

Biology 211: General Biology
Fall 2013 Course Information and Syllabus

Instructor: Ken Marr Phone: (253) 833-9111 x 4204 Office: SC-214 E-mail: kmarr@greenriver.edu Biol 211 Website: http://www.instruction.greenriver.edu/kmarr/	Office Hours Mondays: 11:00 - 11:50 in SC-323 or SC-214 Tuesdays: 1:00 - 1:50 in SC-214 Wednesdays: 11:00 - 11:50 in SC-323 or SC-214 Fridays: 9:00 - 9:50 in SC-240 or SC-214 11:00 - 11:50 in SC-323 or SC-214 And by mutual arrangement
Class Meeting Days & Times	
<u>Sections A & B:</u> M & Tu: 8:00 – 9:50 in SC-240 F: 8:00 – 8:50 in SC-240	<u>Section A:</u> W: 8:00 – 9:50 in SC-243 (Lab) <u>Section B:</u> Th: 8:00 – 9:50 in SC-243 (Lab)

Course Prerequisites

This is a rigorous course for students intending to take advanced biology courses and/or preprofessional programs. Strong writing, reading and communication skills, basic quantitative ability, and an understanding of general chemical principles are essential for success in this class. **WARNING!** It is unlikely that you will do well in this class if you do not invest at least 2 to 3 hours of *quality* study time outside of class for every hour in class—about 14 - 21 hours per week; i.e. 2-3 hours per day!

Success in this class has a strong correlation to a good knowledge of chemistry and the possession of excellent reading, writing and quantitative skills. Students not meeting the following prerequisites may be dropped from the course!

- Successful completion of Chem& 163 (formerly Chem 160) or Chem& 131 (formerly Chem 102)
- Successful completion of English 101 (formerly English 110)
- Math 097 or ASSET/COMPASS placement test into Math& 141 (formerly Math 102)
- Or instructors approval (in special and extenuating circumstances!)

Textbooks/Required Materials

1. *Campbell biology*, 9th edition, by Reece, et al (Available at the GRCC bookstore)
2. *Lab Activities and Active Learning Exercises* (Print from Biol 211 website)
3. Optional: *Study Guide* for Campbell's *Biology* (Available at the GRCC bookstore)
4. Optional: *Quick Study Biology* (Available at the GRCC bookstore)
5. Useful items: 6 inch ruler, small stapler, 3-ring binder with dividers for ALE's and Labs

Mode of Instruction: Active Learning with Little to No Lecturing

Welcome! You are about to embark on a journey that may change your view of biology and will surely change your view of science and learning. In this course through active learning exercises and collaborative group work and a minimum of lecturing you will generate knowledge about biology. Your instructor will be a learner too, a facilitator, and a resource for information. This method of learning will allow you to practice thinking, speaking, and writing as you formulate answers to weekly Active Learning Exercises ("ALE's"). You will be actively involved *everyday* in a variety of activities so class is interesting (we hope!) and you won't want to miss. You will probably learn much more biology in this course than in others where an instructor only lectures to you.

Why the use of active and collaborative learning in place of lectures? A wealth of research over the last 20 years indicates that little learning occurs during passive learning (i.e. lectures) and that lectures, at best, only indicate what students should study *outside* of class. Moreover, controlled studies show that students involved in collaboratively taught classes out-perform those in the same course where lecturing is the major means of instruction.

You will find that collaborative/active learning requires an extensive effort. In addition, a few initially feel uncomfortable with this new style of instruction/learning. This is not unusual, in part because the majority of our past classes were taught in the traditional way...Recall the old adage, "It's hard to teach an old dog new tricks"? Collaborative/active learning will *force* you to do the required readings/exercises on a timely basis,

and in the process will allow you to develop more effective study strategies/habits, to use your study time outside of class more effectively. In time you will become more familiar and comfortable with your classmates and feel more at ease during group/class discussions. The skills that you learn and practice through active learning and collaborative group work in this class will stay with you long after you have ceased to remember many of the facts, concepts and theories of this course.

ADA Statement

If you believe you qualify for course adaptations or special accommodations under the Americans with Disabilities Act, it is your responsibility to contact the Disability Support Services Coordinator, (253) 833-9111, ext. 2631, and provide the appropriate documentation. If you have already documented a disability or other condition, which would qualify you for special accommodations, or if you have emergency medical information or special needs I should know about, please notify me during the first week of class. You can reach me by phone at (253) 833-9111, ext. 4204, or you can schedule an office appointment to meet me in SC-214 during my posted office hours, or at another mutually determined time.

Topics and Chapters Covered

Chapters 1-10, 12-17 and parts of 18-20 in *Campbell's Biology* will be used as reference for the topics that follow. Students are held responsible only for the material discussed in class, in lab exercises and on the weekly Active Learning Exercises assignments.

- What is Science? (Scientific Method);
- What is Life?
- Darwin's theory of Natural Selection
- Chemistry of life
- Tour of the Cell and Membrane
- Structure & Function
- Cellular Respiration
- Photosynthesis
- Cell Reproduction: Mitosis & Meiosis
- Mendelian and Nonmendelian Genetics
- Molecular Genetics (DNA, RNA, Protein Synthesis)
- Molecular Biology of Viruses
- Control of Gene Expression in Prokaryotes
- DNA Technology

Content Specific Learning Outcomes for Biol 211 include:

1. List the steps in a generalized model of the scientific method and describe the limitations of science.
2. Perform experiments with understanding, record data accurately, and communicate results using the standard form for scientific literature.
3. Classify organisms using the 5-kingdom approach.
4. Describe basic atomic structure and chemical Bonding: ionic, covalent and hydrogen bonding.
5. Describe Darwin's theory of natural selection as a mechanism of change over time.
6. Identify the structure, function and monomers of the four major classes of macromolecules found in cells.
7. Describe and identify the structure and function of the plasma membrane and the major cell organelles
8. Use a compound microscope to observe and identify basic cell structures.
9. Describe the processes of cellular respiration and photosynthesis.
10. Describe and identify the stages of mitosis and meiosis.
11. Solve Mendelian and non-Mendelian genetic problems.
12. Describe how DNA controls the phenotype of cells by encoding information for the production of protein.
13. Describe the genetics of viruses.
14. Explain how gene expression is controlled in prokaryotes.
15. Describe the basic techniques used in DNA cloning.
16. Describe the practical applications of DNA technology.

The content specific outcomes, above, will be demonstrated by:

- 1) Active & respectful participation in group activities,
- 2) Successful achievement on quizzes and exams,
- 3) Writing assignments,
- 4) Case study analysis,
- 5) Laboratory activities and associated reports.

Major Course Goals

There are 3 major goals for this course:

- **Biological Concepts.** Since this is the first quarter of a yearlong sequence for biology majors and those going into pre-professional programs, it is important that we cover the topics listed above. However, these are very large fields of study, so we will concentrate on the major concepts and processes involved, rather than try to cover everything. To pass this course, students will need to demonstrate understanding of the major concepts of cellular biology and genetics covered on the ALE's, in lab, and in the lectures given.
- **Skills.** It is important for all citizens to be scientifically literate, whether or not they are in a science profession. Part of literacy is the ability to find information, evaluate the information and communicate or act on that information. In this course we will help you learn to find reliable information related to biology, evaluate the quality of that information and communicate that information to your peers and instructor.
- **Process of Science.** We think that it is important for all people, not just scientists, to understand the process of science and how to do science. To learn to be a better scientist you will read papers from various sources and discuss not only the findings, but also how science is conducted (e.g. funding, peer review, conferences, etc.). You will DO science whenever possible including such scientific methods as hypothesis testing (this can even occur in lecture), controlled experiments and observational studies.

GRCC Campus-wide Learning Outcome addressed in Biol 211

Critical Thinking

1. Student recognizes and uses essential components of effective reasoning to evaluate information and to improve the quality of their own thinking.
 2. Student provides reasons for the conclusions they reach and assess the relevance and adequacy of those reasons.
 3. Student demonstrates active listening and close reading skills.
 4. Student connects past learning with current topics.
- The critical thinking outcome is demonstrated by: 1) active and meaningful participation in group and class discussions, 2) portfolio of student work, 3) case study analysis, and 4) short and long writing assignment including Active Learning Exercises and Lab Reports.



"You're a selfish bastard, Lewis! Those stem cell lines were meant for people who've LOST an organ!"

Biology 211 Weekly Schedule

Caution! The following schedule is only approximate and changes slightly from week to week. It is presented here to give you an idea of how the class is structured.

Monday: (8:00 - 9:50 a.m. in SC-240)

On the first day of the quarter you will be assigned to a group of 3 to 5 congenial students who will work together during the quarter to discuss the concepts on ALE's, lab activities and more. ***The weekly ALE is usually due on Monday.*** You are accountable to arrive with your reading done and your Active Learning Exercise ("ALE") completed to be "stamped" at the *start* of class. Your instructor will only stamp an assignment when it is due and shows a conscientious effort to be completed...If you are not in class, late or absent, your assignment will not get stamped... However, contact the instructor and your team members A.S.A.P. if you are unable to attend class due to poor health or other emergency circumstances. Don't panic if you do not understand everything on the ALE before coming to class—this is to be expected! A large portion of class time each day is devoted to collaborating with your team and the class as a whole to tie up loose ends, learn from each other and make corrections to the ALE and/or lab questions. Often your team will work together to complete a **"Reporter's Report"** that has several of the key questions found on that week's ALE or lab activity.

A brief "clicker" *MiniQuiz* based on the fundamental concepts of the ALE's and/or Labs being studied may be given at any time during class on any day of the week. MiniQuizzes help to give you regular feedback about the state of your understanding and act as an "incentive" for you to stay current with your work and studies in this class. *Group work is successful only when all members come prepared to contribute.* Students that habitually arrive unprepared for class tend to do very poorly in this course. Contact your instructor A.S.A.P. if extenuating circumstances keep you from completing your assignments in a timely manner.

Tuesday: (8:00 - 9:50 a.m. in SC-240)

Today is your chance to tie up loose ends with your group members and to discuss and/or get your lab exercise stamped. Your instructor will only stamp an assignment when it is due and shows a conscientious effort to be completed. If you are late to class, leave class early or absent, your assignment will not get stamped—However, contact the instructor and your team as soon as possible if you are unable to attend class due to poor health or other emergency circumstances. Time will be allocated for discussing the previous week's lab exercise with your group and/or the class. Be sure to make corrections as needed—Complete and corrected lab exercises are invaluable resources to review when studying for each the midterm exams and the final exam. Often the balance of class is available for your group to prepare for group accountability day (**Friday**)—other times, a mini-lecture may be given. Group participation during the week is a prerequisite for you to receive full credit on Friday's group activity.

Wednesday (Lab Section A) **or Thursday** (Lab Section B): (8:00 - 9:50 a.m. in SC-243)

Today is **lab day**—so bring your lab manual! Lab work relates directly to the concepts on this week's or the coming week's ALE. This is your chance to practice the scientific method: propose and test hypotheses, gather data, interpret it and apply it to the major concepts you are discussing and learning in this class. Always read each lab exercise and complete the "prelab assignment" before coming to lab. See the first page of each lab activity for the **prelab assignment**. Not being prepared is the major reason for not finishing on time. Completed lab exercises are usually due the week after the lab is performed—see the quarterly schedule for due dates.

Friday: (8:00 – 8:50 a.m. in SC-240)

Today's activities vary from week to week. Possible activities include...

- **Continuation of your group's discussion** of the weekly ALE and/or this or last week's Lab,
- or**
- **Group accountability day** (~15 to 30 pts.): Your group will work on a group quiz, give a presentation to the class or complete a written group exercise. All members of the group receive the same grade so helping to prepare your team members can enhance your own score. Points may be deducted from the scores of individuals who missed activities on Monday, Tuesday or Wednesday/Thursday (usually 5 pts. per day missed), or a student may elect to do the group exercise individually in place of having attendance points deducted from their score. Let's talk about it if you have a problem with all group members receiving the same score.... sometimes it's not justifiable.... Let me know your concerns.

Individual accountability: Approximately every three weeks you will take a midterm exam (mostly short answer essay and/or objective questions/multiple choice questions; **100 pts. each**) covering the previous three weeks of material. Midterm exams are administered in the GRCC Testing center *outside* of class hours. Class attendance is mandatory even on days when an exam is scheduled.

Grading Policy

	Points Possible (Approximate)	% of Grade (Approximate)
Three Midterm Exams (3 exams at 100 pts each) (If it helps your grade, your lowest exam score will be replaced with your final exam %.)	300	~ 30
Final Exam (Comprehensive—covers material for the entire quarter)	200	~ 20
Group Quizzes & other group activities (Lowest score dropped)	~ 100	~ 10
Lab 6 Oral Presentation	100	~ 10
Portfolio (of ALE's and Lab Reports)	~ 200	~20
Recorder Reports, Strategy Analyst Reports and MiniQuizzes (Lowest score dropped)	~ 120	~10
Totals (approximate) =	~ 995	100%

Grades are determined according to the following table based on a percentage of total points possible:

Percent	Grade	Percent	Grade	Percent	Grade	Percent	Grade	Percent	Grade
95-100	4.0	88	3.3	81	2.6	74	1.9	67	1.2
94	3.9	87	3.2	80	2.5	73	1.8	66	1.1
93	3.8	86	3.1	79	2.4	72	1.7	65	1.0
92	3.7	85	3.0	78	2.3	71	1.6	< 65	0.0
91	3.6	84	2.9	77	2.2	70	1.5		
90	3.5	83	2.8	76	2.1	69	1.4		
89	3.4	82	2.7	75	2.0	68	1.3		

Note:

- Students that earn less than 65%, or who stop coming to class without officially withdrawing by the end of the 8th week of the quarter, will receive a grade of 0.0 ***This grade will be included in college GPA calculations.***
- Keep track of your grades!!!!** It is strongly recommended that you keep track of all of your grades throughout the quarter on the grade record sheet found towards the end of this packet. There are two excellent reasons to do this:
 - If you keep track of your grades on individual assignments, you can calculate your class grade at any point in the quarter.
 - Instructors have been known to make record keeping mistakes. Protect yourself by keeping good records.

Pass/No Credit Grade Option

Students may elect to be evaluated on a "Pass" or "Non-Credit" basis rather than by decimal grades by filing a petition with enrollment services (253-833-9111 ext 2500) no later than the end of the 8th week of the quarter. For students who qualify, the registrar will convert the decimal grade submitted by the instructor either to pass ($P \geq 1.5$) or to no credit ($NC < 1.5$). Any student who does not inform the registrar by the deadline may not choose the P/NC option. **Caution!** Many universities will not award credit for a science or math course with a "P" grade if the course is required for a specific major (e.g. Biology, Pre-medicine, Pre-dental, etc.)

Assessment

Recorder Reports, Strategy Analyst Reports and MiniQuizzes (lowest score will be dropped)

One or more recorder reports and a Strategy Analyst Report may be given each week. The Recorder's Report is based on the weekly "ALE," while the Strategy Analyst Report assesses the level and quality of each student's group and class participation for the week. A brief "Clicker" MiniQuiz may be given at any time during class. MiniQuiz questions will be based on the fundamental ALE and/or lab concepts being studied. Missed MiniQuizzes cannot be made up.

Group Quizzes (lowest score will be dropped)

Collaborative group activities (e.g. group quizzes) often occur at the end of each week. See the quarterly schedule on the last page for details.

Midterm Exams

An exam is scheduled every three weeks—hence three exams will be given during the quarter. These exams will be administered in the GRCC testing center outside of class hours. Class attendance is mandatory even on days when exams are scheduled. Exams will cover all class activities for the previous three weeks, including lab activities. Each exam is worth **100 points** and consists of short response essay and/or multiple-choice questions. Midterm exams may not be taken early, nor made up if missed—however, if it helps your grade, your final exam percentage will be used to replace your lowest midterm exam score. See the [last page](#) of the syllabus for the midterm exam dates.

Final Exam

A comprehensive final exam will be administered **SC-240** during the last week of the quarter—see the schedule on [the last page](#) for the date and time. If it helps your grade, your lowest exam score will be replaced with the percentage you earn on the final exam. The final exam is worth **200 points**. Under no circumstances can the final exam be taken early.

Oral Presentation of [Lab 6, Alcoholic Fermentation: an Independent Project](#). Your group will use the same format that biologists use to present experimental findings at colleges and universities (where they are also known as "seminars") and for presentations when they attend national meetings of scientific organizations. **100 points possible** (a group grade)

Portfolios

- **What's a portfolio?** A Portfolio is file folder containing a collection of "**Stamped Assignments**" that you complete during the quarter. Stamped Assignments consist of Active Learning Exercises (usually due on Mondays) and Lab Exercises (usually due the week after the lab is performed).
- **What does it take to earn a stamp on an assignment?** An assignment will only earn a stamp when it is due and shows a conscientious effort was made to complete it. Moreover, since much learning takes place when ALE's and labs are discussed in class, to receive a stamp you must be present the entire class period an assignment is due. Assignments will not receive a stamp if you are late to class, leave early from class, are absent from class, have plagiarized answers from the textbook or from someone else or have not made a conscientious effort to complete the assignment. **However....** Contact the instructor *ahead of due dates* if you are unable to attend class due to poor health or other emergency circumstances.
- **How is a portfolio organized?** Each assignment should be stapled *individually* and present in the correct order: ALE's in numerical order (E.g. ALE 1, 2, etc.) followed by each lab in numerical order. To facilitate the evaluation of the portfolios, do not attach the ALE's or Labs to the file folder or each other. After each portfolio is returned to you with a grade, remove all work from your portfolio folder to make room for future stamped assignments.
- **When are portfolios due?** A portfolio containing the ALE's and lab reports completed since the previous portfolio was due will be collected for grading **after exams 1 and 2 and at the start of the final exam**—see the quarterly schedule on the last page for specific dates.

Portfolio Grading Policy

A grade will be assigned to each ALE and Lab Report in your portfolio based on the following criteria...

Score	Criteria for Score
10 points	The assignment has a stamp, all questions are answered <u>neatly</u> and completely; All responses have been checked with your team and/or answer key and corrections made—it's high quality work & quite obvious that a conscientious effort was made.
7 to 8 pts	The assignment has a stamp, but the assignment is not complete, is messy and/or some questions were not checked or corrected.
5 points	The same as for 10 points, but <u>assignment does not have a stamp</u>
2 to 3 pts	The same as for 7 to 8 points, but <u>assignment does not have a stamp</u>
0 points	The assignment <u>does not have a stamp</u> , is very incomplete and of low quality—it's obvious that a conscientious effort was <u>not</u> made to complete the work.

Lab reports without a Prelab Stamp: Follow the guidelines above, but deduct one point from the score.

Freebie (FB) Rule:

In each portfolio you are allowed one “Freebie” assignment without a stamp. If a reasonable effort has been made to complete the assignment, then the 1st assignment w/o a stamp will be scored as a stamped assignment according to the criteria above. However, the 2nd assignment w/o a stamp follows the scoring criteria above for assignments without a stamp.

Follow these guidelines when making correction to ALE's

- **"Check" Policy**: Indicate if a response is correct by clearly recording a “check”, √, next to the question number of all questions that you have checked with your team and/or answer key and have made corrections to (if needed). Do not delay getting help from your team, a tutor and/or the instructor for any ALE question that you do not understand.
- For incorrect or incomplete responses: Corrections and additions should be clearly indicated by using another color pen or by using a highlighter to highlight the correction or addition. Do not erase incorrect responses—simple cross them out by putting a line through your original answer.
- If space permits, write your corrections/additions next to your original response. Do not erase incorrect responses—simply cross them out by neatly putting a line through your original answer. Be original when making corrections and answering questions. Do not simply copy answers from the textbook, answer keys or from other students—this is of no help to you as little learning will take place.
- Make corrections on separate paper only if there is insufficient space next to your original response. Clearly indicate on the top of the 1st page of the assignment and next to the individual questions that corrections are on separate paper stapled to the last page. Number your corrections as the original questions are numbered.

Late Work Policy (Does *not* apply to stamped assignments such as ALE's, lab reports and prelab questions)

Turn your work in on time! Late work will be penalized as follows: 10% off per day late—maximum 4 days late. No credit if more than four days late. Assignments due on a Friday that are turned in on the following Monday will be penalized 20%. An assignment is late if it is due at the start of class and it is not turned in at that time, or if an assignment is due at the end of class and the assignment is not turned in at that time. Look under “portfolios”, above, for the late work policy for stamped assignments.

Attendance. Participation in the class is an important part of your success in this course, and you will be expected to attend at all times. Treat this class as if it were a job: When you cannot be in class it is expected that you will notify the instructor *and* your team of your inability to attend. A voice mail or e-mail message before the missed class, or as soon as possible, will be sufficient.

Lab Attendance. Attendance is mandatory for lab. You will not receive credit for any lab you do not attend and 2% will be deducted from your final percentage for the quarter for each lab session you miss. ***You will FAIL the course if you miss three or more lab periods.*** Please note that some labs may not be made up.

Professional Conduct

Your instructor will work hard to make this a course from which you can learn much and develop important skills. Suggestions are welcome from you at anytime about things you think could be done to improve the course. In return, we ask that you arrive at lab and lecture on time and stay until class is over without making unnecessary noise that could distract your classmates. Please read the student conduct code in the GRCC student handbook; academic dishonesty includes cheating, helping someone cheat, plagiarizing (taking credit for the work of others) or knowingly supplying false information—it is a serious offense.

Cell Phone / Electronic Device Policy To reduce disruptions, and out of respect to the instructor and students, class policy is that all cell phones and all non-note taking devices (including pagers, wireless devices, music players, etc.) must be silenced/turned off and put away during class. Your teacher recognizes that emergencies do happen. If you feel you need to respond to a text or call during class, please leave the room quietly and do so inconspicuously outside the room. You do not need to ask permission, just try not to disturb your fellow students. *Exception:* During an exam or quiz you will **FAIL** if your cell phone or any other wireless device is seen by the instructor, even if it is turned off and not in use.

Student Conduct. Students are expected to conduct themselves in an appropriate manner just as they would outside the academic environment. Inappropriate conduct will be addressed verbally as a first warning. The second offense will be addressed in writing to the student and the Dean. The third offense may result in permanent removal from class. (WAC 132J-125-210)

Academic Honesty. You are encouraged to study with other students in this course, but you are expected to do your own work on ALE's, quizzes, exams and lab reports. Students are to produce original work. Another person's ideas, data or graphics may be used *with permission* of the creator of the work *if the original source is given credit*. **Plagiarism** occurs when you knowingly submit someone else's ideas or words as your own. Plagiarism is an act of intentional deception that not only is dishonest, it robs you of the most important product of education—the actual learning. Should I suspect that you have plagiarized; I will talk with you one-on-one and ask you to prove that the work in question is your own. If you are found guilty of academic dishonesty, you will automatically fail that assignment. If you are caught plagiarizing again in the same quarter, you will fail this class. *Examples of plagiarism* include copying on exams, copying assignments, allowing others to copy your work, falsification of data or calculations, etc. Academic dishonesty will not be tolerated and can result in failure of this course and a letter sent to the Dean. (WAC 132J-125-200)

We want you to learn and to do well in this course, but academic dishonesty will not be tolerated. *If you find yourself in trouble, or if you are aware of academic dishonesty occurring, please talk to the instructor.* Personal crises do happen. If you are having difficulties that are interfering with your ability to do well in the class, please tell the instructor as soon as possible. We may be able to refer you to someone for help or to make special arrangements if the need is real and if you have done your best to deal with the situation in a timely manner.

Safety. Because of the nature of the laboratory portion of this course safety is a concern of utmost importance. You will be expected to observe the following practices:

- Notify the instructor immediately when a spill or injury occurs.
- Immediately discuss with the instructor any situation that you feel may be dangerous or cause you discomfort.
- Use proper, safe techniques regarding personal safety.
- Use equipment for its intended purpose only, as directed by the instructor.
- While enthusiastic participation is encouraged, the class will remain an academic environment in which learning can take place.
- **Special Note:** A student who is not present for the pre-lab discussions of an experiment may not be permitted to remain in the laboratory while the rest of the class is conducting that experiment, nor will s/he be permitted to conduct that experiment at another time.

Antidiscrimination. Discriminatory/derogatory language or actions regarding race, gender, ethnic/cultural background, sexual orientation, and physical/mental abilities will not be tolerated.

Guidelines for Completing Active Learning Exercises

1. **Overview.** Strive to have all assigned questions completed with quality responses well *before* each ALE is due. Start several days in advance and do a few pages each day—don't sit down the day before and attempt to complete the whole assignment in one shot—little long-term learning will occur if you do so! With a diligent effort most students can complete 80-90% of the questions without much outside help. However, don't panic if you do not understand everything on the ALE before coming to class. This is to be expected! Use class time with your group and, if needed, instructor office hours to tie up loose ends!
2. **Reading the Textbook.** Find the appropriate chapter or sections of your book. Get an overview of the chapter by reading the chapter introduction, the sectional headings, the captions of all diagrams/illustrations and then the chapter summary at the end of the chapter. Now skim over the ALE questions to get an idea of the information you wish to find while reading the entire chapter or the relevant sections within the chapter. Now estimate the amount of time you will need to do the reading and then plan to read a specific number of pages in a limited time period. While reading underline key ideas and write notes/summarize *in your own words* important concepts.
3. **Using the Book's Index.** Avoid the temptation of simply scanning the index of your book for the section(s) of the book that relate to the question and transcribing portions of them onto the ALE. Although you will get some nifty sounding answers, you will have learned very little in the process.
4. **Plagiarism.** Don't complete your ALE by copying answers from your friends and classmates. To do so prevents you from learning anything. You will get out of this collaboratively taught class only what you put into it. The process starts with you alone thinking about the ALE's, finding pertinent information and formulating answers. *If you find yourself copying or wanting to copy answers from other students because you are not ready and have not done the work required, you should consider dropping the course.* Without individual effort on the ALE's you will not succeed in learning very much and the group activities will make you feel and look uncomfortable because your mastery of the material will be well behind the rest of the class.
5. **Put Answers in your own words.** When you can formulate an answer to a question in your own words, you have mastered the concept and should do well on the exams. If you have copied answers (either from the text or a friend) you have only gotten practice in writing and have learned little to nothing at all. Because you will not have your friend or text to copy from during the exam, you will do poorly. *Memorization gets you nowhere in this class—learning major concepts gets you everything.*
6. **Alternate Resources.** Sometimes you will not find all the information you need to properly formulate your answers to the ALE questions. If this is the case, you will need to consult other resources, such as online resources, the library, a dictionary, etc.

The Road to Success—Some Tips...

1. Stay focused: don't let life's distractions derail you from your personal, academic and/or career goals:
 - ***Keep a positive attitude,***
 - ***Dedicate your energy towards actions that will help you to be successful,***
 - ***Work hard to achieve your goals, and***
 - ***Have confidence in yourself!***
2. If you need extra help in this class (or any other class!), take advantage of the instructor's office hours and the help center in the 2nd floor of the Holman Library.
3. Many students benefit greatly by being involved in a study group consisting of other members of this class. If you wish, exchange phone numbers and email addresses A.S.A.P. with a few people in this class.
4. Be intellectually active in class: participate actively in class and group discussions and ask thoughtful questions.
5. Do the assigned reading and complete the Active Learning Exercises *before* the material is discussed in class. Make a list of questions you have concerning the assigned reading and/or the questions on the weekly Active Learning Exercises. Be sure to get clarifications during class time, with your study group, and/or during office hours.
6. Review and rewrite your class notes and the relevant material in your textbook *immediately* after class or as soon as possible.
7. ***Study daily:*** Develop a study plan in which you will study for this class at least 2 hours daily 7 days a week. Just as one cannot train for a marathon by training sporadically for several hours at a time, one can't study sporadically for long periods of time and expect to learn with retention. Regular study sessions of one-hour duration or less are more effective than massive cram sessions.
8. Isolate yourself from distractions while studying.
9. ***Study efficiently:*** Don't waste too much time on a tough problem or concept. Go on to the next problem and come back to the real stumpers later. Get help as needed from your fellow classmates and from your instructor. Often it's only a few small details that may keep you from understanding something— what seems like a major stumbling block might in reality be something minor!
10. **Studying for an Exam**
 - Learn from your instructor the type of exam (essay, multiple choice, etc.)
 - Study regularly throughout the quarter
 - See the class website for study guides and practice questions.
 - Set up a study schedule and review all materials well before the exam.
 - Write out likely questions and answer them.
 - Form a study group, discuss the materials you will be tested on, and quiz your partners.
 - Get enough rest the night before the exam.
11. **Taking a Multiple Choice Exam**
 - Read each question carefully—underline key words within each question.
 - Before looking at the possible answers, form an answer in your mind.
 - Read each possible answer before making a choice.
 - Watch for words such as *always, never, only, or except*.
 - Don't change your initial answer unless you are *absolutely certain* it's wrong.
12. **Taking an Essay Exam**
 - Survey all essay questions and note the questions that are easy for you.
 - Estimate how much time you have to answer each question.
 - Answer easier questions first to build your confidence.
 - Read each question several times to ensure that you understand what is being asked—underline key words such as *analyze, discuss, define, or describe*.
 - Take a few moments to brainstorm and create a rough outline of your response.
 - Support each major idea with specific examples and detailed information.
 - Remember to begin each answer with an introduction that gives an overview of your response.
 - Conclude by briefly summarizing your answer.
 - [How to Boost your Learning Skills](#). Do you run out of time on **exams**? Do you struggle to finish **reading** assignments? Is **Time Management** your Achilles heel? Have your grades reached a plateau? Check out the [Exam Study Guide Page of the Biol 211 website](#) for tips to boost your learning skills.

Biology 211: Tentative Schedule - Fall 2013- K. Marr

Caution! This schedule is only approximate and is subject to change!

Week of	Monday (8:00 – 9:50 a.m. SC-240)	Tuesday (8:00 – 9:50 a.m. SC-240)	Sec. A: Wednesday Sec. B: Thursday (8:00 – 9:50 a.m. SC243)	Friday (8:00 – 8:50 a.m. SC-240)
1 Sept. 23	<ul style="list-style-type: none"> Brief Intro to class Form Groups & work on “Intro to Sci Method” & “Nightlight Study” HW Finish today’s Assignments 	<ul style="list-style-type: none"> Discuss Monday’s assignments & complete RR HW: Lab 1 Prelab + Complete ALE 1 for Friday 	<p>Lab 1 Scientific Method (Report due next Tuesday)</p>	<ul style="list-style-type: none"> ALE 1 Due Discuss ALE 1 HW: see what’s due next week!!
2 Sept. 30	<ul style="list-style-type: none"> ALE 2A Due Discuss ALE 2 & Lab 1 HW: Lab 1 due tomorrow! 	<ul style="list-style-type: none"> Lab 1 Due: Discuss Results ALE 2B Due Discuss ALE’s 2 & 2B HW: Lab 2 Prelab 	<p>Lab 2 Catalase Activity (Report due next Tuesday)</p>	<ul style="list-style-type: none"> Wrap up ALE 2A & 2B? Group Quiz? HW: ALE 3
3 Oct. 7	<ul style="list-style-type: none"> ALE 3 Due Discuss ALE 3 HW: Lab 2 due tomorrow; Study for Exam 1 	<ul style="list-style-type: none"> Lab 2 Due: Discuss Results Discuss ALE 3 HW: Lab 3 Prelab 	<p>Lab 3 Microscopes and Cells (Report due next Tuesday)</p>	<ul style="list-style-type: none"> Discuss ALE 3 and Lab 2 Group Quiz? HW: ALE 4 & study for Exam 1
4 Oct. 14	<ul style="list-style-type: none"> ALE 4 Due HW: Lab 3 due tomorrow Portfolio #1 due on Friday 	<ul style="list-style-type: none"> Lab 3 Due—discuss results Discuss ALE 4 HW: Lab 4 Prelab; Lab 4 report due on Friday! 	<p>Lab 4 Diffusion and Osmosis Report due on Friday</p> <p>Exam 1: Take in GRCC Testing Center <i>outside of class times</i> either Wed 10/16 or Thurs 10/17, your choice! Bring picture ID</p>	<ul style="list-style-type: none"> Lab 4 Due: Discuss report/results Portfolio #1 due Discuss ALE 4? HW: ALE 5
5 Oct. 21	<ul style="list-style-type: none"> ALE 5 Due Discuss ALE 5 	<ul style="list-style-type: none"> Discuss ALE 5 HW: Lab 5 Prelab <u>and</u> Lab 6 Prelab; Lab 5 Report due Friday!! 	<p>Lab 5 and Lab 6 Alcoholic Ferm. in Yeast Lab 6 oral presentations during week 11</p>	<ul style="list-style-type: none"> Lab 5 Due: Discuss Report Discuss ALE 5? HW: ALE 6
6 Oct. 28	<ul style="list-style-type: none"> ALE 6 Due Discuss ALE 6 HW: Lab 5 due tomorrow 	<p>Tuesday 10/29/13 Faculty In-service Day: No Daytime Classes</p>	<p>Lab 7 Use of DPIP Color Changes to Monitor the Rate of Photosynthesis</p>	<ul style="list-style-type: none"> Lab 7 Due: Discuss Report Discuss ALE 6? HW: ALE 7 + Study for Exam 2
7 Nov. 4	<ul style="list-style-type: none"> ALE 7 Due Discuss ALE 7 HW: Lab 8 prelab Portfolio #2 due on Friday 	<p>Lab 8: Mitosis & Meiosis</p> <ul style="list-style-type: none"> Do in Classroom: Part 1 (Modeling Mitosis) and Part 4 (Modeling Meiosis) Do outside of class: Use photomicrographs at class website for Parts 2 & 3 Lab 8 Report due Friday 	<p>Wednesday 11/06/13 Advising Day: No Daytime Classes</p> <p>Thurs. Work on Lab 6</p> <p>Exam 2: Take in GRCC Testing Center <i>outside of class times</i> either Wed 11/6 or Thurs 11/7—your choice!</p>	<ul style="list-style-type: none"> Lab 8 Due—discuss results Discuss ALE 7 Portfolio #2 due HW: ALE 8
8 Nov. 11	<p>Monday 11/11/13: Veteran’s Day Holiday Campus closed</p>	<ul style="list-style-type: none"> ALE 8 Due Discuss ALE 8 Work on/discuss genetics practice problems (ALE 8X) HW: ALE 8X problems 	<ul style="list-style-type: none"> Work on Genetics Problems: ALE 8 and ALE 8X 	<ul style="list-style-type: none"> Work on Genetics Problems: ALE 8 and ALE 8X Group Quiz on Genetics Problems??
9 Nov. 18	<ul style="list-style-type: none"> ALE 9 Due Discuss ALE 9 	<ul style="list-style-type: none"> Discuss ALE 9 	<p>Work on Lab 6</p>	<p>Group Quiz?</p>
10 Nov. 25	<ul style="list-style-type: none"> ALE 10 Due Discuss ALE 10 HW: Study for Exam 3 & work on Lab 6 presentation 	<ul style="list-style-type: none"> Discuss ALE 10 HW: Lab 9 Lab Prelab Q’s & prepare to do lab 9 on Monday; Lab 6 Presentation; Study for Exam 3 	<p>Wednesday: Work on Lab 6</p> <p>Thurs: Thanksgiving Holiday—Campus closed</p>	<p>Thanksgiving Holiday: Campus closed</p>
11 Dec. 2	<ul style="list-style-type: none"> Lab 9 Prelab Questions Due Start Lab 9: Mitochondrial DNA analysis Using PCR HW for this week: Lab 6 Presentation & ALE 11 	<ul style="list-style-type: none"> Lab 9. Mitochondrial DNA analysis Using PCR Lab 9 Report due on Monday 12/9/13) 	<p>Lab 6 Oral Presentations!</p>	<ul style="list-style-type: none"> Finish Lab 9. mtDNA Anal. Exam 3: Take in GRCC Testing Center <i>outside of class time</i> either today 12/6 or tomorrow 12/7/13
12 Dec. 9	<p><u>Monday 12/9/13:</u></p> <ul style="list-style-type: none"> Lab 9 Report Due Discuss lab 9 	<p>Tuesday 12/10/13 Study Day: No Daytime Classes 8 – 10 a.m. Review/Question Session in SC-240 (attendance suggested, but optional)</p>	<ul style="list-style-type: none"> Biol 211 Final Exam: Friday 12/13/13: 8-10 a.m. in SC-240 Portfolio #3 Due at start of exam 	