilities. Supplemental Instruction sessions are NOT in any way remedial or only intended for students not doing well in the course. There is abundant evidence that participating in SI sessions increases student understanding of the course material. Participating in SI sessions is an efficient use of your time and will increase your performance in the course. Participating in an hour long SI session is about
the same as working two or three hours on the course on your own. Be efficient. Attend SI sessions.

The data below indicate that students participating in sessions on a regular basis, about once a week, do better in the course than do students participating in SI sessions less often. The numbers of students in each category on the graph below are 0-4 sessions 79 students, 5-9 sessions 21 students, 10+ sessions 11 students. What the heck? Scientists make decisions based upon data. Here are the data! The conclusion from these data are that you should participate in sessions on a regular basis!

Effect of attending SI sessions Spring 2010

Bars with different letters are significantly different (Tukey’s multiple range test)

A great way to prepare for the comprehensive final is to participate in the SI sessions just after an exam. At these sessions, your SI leader can go over any questions on the exam you had difficulty answering correctly. Asking questions about the questions you did not answer correctly on the exam will help you answer the question correctly on the comprehensive final.

-Captivating and Engaging Leaders in Life Sciences (CELLS) mentoring program.
All students will be assigned a CELLS mentor. CELLS mentors are sophomore, junior, or senior level students who have done well in my 1406 and 1407 classes. Your CELLS mentor will regularly visit your seminar class to answer questions and provide perspective on how to do well in my class and your future biology classes. They will also be able to answer questions about core classes and instructors for those classes. Please contact your CELLS mentor if you have questions about anything at the University. Because they are students, they have had to contact many of the University offices that you will deal with during your time at TAMUCC. Your CELLS mentor will
be able to direct you the proper University resource. Take advantage of their experience for both class-related and University-related issues.

I am extremely grateful that so many students are volunteering their time to be a CELLS mentor. Their willingness to take time out of their busy schedule to assist students in this class is evidence of their commitment to the University, the Department of Life Sciences and to this class. Please take advantage of their willingness to help you succeed during your first year.

**STUDENT-CENTERED LEARNING**

**-Team Learning:** We will use a team learning approach in this class. Permanent team learning groups will be established at the start of the course. Students will answer questions on their own then team learning groups will answer the SAME questions. Team learning groups will submit group consensus answers to questions. Research examining team learning assignments shows that the group score is HIGHER than individual scores and that students understand concepts much better as a result of discussing questions and course material in groups. We will use the team learning approach on in-class team learning assignments as described below.

In-class team learning assignments: Students will come to class having read the assigned portion of the text. These readings will be announced in lecture in advance of the in-class team learning assignment. These readings will also be listed on BlackBoard. On Friday class meetings, using the Qwizdom responders, students will INDIVIDUALLY submit their own answers to questions about the text reading. Then, each team learning group will discuss the same questions and submit a group answer to the questions.

Each in-class team learning assignment is worth 30 points. Your individual answers to these questions count for 40% of your score (12 points) for the in-class team learning assignment. The other 60% of the score (18 points) for each in-class team learning assignment will be based on your group’s answers to the questions. You are not permitted to use the text or notes about the readings for either portion of the assignment. After the group portion of the exam is completed, you may use the text to better understand the answers to the questions or to appeal questions.

Team learning exams. We use team learning techniques for exams. On Wednesday, groups will answer questions on the team learning exam. I expect that all members of the group will participate in answering these questions and understand the group’s answer to these questions. On the Friday class meetings when we have an exam, individuals will answer different exam questions. Because many of the questions on the group and individual exams are similar, I hope the team learning exams help you to prepare for the individual portion of the exam.

Appeals: Students may not use the text, notes, or other resources during either the individual or group portions of in-class team learning assignments or team learning exams. However, once the assignment or exam has been completed, students may use any resource they wish to appeal any question for which the group feels the answer is incorrect or the question or answer choices are unclear. All appeals must be in writing, must fully explain why the group feels there is a problem with the question and must be agreed to by the entire group. If the group’s appeal is granted, the scores of all group members will be adjusted.
Peer evaluation: Any group member receiving a score of 7 or less from two or more group members on the peer evaluation for group work given towards the end of the semester, will have all of their team learning assignment scores for group work reduced by 30%.

Absences: You MUST be present in class to receive points for the group portion of the team learning assignments. The only exceptions are medical appointments and University sponsored events. In the case that you have a scheduled medical appointment or University sponsored event that prevents you from attending lecture, please let me know in advance of lecture. Should you not be able to attend lecture due to a medical emergency, please let me know about the situation as soon as possible.

-Daily in-class assignments: For almost every lecture, there will be a question worth a small amount of points to start lecture. Also, during lecture there will be questions for points. Students are encouraged to discuss these questions with other students. In addition, there will be a few times when groups will work on questions related to course material. These questions are designed to help students understand how to answer questions on the exams.

-Qwizdom responders. You are required to bring your functioning Qwizdom responder to each class meeting. You MUST be present to receive credit for in-class assignments. The only exceptions are medical appointments and University sponsored events. In the case that you have a scheduled medical appointment or University sponsored event that prevents you from attending lecture, please let me know in advance of lecture. Should you not be able to attend lecture due to a medical emergency, please let me know about the situation as soon as possible. You are not permitted to use another student’s responder. Answering questions for another student not present in lecture is cheating and will not be tolerated. If you are seen using two responders, both will be confiscated and we will all sort it out later.

I will not accept a piece of paper with your answers for ANY question answered using Qwizdom responders. There are no exceptions to this policy.

I will NOT check the results of a Qwizdom assignment for ANY student. When you take an assignment using Qwizdom, the Qwizdom responder shows you the answer you selected. Be sure you see the answer you intended to select. Since I have been using the Qwizdom system, I have checked answers at the request of students well over one hundred times. I have never found a problem with the Qwizdom system. Most of the time, a student mistakenly selected an incorrect answer or didn’t answer the question at all.

-Calibrated Peer Review (CPR) assignments. Using guiding questions, you will summarize parts of chapters containing material covered in the course. Doing these assignments should help you to better understand the material and better understand the process of scientific writing. Questions on exams will ask you about material covered in these assignments. The link to access the CPR system is on BlackBoard. All students are expected to be able to access this system, submit their summaries and complete the assignments on time.

Be sure you access the system for the first time well in advance of the deadline for submission of your summary for the first assignment. Report any problems to Dr. Grisé immediately. Dr. Grisé will NOT submit summaries for any student. If a student misses the deadline for text entry, they will not be able to complete the remaining portions of the assignment and will receive a zero out of
25 points for the assignment. Should a student submit their summary but fail to complete the assignment, it is likely that their score for the assignment will be about 4 points out of 25 points. Missing a CPR deadline may drop in your grade in the course down by a whole letter grade. Don’t let this happen to you! Because you have several weeks to complete these assignments, there will be no exceptions to this policy. Please do not allow these assignments to negatively affect your grade in the course. Take time to write your summary, complete the calibrations and review other students work. Be sure you complete the assignments in a timely manner. Remember that the material on these assignments is very important and may not also be covered in lecture. However, exam questions will be based on this material.

Because I have approximately 400 students in my sections of 1406, I cannot review grades on CPR assignments. I will not review a grade on a CPR assignment for any student. I have to trust that students will carefully and fairly review other student’s work.

The CPR assignments are a significant amount of work for both you and me. I only use teaching techniques and technology that improve student understanding and skills. One important skill to have as a scientist is the skill to review other people’s work. The analysis below indicates that students become more competent reviewers over the course of the semester. These data are the reason I continue to use the CPR system. Please put time and effort into the CPR assignments. Doing so will help you gain a valuable and useful skill that will be useful in your career.

Results of repeated measures Analysis of Variance (ANOVA) where the student is the repeated unit indicate that students become more competent reviewers over the course of the semester.

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*Program = STEP calculus, STEP pre-calculus and non-STEP learning community

-Engaging in science

At this point of your career, you may or may not have some idea of what scientists actually do. This assignment may assist you in better understanding what scientists do and how they communicate their results to other scientists and to the general public.

Select a newspaper (paper or web version) article or an article in a news magazine such as Newsweek about any science-related topic. The topic may or may not be related to a topic covered in this class. Write a short summary of the article you select. Then, using the skills you learn in Composition and First-year seminar, find two primary literature sources about the same topic. Correctly list these two sources using the format you learn in Composition/Seminar. Determine if the information in the popular press article is consistent with the information in the two primary literature sources. Submit your Word File to the “Science in the popular press” drop box on BlackBoard. Please see the example of the summary for this assignment on BlackBoard.
**RESOURCES REQUIRED FOR BIO 1406**

- **Lab coats.** All students are required to have a lab coat when entering the labs for any reason. In addition, to the lab coat, students must be wearing long pants and closed-toe, close-heal shoes to enter the labs at any time. For more details about lab coats, please contact your CELLS mentor. They may be able to suggest where to buy a lab coat, etc.

- **All students must have a TAMU-CC e-mail account**
  All students must have a TAMU-CC e-mail account (your Islander account). I e-mail your grades to your islander e-mail account. Grades will NOT be posted anywhere! If you don’t have an account, please go to [http://www.tamucc.edu/ise.html](http://www.tamucc.edu/ise.html) to obtain a new islander account. Either check your islander e-mail account on a regular basis or forward your islander e-mail to your hotmail, yahoo, etc. e-mail account.


**UNIVERSITY AND CLASS POLICIES**

- **Class attendance**
  My attendance policy is the same as the University's. Please read the University’s attendance policy on page 33 in the 2007-2008 catalog. I expect students to attend every scheduled class meeting **including labs**. Attendance is not used to determine grades. If you come to class often, you should do well in my course. In addition, there will be in-class assignments during most lectures, so coming to lecture on a regular basis should result in a higher grade.

- **Scores sent by e-mail**
  Please check your scores I send to your Islander e-mail account! It is your responsibility to be sure that I have correctly recorded your scores. From the time I e-mail grades for an assignment or exam, you have **five class days** to inform me there might be a problem with your score. After five class days, I will assume that scores for that assignment or exam are correctly recorded.

- **Dropping the course**
  If you drop the class between 1 September and 5 November, you will be assigned a grade of W. Please be sure you read and understand the University’s drop policy found on page 32 of the catalog before you drop any class. Please consult me before dropping this class. If we decide dropping the class is the best option, you must initiate the process of dropping the course by going to Student Services Center (the round building) and fill out a course drop form.

- **Academic Honesty**
  All students are expected to be familiar with TAMU-CC's Academic Honesty Statement found on page 38 of the 2007-2008 catalog.

- **Students with Disabilities and Veterans**
  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 call or visit Disability Services at (361) 825-5816 in Driftwood.
If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

**Grade Appeal Process.** As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html). For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

**Academic Advising**
The College of Science and Technology requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College's Academic Advising Center is located in Faculty Center 178, and can be reached at 825-6094.

**Make-up exams**
Because of my workload I am no longer able to give make-up exams. If you miss an exam for an approved excuse (University related event or medical or family situation), the average of the other exams you take will replace your missed exam score. All students should take the fourth exam and the comprehensive exam at the scheduled time. Students must take the fourth exam and the comprehensive final exam. If you are unable to take these exams at the scheduled time you MUST contact me to set up a time to take these exams.

**EXTRA CREDIT**
**THERE IS NO EXTRA CREDIT!**

**Evaluation of non-STEP students (exclusive of the Triad section, Group 5W, Section 855)**
Points from lab will constitute 1/4 of your grade. Points from lecture will provide the remaining 3/4 of your grade.

There are a total of five individual exams (three individual exams given during a lecture period and the fourth exam and comprehensive exam given at the time scheduled for the final). The three individual exams given during a lecture period are 100 points each. The final is a two part exam for a total of 200 points. The first 100 points of the final covers the last block of material (it is the fourth individual exam). The second 100 points of the final covers material from the first three blocks of material. You may use calculators during all exams. However, use of cell phone calculators is **NOT** permitted. No other electronic devices of any kind are permitted during exams.
The interdisciplinary assignment is the First Year Research Conference poster. The grade on this poster is used in all your other learning community courses. In my class, the grade on the poster will account for a total of 100 points.

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<th></th>
<th>points</th>
<th>% of grade</th>
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</thead>
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<tr>
<td>lab</td>
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<td>science in the popular press</td>
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<tr>
<td>total</td>
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<td>100</td>
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There are a total of 1715 points. Grades for students in the non-STEP sections of the course will be assigned as follows:

A= 89.5-100 % of total points  
B= 79.5-89.4 % of total points  
C= 69.5-79.4 % of total points  
D= 54.5-69.4 % of total points

I use the above percentages to assign grades. After reading this section, you should know how I am going to assign grades. Please be sure you get enough points to get the grade you want. There will always be someone who just missed a D, or a C, or a B, or an A. I have to draw lines between grades. No matter where I draw the line, someone is on the wrong side of the line. Don't let that someone be you. You have plenty of help in my class. Take advantage of the resources I offer.

I do not assign a curve to each exam. For dates of the exams, CPR assignments and due dates for the team learning assignments, please see the calendar on BlackBoard.

**Evaluation of non-STEP students in the triad section, Group 5W, Section 855**  
**Seminar Meeting TR 12:30 in BH 127.**

Points from lab will constitute 1/4 of your grade. Points from lecture will provide the remaining 3/4 of your grade.

There are a total of five individual exams (three individual exams given during a lecture period and the fourth exam and comprehensive exam given at the time scheduled for the final). The three individual exams given during a lecture period are 100 points each. The final is a two part exam for a total of 200 points. The first 100 points of the final covers the last block of material (it is the fourth individual exam). The second 100 points of the final covers material from the first three blocks of material. You may use calculators during all exams. However, use of cell phone calculators is **NOT** permitted. No other electronic devices of any kind are permitted during exams.
The interdisciplinary assignment is the First Year Research Conference poster. The grade on this poster is used in all your other learning community courses. In my class, the grade on the poster will account for a total of 100 points.

You will have until 8:00 PM to submit minute papers using BlackBoard after each lecture. In these minute papers, you will describe what you learned as a result of attending lecture that day and one question you have as a result of attending lecture that day. For the first day of class your minute paper will be about your career goals and what you hope to gain as a result of taking this class.

The standard minute paper: This piece of reflective writing will contain a statement of what you learned as a result of attending class that day as well as a question you have from class that day. Standard minute papers are worth 2 points.

25 August, what I hope to gain as a result of taking this course, what I hope to gain from regular attendance of SI sessions and how prepared you feel you are for this course. Total of 6 points.

27, 30 August, standard minute papers

1, 3, 8, 10, 13, and 15 September, standard minute papers

17 September. In your minute paper, state what you learned as a result of attending class today. For the question, write and answer a question you think will be asked on the exam.

20 September, standard minute paper

22 September, 1st group exam. In your minute paper, describe what you learned as a result of taking the group exam today and state what you will do to prepare for the individual exam on Friday.

24 September, 1st individual exam. In your minute paper, state what you thought the most difficult question on the exam was and why it was difficult for you. Also, reflect on your preparation for the exam. State the most helpful thing you did to prepare for the exam. State what you will do differently for the next exam (if anything).

27 September, standard minute paper

29 September, standard minute paper plus a statement of how going to a SI session this week and discussing a question you missed on the exam helped you to better understand the concept asked about by the question.

1, 4, 6, 8, 11, and 13 October, standard minute papers

15 October. In your minute paper, state what you learned as a result of attending class today. For the question, write and answer a question you think will be asked on the exam.

18 October, standard minute paper

20 October, 2nd group exam. In your minute paper, describe what you learned as a result of taking the group exam today and state what you will do to prepare for the individual exam on Friday.
22 October, 2nd individual exam. In your minute paper, state what you thought the most difficult question on the exam was and why it was difficult for you. Also, reflect on your preparation for the exam. State the most helpful thing you did to prepare for the exam. State what you will do differently for the next exam (if anything).

25 October, standard minute paper

27 October, standard minute paper plus a statement of how going to a SI session this week and discussing a question you missed on the exam helped you to better understand the concept asked about by the question.

29 October, 1, 3 November, standard minute paper

5 November. In your minute paper, state what you learned as a result of attending class today. For the question, write and answer a question you think will be asked on the exam.

8 November, standard minute paper

10 November, 3rd group exam. In your minute paper, describe what you learned as a result of taking the group exam today and state what you will do to prepare for the individual exam on Friday.

12 November, 3rd individual exam. In your minute paper, state what you thought the most difficult question on the exam was and why it was difficult for you. Also, reflect on your preparation for the exam. State the most helpful thing you did to prepare for the exam. State what you will do differently for the next exam (if anything).

15 November, standard minute paper

17 November, standard minute paper plus a statement of how going to a SI session this week and discussing a question you missed on the exam helped you to better understand the concept asked about by the question.

19, 22, 24, 29 November, 1 December standard minute paper

3 December. In your minute paper, state what you learned as a result of attending class today. For the question, write and answer a question you think will be asked on the exam.

6 December, standard minute paper plus a reflection on your experience in this class this semester and your goals for next semester.

For the first three exams, you will submit a report on BlackBoard describing how you prepared for the exam. You should include the number of times you attended SI session and tell me if attending these sessions was helpful to you.

1406 learning community fall 2010, triad
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There are a total of 1863 points. Grades for students in this section of the course will be assigned as follows:

A= 89.5-100 % of total points  
B= 79.5-89.4 % of total points  
C= 69.5-79.4 % of total points  
D= 54.5-69.4 % of total points

I use the above percentages to assign grades. After reading this section, you should know how I am going to assign grades. Please be sure you get enough points to get the grade you want. There will always be someone who just missed a D, or a C, or a B, or an A. I have to draw lines between grades. No matter where I draw the line, someone is on the wrong side of the line. Don't let that someone be you. You have plenty of help in my class. Take advantage of the resources I offer.

**STEP students only!** (Students in a linked STEP section of college algebra, pre-calculus, or calculus.)

**-STEP MENTORING SESSIONS**
For their math and science courses, students in the STEP program are very, very, very, very x10^6 strongly encouraged to participate in STEP mentoring sessions led by STEP mentors. Start attending STEP mentoring sessions well in advance of an upcoming exam. Waiting to start attending STEP mentoring sessions until just before an exam will be of very little help to you.

For my class, the data below indicates that the course average in bio 1407 for students attending 13 or more sessions a semester is higher than students attending 7-12 or 0-6 sessions a semester. Students attending 13 sessions attend about one session a week. On average, a student attending 7-12 sessions attends about two sessions a month. A student attending 0-6 sessions attends about one session a month. You are gaining important skills when you participate in sessions. Clearly, there is added value of regularly participating in sessions. **REGULARLY PARTICIPATE IN SESSIONS!!!!**
Bars with different letters are significantly different (Tukey’s multiple range test)

Keep in mind that STEP mentors are mentors. They can be a great resource for information about core classes and instructors of those core classes and information about your future biology, chemistry or math courses. Mariela Rivera and Caitlin Bailey are the STEP mentors assigned to biology 1406. You should take advantage of the mentoring sessions regardless of your grade in the course. These sessions are not only for students doing poorly in the course. These sessions will be helpful to you if you are doing well, or not so well in the course. It is my experience that ALL students in the STEP sections will benefit from these sessions. In fact, I think that the students doing well in the course gain the most from attending STEP sessions because these students often get the chance to explain what they know to other students. In addition, in the future, we hope to have many more STEP mentors. I would be reluctant to hire someone as a STEP mentor for my class if they did not attend STEP mentoring sessions when they were a student in the STEP program.

- Minute papers
In general, STEP students will submit a minute paper as a Word file to the drop box on BlackBoard.

The standard minute paper: This piece of reflective writing will contain a statement of what you learned as a result of attending class that day as well as a question you have from class that day. Standard minute papers are worth 2 points.

25 August, what I hope to gain from STEP, what I hope to gain from regular attendance of STEP mentoring sessions and what I hope to gain as a result of taking this course. Total of 6 points.
27, 30 August, standard minute papers

1, 3, 8, 10, 13, and 15 September, standard minute papers

17 September. In your minute paper, state what you learned as a result of attending class today. For the question, write and answer a question you think will be asked on the exam.

20 September, standard minute paper

22 September, 1st group exam. In your minute paper, describe what you learned as a result of taking the group exam today and state what you will do to prepare for the individual exam on Friday.

24 September, 1st individual exam. In your minute paper, state what you thought the most difficult question on the exam was and why it was difficult for you. Also, reflect on your preparation for the exam. State the most helpful thing you did to prepare for the exam. State what you will do differently for the next exam (if anything).

27 September, standard minute paper

29 September, standard minute paper plus a statement of how going to a STEP mentoring session this week and discussing a question you missed on the exam helped you to better understand the concept asked about by the question.

1, 4, 6, 8, 11, and 13 October, standard minute papers

15 October. In your minute paper, state what you learned as a result of attending class today. For the question, write and answer a question you think will be asked on the exam.

18 October, standard minute paper

20 October, 2nd group exam. In your minute paper, describe what you learned as a result of taking the group exam today and state what you will do to prepare for the individual exam on Friday.

22 October, 2nd individual exam. In your minute paper, state what you thought the most difficult question on the exam was and why it was difficult for you. Also, reflect on your preparation for the exam. State the most helpful thing you did to prepare for the exam. State what you will do differently for the next exam (if anything).

25 October, standard minute paper

27 October, standard minute paper plus a statement of how going to a STEP mentoring session this week and discussing a question you missed on the exam helped you to better understand the concept asked about by the question.

29 October, 1, 3 November, standard minute paper
5 November. In your minute paper, state what you learned as a result of attending class today. For the question, write and answer a question you think will be asked on the exam.

8 November, standard minute paper

10 November, 3rd group exam. In your minute paper, describe what you learned as a result of taking the group exam today and state what you will do to prepare for the individual exam on Friday.

12 November, 3rd individual exam. In your minute paper, state what you thought the most difficult question on the exam was and why it was difficult for you. Also, reflect on your preparation for the exam. State the most helpful thing you did to prepare for the exam. State what you will do differently for the next exam (if anything).

15 November, standard minute paper

17 November, standard minute paper plus a statement of how going to a STEP mentoring session this week and discussing a question you missed on the exam helped you to better understand the concept asked about by the question.

19, 22, 24, 29 November, 1 December standard minute paper

3 December. In your minute paper, state what you learned as a result of attending class today. For the question, write and answer a question you think will be asked on the exam.

6 December, standard minute paper plus a reflection on your STEP experience this semester.

-Evaluation of STEP students
Points from lab (the labs themselves and the lab minute papers) will constitute about 1/4 of your grade. Points from lecture will provide the remaining 3/4 of your grade.

There are a total of five individual exams (three individual exams given during a lecture period and the fourth exam and comprehensive exam given at the time scheduled for the final). The three individual exams given during a lecture period are 100 points each. The final is a two part exam for a total of 200 points. The first 100 points of the final covers the last block of material (it is the fourth individual exam). The second 100 points of the final covers material from the first three blocks of material. You may use calculators during all exams. However, use of cell phone calculators is NOT permitted. No other electronic devices of any kind are permitted during exams.

The interdisciplinary assignment is the First Year Research Conference poster. The grade on this poster is used in all your other learning community courses. In my class, the grade on the poster will account for a total of 100 points.

1406 STEP fall 2010

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There are a total of 1813 points. Grades for students in the STEP sections of the course will be assigned as follows:

- A = 89.5-100 % of total points
- B = 79.5-89.4 % of total points
- C = 69.5-79.4 % of total points
- D = 54.5-69.4 % of total points

I use the above percentages to assign grades. After reading this section, you should know how I am going to assign grades. Please be sure you get enough points to get the grade you want. There will always be someone who just missed a D, or a C, or a B, or an A. I have to draw lines between grades. No matter where I draw the line, someone is on the wrong side of the line. Don't let that someone be you. You have plenty of help in my class. Take advantage of the resources I offer.

I do not assign a curve to each exam. For dates of the exams, CPR assignments and due dates for the team learning assignments, please see the calendar on BlackBoard.

**EXAM DATES**

Exam dates for all sections are 24 September, 22 October, and 12 November.

The final exam for MWF 11:00 sections is scheduled for Friday, 10 December 11:00-13:30
The final exam for MWF 1:00 sections is scheduled for Wednesday, 15 December 11:00-13:30.
ALL students MUST take the final exam at the proper time.

**Schedule of Lecture topics**

I accordance with HB 2504, syllabi are to include a schedule of topics to be covered each lecture. Today, when I wrote this, is 10 June. I pace the class based on student understanding of the course material. I do not move on unless I think the majority of students understand the material. I use many methods to convey material during class. Because it is difficult for me to determine what I am doing on 17 November, this is a tentative schedule and is subject to change. Actually, what is below is mostly a total guess. There is not chance that the schedule below will actually match up with what occurs in the classroom. We will not spend 13 lectures on genetics. I just put something down for these dates because I didn’t want to spend the time to determine what we would actually cover on these dates. I doubt anybody is reading the syllabus down to page 16. I only include this section because I must. To get a realistic appreciation of what we will cover and when we will cover that material, please see the lecture slides posted on BlackBoard. We cover about 20-25 slides per lecture. I spend a lot of time working on the lecture slides for the course. I will not spend time repeating the contents of those slides here.
25 August, first day of class. Introduction of myself, CELLS mentors, SI leaders and STEP mentors. Expectations for the course. How lab relates to the course. Why bio 1406 is a core science course and the reason why we have core courses. Why this is a great time to be a scientist and how you can become a scientist

27 August. The nature and logic of science including hypotheses and predictions from hypotheses

30 August. The nature and logic of science including why science cannot be used to prove anything to be true.

1 September, examples of how a person’s background affects the questions they ask as a scientist and why it is important that not all scientists look like me (bald white guy). Characteristics of living organisms.

3 September, Evolution as the unifying theme of biology

8 September, mechanisms of evolution

10 September, chemistry of water and carbon

13 September, metabolism

15 September, cell size and surface area to volume ratio

17 September, diffusion, osmosis, facilitated diffusion and active transport

20 September, properties of enzymes

22 September, 1st group exam.

24 September, 1st individual exam.

27 September, Cellular respiration

29 September, Cellular respiration

1 October, Cellular respiration

4 October, Cellular respiration, photosynthesis

6 October, photosynthesis

8 October, photosynthetic pathways

11 October, chromosomes

13 October, the cell cycle
15 October, mitosis and meiosis
18 October, the importance of meiosis to sexually reproducing organisms
20 October, 2nd group exam.
22 October, 2nd individual exam.
25 October, genetics
27 October, genetics
29 October, genetics
1 November, genetics
3 November, genetics
5 November, genetics
8 November, genetics
10 November, 3rd group exam.
12 November, 3rd individual exam.
15 November, genetics
17 November, genetics
19 November, genetics
22 November, genetics
24 November, genetics
29 November, genetics
1 December, DNA technology, PCR
3 December, DNA technology, determining what is present in PCR products
6 December, DNA technology, biological races, the lack of biological races in humans