Introduction to Oceanography

Instructor: Dr. T. James Noyes (a.k.a. “Jim”)  
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Office: NATS 217  
Office Hours: Monday through Friday, 11:30 a.m.- Noon, and by appointment.  
Course Website: http://www.elcamino.edu/faculty/tnoyes

Professor Noyes’ Class Lecture Notes (Fall 2009)  
Colored pencils (red, blue, green).

Class Meetings:  
Section #1318 – Mondays & Wednesdays from 8:00 to 11:10 am in NATS 218  
Section #1320 – Tuesdays & Thursdays from 8:00 to 11:10 am in NATS 218  
Section #4850 – Fridays from 8:00 to 11:10 am in NATS 218

Course Prerequisites: None

Recommended Preparation: eligibility for English 84

Course Description: This introductory course in oceanography presents the ocean in terms of its physical, chemical, and biological environments. The topics include studies of: formation and modification of various waves types; tidal behavior; formation of water masses and ocean currents; beaches and the changing shoreline; coral reefs; physical and chemical properties of ocean water; marine environments; marine sediments; origin of sea floor and coastline features; the spreading sea floor and drifting continents.

Non-Discrimination Policy

The policy of the El Camino Community College District is to provide an educational and employment environment in which no person shall be unlawfully denied full and equal access to, the benefits of, or be unlawfully subjected to, discrimination on the basis of ethnic group identification, national origin, religion, age, sex, race, color, ancestry, sexual orientation, physical or mental disability, or retaliation in any program or activity that is administered by, funded directly by, or that receives any financial assistance from, the State Chancellor or Board of Governors of the California Community Colleges.
Goals of the Course:

In this course, we will survey a wide variety of phenomena and ideas from the discipline of oceanography. Our goals are both to learn about the ocean and how oceanographers study it. In particular, we want to address the questions:

Why is the ocean important?
How does the ocean affect our lives?

While attempting to answer these questions, we will find that what happens in the ocean often depends on what is going on at its boundaries (in the atmosphere and the Earth), the life forms inside it, and far off objects like the Sun and the Moon. The ocean can have a profound affect on all of these as well. At the end of the course, students will have a better understanding of natural processes (e.g., how coastlines change, the extent and variety of life forms on our planet), and be better armed to engage in today's scientific debates (e.g., global warming and climate change). Specifically, students should be able to:

- describe and explain complex ocean systems to their family and friends
- back up their claims with evidence, examples, and pictures

Student Learning Outcomes:

- Students can identify the salient features of the basic concepts of oceanography. (This includes the ability to recall the definitions of the specialized vocabulary of oceanography.)
  
  *Assessment:* A quiz at the beginning and the end of the semester.

- Students recognize and can accurately articulate how the ocean affects humans’ lives and how human activities affect the ocean.
  
  *Assessment:* A written assignment at the end of the semester.

- Students can identify the key elements of the scientific method (hypotheses, tests, observations, conclusions/interpretation of observations) in popular accounts of scientific research in magazines, newspapers, etc.
  
  *Assessment:* A written assignment at the end of the semester.
General Comments:

Everyone can master the material covered in this class. However, as with all things in life, the material will come easier to some people than others depending on their preparation for this class, their own natural abilities, and how much time they can and choose to devote to this class. It is very important that you keep up with the work load, because the material in each section builds on what came before it. In my view, oceanography is not a spectator sport: one learns by doing, by engaging the material. I am here to help, but fundamentally students are responsible for their own learning.

This class is equivalent to a University of California or California State University class, so your work is expected to meet their standards. Oceanography is a lecture-and-lab course, so you are really taking 2 classes; expect to spend 2-classes-worth of time on this class. Since this is a 4-unit lecture-and-lab class, El Camino College guidelines suggest that you can be expected to spend at least 6 hours per week on this class outside of class meetings in addition to the 6 hours and 20 minutes of class time each week.

You should bring your lecture notes to class every day, because we will refer to them frequently. (Sometimes we get ahead of schedule or behind schedule, so bring the lectures notes covering the topic of the day as well the topics before and after it.) A set of colored pencils will often be useful. A calculator may sometimes be useful, but may not be used during exams or quizzes. If you wish, you may record audio from the lectures.

Oceanography Tutor: During some semesters, there is an oceanography tutor. Contact the learning resources center (second floor of the library) to learn if they have a tutor and, if so, what the tutor’s hours are. The more students who ask about the tutor, the more likely they are to employ one.

Alternate Site Activities:

We will visit the ocean several times as a part of this class; these visits are called “alternate site activities” (ASA). All students must fill out an Alternate Site Activity Waiver, and turn it in to their instructor prior to the first ASA. Students must provide their own transportation to and from the ASA sites. ASA dates, times, and locations are noted on the course outline and in the lecture notes, and students are expected to plan accordingly (i.e., if you do not have your own car, find someone who can give you a ride). According to El Camino College guidelines, instructors cannot take students in their vehicles. Instead of going on an ASA, you may turn in an “alternate activity” before the beginning of the 2nd class meeting after the ASA (Slip it under the door of my office, NATS 217, if I am not around. Note: Do the “alternate activity” in the “online labs” section of the course website, not the application assignment.). Normal late penalties apply. Come to ASAs “rain or shine.” Bring rain gear (e.g., coats, umbrellas), because we will see and do whatever we can in the rain. Adequate class time will be provided for students to get to and from ASA sites so that they will not be late for their other classes or responsibilities.
Grading

The following tables show how grades will be assigned and the relative value of each category:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labs</td>
<td>≈ 20%</td>
<td>A 90%</td>
</tr>
<tr>
<td>In-Class Activities</td>
<td>≈ 10%</td>
<td>B 80%</td>
</tr>
<tr>
<td>Homework</td>
<td>≈ 10%</td>
<td>C 70%</td>
</tr>
<tr>
<td>Exams (or Assignments)</td>
<td>≈ 60%</td>
<td>D 60%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>F below 60%</td>
</tr>
</tbody>
</table>

Grades will not be “curved.” (i.e., I do not have a fixed number of A’s, B’s, etc. in mind), but I reserve the right to adjust the percentages needed for an A, a B, a C, etc. I believe that students should not compete with one another for the best grades, but learn from and help one another. I will be pleased if the entire class achieves A’s.

**Labs, Participation, and Tardiness**

If you are late to a lecture, late coming back from a lecture break, or need to leave a lecture early, please do so quietly. You do not need to talk to me to explain your absence or tardiness (feel free to do so if it would make you feel better), but I expect you to get the notes on what you have missed from other students. I teach multiple sections of oceanography, so if you miss a class, you are welcome to attend one of my other classes to make it up. (Check the other sections’ course outlines on the course website and talk to me to make sure that you attend the correct lecture or lab, because each section is on its own, slightly-different schedule owing to tide conditions and holidays.) If you do not attend two or more classes in a row, I reserve the right to assume that you are no longer in the class and drop you (but do not assume that I have dropped you!). To avoid being dropped, please contact me to tell me that you wish to remain in the class.

Your participation score is largely based on completing the lab assignments to my satisfaction, but can be influenced by good and poor participation in class. Examples of good and poor participation include (but are not limited to):

**Good Participation**
- asking questions during class
- asking questions during breaks
- asking questions outside of class
- working on labs during lab time
- helping others

**Poor Participation**
- talking loudly during lecture
- using your cell phone during class
- frequent tardiness
- regularly returning late from breaks
- copying notes during class time
- doing work for other classes during class time

Before you leave class, make sure that you get the “stamp” on the appropriate lab activity: it is your proof that you can get credit for doing the lab. (This makes it easier to correct any mistakes that I make when recording attendance and scores.) Also, make sure that you do all the activities in class that require equipment, maps, etc. before you leave class. (You can access pictures and video of some lab activities from the course website. Click on the “online labs” link.)
Turn in your completed lab before the exam that covers the lab material. You must turn it in at the beginning (e.g., 8 a.m.) of the class. (Late penalties apply, even if you turn in the lab at the end of class.) Labs without the correct “stamps” will receive no credit (“no stamp” indicates that you skipped class and copied another student’s lab). Labs that are missing required information (e.g., student name, section number, due date, group member’s names) may be penalized.

If you forget to bring your lab to class, take notes on separate sheets of paper, copy your notes into your lab, and turn in both the lab and your notes before the due date. Make sure you get the “stamp” on your notes, or you will not get credit for the day’s work when you turn in the lab.

If you know that you will miss a lab, talk to your instructor: you may do the equivalent “online lab” with prior permission; you may not miss a lab and then later ask to do a “make up.” (When you enrolled in this class, you agreed to come to class to do the labs.) Online labs are posted on the course website. You must submit the typed “online lab” in-person or electronically by the due date specified by your instructor.

If you leave early from lab, spend too much lab time out of the classroom (e.g., go copy another student’s lab), use your cell phone, or are tardy at the beginning the lab, you will be penalized. The only excuse for missing a lab or lab time that will be accepted is a verifiable medical problem.

In general, students may work in groups of up to 5 on the labs (your instructor will assign students to groups), though there are some exceptions. However, the entire group must work on the same questions together. In other words, students may not split up the questions between them, and then simply copy the answers from one another: this is not working together, it is plagiarism. If your group is not working on the questions together, then your instructor will split up the group.

No student should ever copy directly from another student’s labs. Students are permitted to exchange information about the labs verbally, and to gesture and show one another what is in their labs, but students must actively exchange the information, not passively let other students copy their work. Both the person copying and the person who allowed them to copy will be penalized (typically 1 pt each, about 20% of the value of each day’s lab work).

Students who are not working on the lab (copying other students’ lecture notes, working on homework, using cell phones, etc.) during lab time will be penalized. Do not take out any materials (e.g., notes for other classes) which make it appear that you are not doing your lab or you will be penalized.

Students who arrive late must work on their own when they come to class. Students who leave the classroom without permission or for an extended period of time during lab time must work on their own when they return. (Your instructor is the judge of what constitutes an “extended” period of time.) Absent students may not join a group that has already started work on the lab, even a group that they were working with previously.

Your instructor will move around the room to answer questions and give feedback about your answers during lab time. Take advantage of this opportunity: do not waste lab time struggling with the lab activities; ask questions! This is the best way to insure that you will get full credit on your labs.

Furious activity is no substitute for understanding.
- H. H. William

Material from the labs will appear on the exams, so make sure that you get the correct answers!

I know that you believe that you understood what you think I said, but I am not sure you realize that what you heard is not what I meant.
- Robert McCloskey, State Department spokesman (attributed)

ASAs are the only “labs” that are not turned in to be “checked.”
Homework

Reading assignments will not be graded. Nonetheless, it is important to do the assignments, because they are directly related to exam questions.

Homework is due at the beginning of class (e.g., 8 a.m.), and ordinary late penalties apply. In some cases, homework is necessary to get credit for participating in classroom activities. (If you have not done the assignment, then it will be difficult for you to fully participate.)

Access to Computers and the Internet

Students enrolled in oceanography have the right to use the computer lab in MCS 8. Therefore you have regular and reliable internet access. Take advantage of it. The ability to use computers and the internet are important skills to have and practice.

Exams and Quizzes

Study guides are included in your lectures notes, and can be downloaded from the course website. The study guides list potential exam topics and questions and contain useful reading assignments in your textbook. (Reading assignments summarizing the lectures can also be downloaded from the course website.)

Exams and quizzes will be given at the beginning of class. If you are late to class, you may miss some (or all) of the exam or quiz. You may “make-up” exams or quizzes, but standard late penalties apply. (See below.)

Exams and quizzes will involve answering a variety of different kinds of questions: multiple choice, fill-in-the-blank, short answer, making sketches, etc. I sometimes hand out multiple versions of an exam to discourage cheating. When answering short-answer questions, write as if you were trying to explain the concepts to a friend or family member who has NOT taken the class: Carefully explain your reasoning, and use evidence, examples, and pictures to support your claims. You are free to work with other students to draft answers ahead of time, and I would be happy to comment on your drafts.

Do not leave the room during an exam or quiz, even to go to the bathroom. (Please use the restroom before beginning the test.) Also, you may not use electronic devices like calculators, cell phones, and games during exams and quizzes; please put them away prior to the test. Of course, you may not use any kind of notes, textbooks, “cheat sheets”, etc. during the exam or quiz. However, you will be allowed to briefly (about 10-15 minutes) discuss the answers to the questions with other students midway through the exams (but not the quizzes). During “discussion time,” you are not allowed to work on your exam or quiz, check your notes, look in your textbook, leave the classroom, use electronic devices like cell phones or games, etc. I think “discussion time” helps reduce “silly” mistakes, allows anxious students a chance to break through mental blocks, and
helps everyone “de-stress” a bit during the exam. Do not expect to have enough time to get “all the answers” from your friends; there is not enough time to learn all the answers. For example, the answers to some of the short-answer questions are too detailed: you must already “know” the answers, and only need someone to “jog” your memory.

During the last week of the semester, there will be an exam which covers the last few weeks of the course; in other words, it will not be a “comprehensive” exam. However, there may be questions that are not on the study guides. These questions will be given out before the day of the exam or after the “discussion time,” so you will not have the opportunity to discuss them with other students. The questions will be related to themes that I have emphasized throughout the entire course.

Examinations are formidable even to the best prepared, for the greatest fool may ask more than the wisest man can answer.  
- Charles Caleb Colton

Perhaps the most valuable result of all education is the ability to make yourself do the thing you have to do, when it ought to be done, whether you like it or not.  
- Thomas H. Huxley

Application Assignments

Some people are not very good at taking tests; something about the high-pressure situation makes it difficult for them to perform well. If you wish, you may do assignments instead of taking the exams. The assignments ask you to apply your new knowledge of the ocean, often to a fictional island. They require you to practice synthesizing and summarizing new information, and using evidence to support your reasoning. Many assignments involve creating maps, and most require submitting (typed) answers to questions about conditions on your island. Some assignments will require you to consider all of the islands in a “group.”

Assignments are due at the beginning of class on the day of exams or quizzes, and late assignments will be penalized (see below). I strongly encourage you to do the assignments regularly (e.g., one a week) and then turn them in early. You do not want to do them all at the last minute.

I would be happy to address specific questions about your work and give feedback before you submit your assignment. You are welcome to exchange drafts of your assignments with other students, but when it comes to finalizing your assignment, make sure that you put everything in your own words (see my comments on plagiarism). For this reason, do not allow other students to copy your work, because I will not know whose work is “the original.”
**Late Work**

All work is **due at the beginning of class (e.g., 8 a.m.)**. If class has started when you arrive, your work is considered late. (I typically begin class very close to the starting time.) For most assignments, the late penalty is 10% if you turn in your work after the beginning of class, 20% if your work is turned in 1 class meeting after the due date, and an additional 10% for every additional class meeting after the due date. For example, if an assignment is turned in at 7:55 a.m., then the late penalty is 40% (10% + 20% + 10%). The maximum late penalty is 50%.

The penalty is the maximum score that you can receive. In other words, if your work is not turned in at the beginning of class, it cannot receive better than an “A−” (90%); if it is 1-class-meeting late, it cannot receive better than a “B−” (80%); and so on.

These penalties also apply to make-up tests.

In some cases, late work will not be accepted. For example, students cannot get credit for labs which they did not work on in class or for participating in exam review sessions if they did not bring answers to the exam review questions. (No “stamps” = no credit)

Week 15 is the last week to turn in late labs; no late labs will be accepted in week 16. (The Climate Change lab and the Sandy Shores ASA will be accepted because they are due in week 16.) All work for the class must be completed and turned in by 12:30 p.m. on the Friday of the last week of the semester. No work will be accepted after this time.

**Extra Credit and “Make-Up” Tests & Labs**

Students who miss an exam or quiz should take a “make-up” test as soon as possible, because the longer they wait, the more their grade will be reduced (see the section on “late work”). The “make-up” test cannot be taken during class time. Make an appointment with me to take the missed exam or quiz. The penalty will not be reduced if your “make-up” test is delayed because our schedules do not match. (Students cannot expect me to re-arrange my schedule because they missed a test.) The only excuse that I will accept for missing an exam, quiz, lab, etc. is a verifiable medical problem. If you know that you are going to miss class, please arrange to take an exam or quiz early or to do the “online lab” to avoid the late penalty.

You may “make-up” one lab (or ASA) by doing the Cabrillo Aquarium ASA found at the end of your lecture notes. (We will not do this ASA as a class.) You must take a picture of yourself in front of a recognizable part of the aquarium (e.g., the whale statue) to prove that you were there. Make an appointment to show me the picture and the completed lab to receive credit.
Is there anything that I can do if I am failing the class at the end of the semester?

If you are afraid that you will not get at least a “C” (a passing grade) at the end of the semester, you may take a special final exam covering the entire course (no specific study guide) in addition to the last exam. (There will be no “discussion time” during the special comprehensive final exam; you are completely on your own.) If you pass both the special final exam and the last exam, and you have a “C” or better for your combined lab participation & homework score, then I will give you a “C” in the class no matter how many points you missed on homework, labs, and tests during the semester. (“C” or better on all three – if you get a “C” on two, then you do not pass.) By earning passing grades in all 3 categories, you are demonstrating “satisfactory” knowledge of oceanography (“C” work). However, “good” and “excellent” students study hard, do good work, turn their work in on time, etc. throughout the entire semester, not just at the end of the semester. Therefore, you cannot get an “A” or “B” in the class no matter how well you do on the special final exam and the last exam.

Plagiarism & Cheating

If I judge you to have plagiarized an assignment or cheated on a test, then at the very least you will get no credit for the assignment or test. I reserve the right to fail students who cheat and/or report them to the college.

Plagiarism (“copying”) is presenting someone else’s work as your own. Altering a few words here and there does not make the work your own, nor does eliminating, adding, or switching the order of a few sentences or clauses. It is still copying. Make sure that you present the information in your own words. You may use quotes (“ ”) to indicate where you have used someone else’s material, but do not let your answer become a string of quotes without any of your own analysis.

Personal Information Cards

Information that students provide on the “personal information cards” will be used to contact the students only for class-related business (e.g., to return a phone call, if a textbook is left in class, if a backpack is left at an ASA, etc.). Students are not obligated to provide any contact information if they do not wish to do so, but should recognize that it may make it harder for me to reach them (e.g., if they do not speak clearly when leaving their phone number on my voicemail).

Adding & Dropping

Students will not be allowed to add this class after the add deadline. If you do not attend class, I reserve the right to assume that you are no longer in the class and to drop you. To avoid being dropped, please contact me to tell me that you wish to remain in the class. On the other hand, it is the student's responsibility to initiate the procedure of dropping or withdrawing from a course; do not expect me to do this for you in time for you to have the best mark on your transcript; you may end up with an “F” in the class instead of no grade or a “W.” Although you do not need to inform me of your drop or withdrawal, I would appreciate being informed and being given the chance to talk to you before you withdraw from the class. I would hate for a misunderstanding to cause you to drop the class unnecessarily and lose time (and money).
Course Objectives

Students who pass this course will be able to:

1. Use the theory of plate tectonics to explain observed features of the Earth’s surface including continents and ocean basins, earthquakes, fossil remains, islands, mountains, oceanic ridges, trenches, and volcanoes. Also, they will be able to use observations of the Earth to assess the validity of the theory of plate tectonics.

2. Describe the chemical and physical properties of water and seawater, and explain these properties in terms of the behavior of atoms and molecules. Also, they will be able to explain how these properties affect the behavior and movement of seawater.

3. Describe and explain how the ocean and atmosphere interact with one another, especially how the ocean affects climate and the impact that global warming will have on the ocean.

4. Describe the surface and deep circulation of the ocean, and explain the observed motion of the ocean in terms of wind forcing, the Coriolis effect, and density differences.

5. Describe the formation of waves (wind-generated, internal, and tsunami), and explain how wave phenomena such as refraction, reflection, standing waves, and wave dispersion affect their propagation and characteristics (e.g., wavelength, height, period). Also, explain how and why waves change as they shoal, and how coastal variations can produce different breaking patterns.

6. Explain the observed daily and monthly cycles of the tides using the equilibrium and dynamic theories of the tides, and explain how local conditions (e.g., shoreline shape, weather) can affect tidal patterns.

7. Explain the origin of coastal features such as sandy and rocky beaches, headlands, coves, sea arches, sea stacks, wave-cut and marine terraces, barrier islands, spits, and tombolos in terms of wave conditions, tides, and changes in sea level.

8. Explain the origin, movement, modification, and deposition of marine sediments in terms of the physical, chemical, and biological conditions affecting them.

9. Describe and explain the spatial and temporal distribution of ocean primary productivity (algae growth) in terms of the availability of sunlight and nutrients. Describe the flow of energy and nutrients into, through, and out of marine food webs, and analyze how human actions can disrupt food webs.

10. Describe special adaptations of marine organisms, and explain how these adaptations promote their survival and reproduction under the unique physical and chemical conditions found in the ocean.

11. Interpret contour maps, and find locations, measure distances, and take into account scaling factors on nautical charts. (Map Skills)

12. Solve problems using dimensional analysis, and calculate percentages, areas, and volumes. (Math Calculation Skills)

13. Prepare and analyze graphs, including time-series graphs, histograms, multivariate graphs, scatter plots, and pie charts. (Math Graphing Skills)

14. Make and describe observations, propose hypotheses and experiments to test hypotheses, and present an argument supporting or undermining hypotheses in terms of the observations.
**Contract with Students**

*Read the following statements about your abilities, intentions, and resources.*

I can and will attend class regularly; the class does not conflict with my work and/or other responsibilities. If I know that I will be absent from class, I will contact my instructor ahead of time and notify him so that I minimize the effect on my grade (for example, I will ask if any accommodations can be made for the activities and assignments that I will miss). I will contact my fellow students to get the notes and other information that I miss.

If an unexpected event causes me to miss a test, I will contact my instructor promptly to arrange for a make-up test at his convenience. I understand that there will be a late penalty. If an unexpected event causes me to miss the due date for an assignment, I will turn in the assignment as soon as possible, and understand that there will be a late penalty.

I will come to class “on time” and return from breaks at the designated time. I will not delay coming to class to get food or drinks. I will eat before coming to class or during breaks, not during class.

I will ask questions promptly when I am confused.

I will read and do the assigned readings assignments before the due dates, and come prepared to discuss them in class. I will ask questions if I do not understand the material. I have at least 12 hours per week that I can and will spend on studying and preparing for this class outside of class time.

I will fully participate in all classroom activities, including the labs. I will not work on assignments for other classes or on personal matters during class time. I will not use my cell phone during class time, only during breaks. I understand that I may be penalized for using my cell phone during class.

During lab time, I will focus on the labs. I will not copy lecture notes or other materials that I missed. I will not do work for other classes or on personal matters. I understand that I will be penalized if I do not work on the labs during lab time.

If I talk with other students during lectures (perhaps to ask a question), I will keep my conversation brief and quiet so that I will not disturb other students who are trying to listen. I understand that I may be asked to leave the classroom if I disrupt the class, and may be penalized as a result.

I will pay attention when the instructor shows videos. I will keep any remarks that I make to other students brief and quiet so that I do not disturb students who are trying to pay attention.

I will be polite and courteous to my instructor and fellow students. I will use appropriate language in class and my assignments. My feedback will be constructive criticism which helps others improve, and does not mock their work or humiliate them.

I understand that plagiarism (“copying”) is presenting someone else’s work as my own work. Altering a few words here and there does not make the work my own, nor does eliminating, adding, or switching the order of a few sentences or clauses. It is still copying. I will not plagiarize anyone else’s work, including members of my lab group, or let anyone else take a test for me. I understand that if I do so, I will receive an “F” on the assessment and potentially in the class. I understand that if I let other’s copy my work or do their work for them, then I will be complicit in plagiarism and penalized as well.
How to Succeed in Oceanography

- Take notes during the lecture and read the textbook pages on the study guide and/or the online reading assignment (or both!).
- Read the reading assignments in your lecture notes
- Answer the questions on the study guides using use the lecture notes and assigned readings
- Quiz yourself on answers to the study guide questions by logging into the Etudes Course Management system and taking the online quizzes
- Form a study group and compare your answers to the study guide questions with other students’ answers.
- Show your answers to the study guide questions to Mr. Noyes, and ask him about the answers that you could not find. See Mr. Noyes several days before the next exam or quiz.
- If you miss a class, get the lecture notes, read the textbook pages on the study guide, and/or read the online reading assignment.
- Be in class every day so that you can get credit for doing the labs and activities. Get all your questions about the lab answered in class.
- Type your homework, and bring it to class on-time so that you can participate in related classroom activities and get full credit for it.
- “Lab time” is not “break time.” Work diligently on the labs so that you can get all the points, and will not have to take any work home. (Information from the labs will be on the exams too!)

Notice that good performance on labs and homework can make up significantly for lower exam and quiz scores.

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<tr>
<th></th>
<th>Student A</th>
<th>Student B</th>
<th>Student C</th>
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<tbody>
<tr>
<td>Labs &amp; Homework</td>
<td>A+ (100%)</td>
<td>A− (90%)</td>
<td>B− (80%)</td>
</tr>
<tr>
<td>Exams &amp; Quizzes</td>
<td>B (83%)</td>
<td>C (73%)</td>
<td>D (63%)</td>
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<tr>
<td>Final Grade</td>
<td>A (90%)</td>
<td>B (80%)</td>
<td>C (70%)</td>
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Contacting Your Instructor

I will check my email (tnoyes@elcamino.edu) and voicemail (310-660-3593, ext.3356) at least once per day on the days when I teach (unless I am away on an ASA). I would be happy to meet with you outside of my regular office hours (in other words, at a time that is more convenient for you); just make an appointment. You are also welcome to drop by my office anytime, but I cannot guarantee that I will be available to meet with you.

Students will be notified ahead of time when and if any changes are made to course requirements or policies.