

# West Valley College

## Biology 48 - Human Physiology

### Spring 2012

Instructor: Christine Peters-Stanton  
 Section: Bio 48 : 15917: 15918  
 Lecture: TTh 7:45- 9:10 (SM34)  
 Lab: TTh 9:20 – 12:30; 12:50 – 4:00 (SM52)

Office : SM 55G  
 Office Hrs : TTh 7:15 – 7:30am, 4:00 – 5:00pm  
 Phone : 741-2626 (Please leave a message)  
 Email : christine.peters@west valley.edu

#### Tentative Lecture Schedule :

Wk.	Dates	#	Topics	Reading Assignment
1	1/31	1	Intro / Homeostasis / Chemistry	1: 4-10, 2: 26-3, 6:134-140
	2/2	2	Organic Chemistry	2: 31-45
2	2/7	3	Membrane Structure /Transport	3: 52-56, 6: 132 – 147
	2/9	4	Membrane Transport / Energy & Enzymes	6: 132 – 147, 4: 90-101
3	2/14	5	Enzymes / Cellular Respiration	4: 90-101, 5: 108-125
	2/16	6	Cellular Respiration / Metabolism	5: 108-125
4	2/21	7	Metabolism	5: 108-125
	2/23	8	Muscle Physiology	12: 348-370
5	2/28*	9	Muscle Physiology	12: 348-370
	3/1	10	Muscle Physiology / Membrane	12: 348-370; 6: 147-150
6	3/6	11	Action Potential	6: 147-150, 7:172-179
	3/8	12	Action Potential / Synapse	7:179-196
7	3/13	13	Neurotransmitters	7:179-196
	3/15	14	Neurotransmitter Mechanisms	7:179-196, 9: 236-252
8	3/20	15	Neurotransmitter / Somatic Nervous Sys.	9: 236-252
	3/22	16	Somatic/ Autonomic Nervous System	9: 236-252
	3/26 – 3/30		Spring Break –No School	
9	4/3*	17	Hematology / Hemostasis	13: 390-402
	4/5	18	Cardiovascular Physiology	13: 402-414, 14: 434-438
10	4/10	19	Cardiovascular Physiology	14: 434-438
	4/12	20	Cardiovascular Physiology	14: 434-438, 14: 438-442
11	4/17	21	Cardiovascular Physiology	14: 434-438, 14: 438-442
	4/19	22	Respiratory Physiology	14: 434-438, 14: 438-442
12	4/24	23	Respiratory Physiology	15: 512 - 525
	4/26*	24	Respiratory Physiology	16: 525 - 550
13	5/1	25	Renal Physiology	16: 525 - 550
	5/3		Renal Physiology	17: 560-570; 17: 560-591
14	5/8	26	Renal Physiology	17: 560-591, 14: 441-445
	5/10	27	Fluid Balance	17: 560-591, 14: 441-445
15	5/15	28	Endocrine System	11: 306-336
	5/17	29	Endocrine System	11: 306-336
16	5/24**	<b>Thurs.</b>	Final Lecture Exam	Morning : 8:40- 11:40 Afternoon: 12:40- 3:40

**Note:** ★★ Lecture Schedule is tentative and subject to change as the course progresses.

## Laboratory Schedule:

Wk	Dates	#	Exercises/Topics	Text Reference
1	1/31 2/2	1 2	Orientation / Homeostasis / Statistics Data Analysis / Metrics (Microscope)	1: 4-10
2	2/7 2/9	3 4	Organic Chemistry Bioenergetics, Molecular Movement	2: 31-45 3: 52-56, 6: 132 – 147
3	2/14 2/16	5 6	Enzymes Kinetics • <b>(Due 2/23)</b> Cell Respiration (TCA/Krebs Cycle)	4: 90-101 4: 98-101, 5: 104-119
4	2/21 2/23	7	Nutrition / Fitness Lab – <i>Pot - Luck</i> <i>Review – Chemistry, Molecular movement, Enzymes, Respiration</i>	2: 31-45, 18: 598-631
5	2/28 3/1		<b>Exam I (Wks 1 – 4: Lects 1-7, Labs 1-6)</b> Bio-instrumentation	
6	3/6 3/8	9 10	Muscle Physiology (Human) Muscle Physiology (Frog) • <b>(Due 3/22)</b>	12: 348-380 12: 348-380
7	3/13 3/15	13 11	Neurophysiology – Visual and Auditory Senses Neurophysiology – Reflexes	10: 273-296, 10: 269-274 12: 370-380
8	3/20 3/22  <b>3/26 - 3/30</b>	12	Neurophysiology – Action Potential • <b>(Due 4/3)</b> <i>Review – Muscle Physiology, Neurophysiology</i> <b>Spring Break</b>	7:170-180
9	4/3 4/5		<b>Exam II (Weeks 4-8; Lects 7-16, Labs 9 – 13)</b> Hematology I	13: 390-402
10	4/10 4/12	14 & 15 16	Hematology II Cardiovascular Physiology: Electrocardiogram • <b>(Due 4/24)</b>	13: 390-402 13: 402-414, 422-424
11	4/17 4/19	17a&b 18	Cardiovascular Physiology: Vascular / Blood Pressure Cardiovascular Physiology: Pharmacology • <b>(Due 4/26)</b>	13: 414-421 9: 238-252, 13: 408-414
12	4/24 4/26		<i>Review – Blood, Cardiovascular Physiology - Presentations</i> <b>Exam III (Weeks 8-11; Lects 16-22, Labs 14-18)</b>	
13	5/1 <b>5/3</b>	19	Respiratory Physiology <i>Oral Presentations</i>	16: 512-553
14	5/8 5/10		<i>Oral Presentations</i> Renal Physiology: Urinalysis • <b>(Due 5/24)</b>	17: 560-590; 14: 442-445
15	5/15 5/17	21	Endocrine Physiology: Glucose Tolerance Test <i>Review – Respiratory, Renal, Endocrine Physiology</i>	19: 650-662
16	5/24		<b>FINAL EXAM (8:40-11:40) &amp; (12:40-3:40)</b> <b>(Cumulative: Weeks 11-15; Lec 21-29, Labs 19-21 )</b>	

Note : ★★ Anyone with moderate to severe cardiovascular disease, asthma, or any compromising condition must inform the instructor.

### Important Dates:

Last day to ADD	: Feb. 10	President's Day	: Feb.17 & 20
Last Day to DROP without a W	: Feb. 17	Cesar Chavez Day	: Mar. 30
Last day to DROP with a W	: April 27	Spring Break	: Mar. 26 - 31

Welcome to Human Physiology! The following information describes what you can expect from Human Physiology (Bio48) this semester. I will outline what you can expect from this course, from me as your instructor, and more importantly what is expected from you as a successful student. Please read through the following information very carefully. It should function as your first reference whenever you have questions regarding the course.

**General Course Information:** Human physiology is an exciting and *dynamic* field, requiring you to utilize much of what you have learned in biology, anatomy and chemistry. In order to understand and discover the amazing workings within the human body you will bring together the knowledge and understanding of a variety of these disciplines. Over the next 16 weeks we will cover a tremendous amount of information, laying down the foundational science of body function necessary to prepare you for a variety of health related fields. Emphasis will be placed on learning and understanding *normal physiological* function. Pure memorization has no place in physiology, in order for the information to be useful you need to be able to apply the concepts. My goal is not to teach you everything, although it may seem so. It is to give you the physiological tools of knowledge, understanding, comprehension, and problem solving so that you will be confident and capable of synthesizing your own conclusions when presented with novel situations. We (both you and me) will have succeeded if you can apply what you have learned far beyond the reach this classroom.

Unfortunately in order to achieve this level of understanding and to do well in this course you must put forth a tremendous amount of time and effort. Just like learning to play an instrument or a sport, practice and repetition is the key. There is a lot to learn and it will be difficult, but the knowledge you will gain is worth the effort. Emphasis will be placed on the physiological principles and mechanisms of normal body function. As your instructor I am here to facilitate your learning by presenting the material and by assisting you in your understanding. I will do what I can to help you however, it is difficult for me to access your level of comprehension. So it is your responsibility to seek help when you need it and to put forth the necessary effort.

Biology 48 is a five units, semester lecture and laboratory course. It is designed to satisfy the requirements for degrees in Nursing, Physical Therapy, Occupational Therapy, Human Performance, Nutrition, Dental Hygiene, and other related fields. It is acceptable for credit by the University of California and the California State Universities (caution: if you plan to transfer it is your responsibility to confirm with the department / institution to which you wish to transfer that this course meets their requirements, they have the final say).

*Prerequisites:* Completion of a college anatomy course (i.e. Bio 47) and college chemistry course (with a grade of C or better). Students are expected to read and write at a college level and know enough mathematics to use elementary algebra, graphs, and charts to solve problems.

Note: If you have a learning or physical need that will require special accommodations in this class you will need to notify me in writing of your accommodation needs. West Valley College makes reasonable accommodations for persons with documented disabilities. College materials will be available in alternate formats (Braille, audio, electronic format, or large print) upon request. Please contact the Disability and Educational Support Program (DESP) at 408-741-5085 for assistance.

**Nature of the Course:** Biology 48 – Human Physiology meets Tuesday and Thursday for lecture at 7:45 followed by lab at either 9:20 or 12:50. In addition to the over nine in class hours per week, plan on spending at least an additional 12-15 hours per week studying (practicing the discipline) outside of class. The amount of time you dedicate to your learning process will determine how well you do in this course. It is thus important that you schedule and prioritize your time effectively. Remember this is a UC and Cal State transferable course and the rigor of the course is reflected as such.

**Lecture Format:** During the lecture portion of the course concepts of human physiology presented in the textbook will be discussed, expanded on, and further clarified. Although this portion of the course will follow a typical lecture setting, questions and class interactions are encouraged. If during the lecture you have a question, please ask - chances are that others have the very same question. It is expected that you arrive to the lectures on time and prepared, having downloaded the relevant lecture handout from the course website (<http://instruct.westvalley.edu/peters/>), prior to the class meeting. During the lecture period, you will be responsible for taking complete, accurate notes, and asking questions when necessary. If you miss a lecture it is your responsibility to obtain the lecture notes from another student in the class (exchanging phone number or email with a classmate is a good idea). Lecture outlines are optional but can be used to help organize your lecture notes. Used well they can be very beneficial but should not be a replacement for attending lecture. In addition lecture handouts also contain practice exam questions (study questions) which you should answer in order to assess your level of understanding for the relevant material – it is likely you will see some of the practice questions again on exams. Generally you will not need to bring your textbook to lecture, however it is strongly recommended, as it would be to your benefit to have it available.

Note : The instructor may make changes to the syllabus during the semester. It is the student's responsibility to stay informed of these changes. Students may contact the instructor during office hours and before/after class, time permitting. Students may also wish to have a study partner whom they can contact if they miss class.

\* **Lecture outlines will be available on line:** <http://instruct.westvalley.edu/peters/>

### **Student Lecture Responsibilities:**

1. **BE ON TIME:** Be respectful to your instructor and fellow students, arriving LATE to class is disruptive to the instructor and your classmates. If you do need to arrive late please sit in the back or side seats, so as to produce the least disruption as possible.
2. **Turn OFF YOUR CELL PHONES!**
3. Arrive to class prepared – download lecture handouts and read the assigned material PRIOR to attending the lectures
4. Listen and take complete lecture notes
5. Following the lecture, complete the series of *practice exam questions* accompanying each outline. These questions will not be collected and graded but will be seen on exams and quizzes.
6. Ask questions when there is confusion about the lecture (or lab) material. If you don't understand something, it is likely others don't either. By asking questions, you will be making the lectures more interactive and interesting for you and others.
7. Visit the web site weekly for announcements, handouts and grade updates.

**Laboratory Format:** Much of what we understand about human physiology is derived from laboratory investigation. As such the laboratory portion of the course is integral to your effective learning of physiology. Lab is designed to be a hands-on, interactive exploration of human physiology. Most of the concepts covered in lecture will be further explored in lab. For many the hands on experience and student interaction will help make difficult physiological concepts more understandable. Concepts will be presented through the use of chemicals, physiological equipment, bio-instrumentation, experimental animals, and your own bodies. Students are expected to participate in ALL laboratory activities. The ONLY exception will be individuals having a health condition which precludes them from participating. *If this is the case, the student MUST notify the instructor with a written explanation of the situation immediately.*

A secondary aim of the lab is to introduce you to the methods and techniques of physiological exploration. This will include activities ranging from searching and reviewing literature, to

performing experiments using fairly sophisticated equipment. It is not expected that you become "expert" in any of these techniques, however each individual should familiarize themselves with all of the activities in the lab. It is expected that you read through the assigned reading in your lab manual and handouts prior to the class meeting time. You will need to bring your lab manual and handouts to every lab meeting. During the introduction to the lab, verbal modifications to the lab handouts are sometimes given as important supplemental information. An important laboratory objective for you to learn is to integrate multiple sources of information.

One feature of physiology that students often find frustrating is the variability inherent in physiology. The concepts that will be presented in lecture and the text are based on statistical analysis; meaning they apply in general but cannot always be demonstrated in each experiment. For this reason inter-table interaction and discussion is strongly recommended. Following completion of related lab sequences time has been set aside for discussion and review of the lab experiments (see "*Review*" lab session in the schedule). During these lab periods students, guided by the instructor, will present and review with the class the data collected during preceding labs. It is expected that all students will have worked through all of the data from the preceding labs and be ready to participate in the discussion.

**Note:** Review labs are a class activity, this is your last chance to get your questions answered before the quiz and/or exam. Attendance and participation in review labs is mandatory.

### **Student Lab Responsibilities:**

1. **BE ON TIME:** Important instructions, demonstrations, safety precautions, and alterations to the lab will be presented at the beginning of lab. For your own safety as well as the safety of others it is important that you heard all of the lab instruction.
2. **Be PREPARED:** *Read the assigned lab prior to class.* Additional handouts may be provided prior to lab. This will allow the labs to run smoothly and safely.
3. **PARTICIPATION:** In addition to being a required element of lab, participation will further solidify difficult concepts.
4. **ANSWER** laboratory questions outlined in lab manual. Only a select number of lab worksheets will be collected. These labs are indicated in the course outline with a dot (•); Labs 5, 9, 13, 16,18, and 20b).
5. **BRING:** Lab Manual to all labs. The textbook is also very helpful during labs.
6. Turn your **CELL PHONES OFF** or on vibrate **PRIOR** to coming into class
7. **ASK QUESTIONS:** Especially in lab, clarification of safety information, instructions, lab responsibilities and procedures, is very important. You should not have questions on what you will be responsible for in the lab activity
8. **CLEAN-UP;** ALL students are responsible for returning the lab equipment, instruments, and lab area to its original **CLEAN** condition. The following guidelines will be helpful:

Preparation for lecture means;

1. You have reviewed and feel comfortable with the previous lecture's material and have reviewed the study questions at the end of the lecture outline.
2. You have downloaded, from the course website, the lecture outline for the day.

Preparation for lab means;

1. You have studied the previous lab material and feel comfortable with the information
2. You have read and reviewed the material for the day's lab in your lab manual.

*If you do arrive late please sit in the back or side of the room so as not to disrupt the class (your peers or instructor). DO NOT WALK across the front of the classroom please!!!*

**Lab Clean-up:**

- a. Wash all glassware, rinse thoroughly and put in designated receptacle
- b. Save data, turn off all computer and electrical equipment (coil cords & put away as appropriate)
- c. Wipe off any equipment that is soiled (unplug first)
- d. Clean, rinse and dry all surgical instruments
- e. Clean lab tables with a disinfectant
- f. Dispose of all waste IN THE APPROPRIATE CONTAINERS

Note: Eating, drinking, and smoking within the lab room is strictly prohibited (except during the one nutrition lab). No visitors are allowed in the lab.

**STUDY GROUPS!!!!!!** One of the best ways to study and understand physiology is by discussing the key concepts with fellow students. I highly recommend organizing study groups. The greater your involvement in the course and the material the better your performance.

**Attendance Policy:** Attendance is mandatory. It is your responsibility to attend ALL class meetings. Attendance will be recorded using *attendance cards*. These cards will be handed out the first day of class and used for the remainder of the semester. The cards must be picked up at the start of class and initialed to indicate your presence. The cards will be returned to the instructor at *the end of the class session*. In addition the attendance cards will also include space for extra credit questions. Points from the extra credit questions will be added to the student's grade at the end of the semester. Class will start on time and last the entire time. It is expected that you are present at the start of class and attend the entire period. If you are unable to attend lecture or lab, it is your responsibility to obtain the lecture and lab material from a classmate. It is also helpful to let the instructor know if you will not be able to attend lab so that adjustments can be made if necessary. Please do not schedule appointments during scheduled class time or plan on leaving early. Due to the difficulty in setting-up lab exercises, they CAN NOT be made up. It is the *student's responsibility* to obtain the material which is missed and understand the concepts which were presented. *Failure to attend the equivalent of 10% of the course (4 lecture and/or lab classes) are subject to being dropped from the course.*

**Withdrawing** (WVC Catalogue page 179, 182)

If you decide to withdraw from the course it is up to you to fill out the appropriate paperwork and inform the instructor. Do not assume that if you stop coming to class that you will automatically be dropped. Students which stop coming to class but do not officially drop from the course may end up with a failing grade. (ie it is your responsibility to withdraw from the course).

Note: Students are expected to attend all sessions of each class. Instructors may drop students from the class if they fail to attend the first class meeting, or when accumulated unexcused hours of absences exceed ten percent of the total number of hours the class meets during the semester. Moreover, an instructor may drop from the class any student who fails to attend at least one class session during the first three weeks of instruction.

**Academic Dishonesty** (WVC Catalogue page 182)

The college policy regarding cheating is clearly outlined in the college catalogue and will be strictly enforced. Use of any method other than your knowledge and memory (such as notes, looking on other student's papers, communication between students, dictionaries, electronic devices etc.) to answer questions on an exam or quiz constitutes cheating and will result in failure of that exam or quiz and/or failure of the course. Such behavior is disrespectful to me as your instructor, your peers, and more importantly to yourself. ALL EXAMS will be administered in SM52.

Plagiarism: Plagiarism is the act of claiming, or even implying, authorship for written work. This means that you have used someone else's words, ideas or concepts as your own without giving credit to that person.

Note: The College's policy on academic dishonesty covers in-class cheating, out-of-class cheating, plagiarism, and furnishing false information. a definition of plagiarism (found in the policy) AND educate your students about plagiarism when appropriate. Purdue University has a good website that explains to students what plagiarism is and how to avoid it.

The URL is [http://owl.english.purdue.edu/handouts/research/r\\_plagiar.html](http://owl.english.purdue.edu/handouts/research/r_plagiar.html)

### **Test Taking Environment :**

1. Arrive early so that you may start the exam on time, and can adjust for any unexpected occurrences.
2. Bring all materials to the exam; pencils, eraser, calculator, and scantrons (#882)
3. Students will be seated according to an instructor determined seating chart.
4. Put all materials not needed for the exam away in your closed pack. Put your pack out of sight in the cabinet, up by the front desk or in your car. You may NOT have anything in your pockets, on your lap or around your feet ( otherwise stated nothing on you!!!).
5. NO student will be allowed to leave the classroom once the exam has been administered. If you must leave the classroom you must turn in your exam and only the portion of the exam completed will be graded. Please let the instructor know if there is a medical reason which restricts you from staying the entire exam period. (Use the restroom prior to the start of the exam).
6. Absolutely NO talking during the exam.
7. Once the first person leaves the exam, no latecomers will be administered the exam.
8. If, for any reason, you answer a cell phone or pager during an exam you must turn in your exam and forfeit your remaining time. (Unless previous arrangements have been made)
9. You may write in the exam. Read all questions carefully. If you don't understand something ASK please!
10. You must turn OFF all cell phones and place them in your purse or book bag or give them to your instructor. Let your instructor know if you need to have a cell phone on for special circumstances.

If there are any circumstances that preclude you from adhering to any of the exam procedures you must speak to your instructor BEFORE the exam for an exception to be made

**Make-up Exams:** Since the exam schedule is clearly outlined and NOT subject to CHANGE, it is the student's responsibility to schedule appointments and other arrangements accordingly. If you miss an exam for any reason; 1. contact the instructor BEFORE the exam (email or by phone) and 2. Provide written documentation for the absence. At the instructor's discretion, make ups *may* be given but only with an *adequate excuse and written documentation of your excuse* (i.e. doctor's note), or if arrangements are made with the instructor prior to the scheduled exam time.

*Warning:* If you are granted a make-up exam it must be taken *within ONE week* of the original exam date. Exams cannot be made up after grades have been posted. Quizzes cannot be made up under any circumstances and extra credit assignments are not offered (except for those on the attendance cards).

### **Evaluation :**

**Lab Reports:** Each student is required to turn in only six of the lab report pages in the lab manual, although you are encouraged to complete all of the lab reports. The graded lab reports are identified by an (•) adjacent to the assigned lab. Lab reports are scored out of 20 points but will be scaled to constitute 10% of your final grade. Points will be awarded based on the lab's

completeness, accuracy, laboratory technique, interpretation and correctness. The due date for the labs will be posted on the website announcement page (generally labs will be due 1 – 2 weeks after the completion of the lab).

1. Lab 5 Enzyme Kinetics: Due 2/23
2. Lab 10 Muscle Physiology: Due 3/22
3. Lab 12 Action Potentials: Due 4/3
4. Lab 16 Electrocardiogram: Due 4/24
5. Lab 18 Cardiac Pharmacology: Due 4/26
6. Lab 20b Renal Physiology: Due 5/24

**Homework Problem Sets:** Four homework sets will be administered throughout the semester. They will be made available on line on the course webpage. Each problem set will be worth 20 pts. You will have approximately one week to complete each problem set. Each problem set consists of data analysis, fill-in questions, problems and short answers. The homework sets are designed to help you think about the concepts that were presented in lecture or in lab. Students may work on problem sets together but must turn in their own work. Both the student copying and the student from whom information is copied will receive a zero!

**Quizzes:** Quizzes worth 20 pts. each will be administered at the beginning of the lab periods throughout the semester. Quizzes consist of true/false, multiple choice, fill-in, and short essay questions. Quizzes are *unannounced* and anyone coming in late will not receive additional time. Quizzes cannot be made up. You will be able to drop your lowest quiz grade. If you miss a quiz this one will be automatically counted as a zero and dropped. More than one quiz missed will be recorded as a zero grade. (note: it is likely you will have a quiz once a week!)

**Oral Presentation:** Each student is required to either complete an oral presentation (see supplemental handout: “Presentation Guidelines” available on the website). Students will either present to the class a researched topic relevant to human physiology. Each student will research a current relevant topic and present the topic. Researched information must include at least **two** peer reviewed scientific periodicals or journals and must be referenced. The presentation must be at least 5 -10 minutes and they must include a one page summary of their topic with the references included. During the 4<sup>th</sup> week of class a sign-up sheet for presentations/ papers will be distributed. *Note: the oral presentation must be accompanied by a one - two page type written summary and a reference list.*

**Exams and Final Exam :** There are three midterm exams that will be given on the dates listed on the schedule and a comprehensive final exam (approximately 65% new material and 35% comprehensive). Exams are composed of true-false, multiple choice, fill-in, and essay questions including stations (with displays that you will need to be able to identify, name, describe and/or explain). Exams will cover material from both the lecture and the lab.

Please bring a scantron (form #882), pencils, eraser, and a calculator to each exam. They can be purchased at the Bookstore. No exams will be dropped.

**Participation:** Participation is mandatory and shall be evaluated through attendance records and periodic checks of lab activities. Some ways in which to lose participation points are 1. violation of lab procedures, 2. leaving the lab work area in disarray or dirty, 3. demonstration of continued lack of preparation for lab, 4. failure to complete lab activities, and 5. poor attendance. Note: gross lack of participation may result in additional loss of points (see attendance section).

Note: Students are expected to attend all sessions of each class. Instructors may drop students from the class if they fail to attend the first class meeting, or when accumulated unexcused hours of absences exceed ten percent of the total number of hours the class meets during the semester. Moreover, an instructor may drop from the class any student who fails to attend at least one class session during the first three weeks of instruction.

**Note:** If any student feels that he/she is not performing as well as they believe they should or simply needs help, *be sure to come talk with me before things are out of control.* If you have problems at the beginning of the course, chances are that you will continue to have these same problems throughout the course. It is your responsibility to let me know if you need assistance. I will do my best to help you and may also suggest others on campus which may be of assistance (ie tutorial services). *Tutorial services: 408 741-2038*

**Grading :** You are not entitled to a passing grade, you must earn it. You will be graded based on how well you do, not on how hard you work. ***Effort is expected, not rewarded.*** However, you are not in competition with other students. Working in groups is to your advantage. Your course grade will be determined by the total number of points you earn from the following:

**Point Breakdown:**

Lab assignments (6 @ 20pts scaled to ~10% to grade) . . . . .	90
Oral Presentation (50 pts.): . . . . .	50
Homework Problems (4 at 20 pts. each): . . . . .	80
Quizzes (20 pts. each - Lowest grade dropped scaled to ~20%)	175
Exams (3 exams at 125 pts. each) : . . . . .	375
Participation/ Attendance: . . . . .	15
Syllabus Quiz ( <i>download from website</i> ). . . . .	10
Final Exam (150 pts, comprehensive): . . . . .	150
<b>Total Points Possible: . . . . .</b>	<b>945 pts</b>

Points earned will be converted to a percentage score as follows:  
 $(\text{pts. earned} / \text{pts. possible}) \times 100 = \%$

Your final course grade will be based on the following scale:

- A . . . . . 90-100%
- B . . . . . 80-89%
- C . . . . . 65-79%
- D . . . . . 55-64%
- F . . . . . below 55%

Periodically I will post your grades. This gives you the opportunity to confirm where you stand in the course, if you are missing any work or if I have made any errors recording your grades. Be sure to look it over. If you have any questions regarding any grade you receive and/or the grading method please feel free to talk to me.

Notes: Because of the importance of the lab, credit by examination is not possible. In rare instances if unforeseen circumstances prevent your completion of the course an incomplete grade may be given by arrangement with the instructor. In accordance with school policy, the incomplete must be made up by the end of one year following the semester in which the incomplete is given. This course may be taken again if the final grade is a D or an F.

***Remember, you will be graded based on how well you do, not on how hard you work. Effort is expected, not rewarded.***

**Required Materials:**

**Texts:**

1. Human Physiology, 12<sup>th</sup> edition, Mc Graw Hill Higher Education, New York, NY, Stuart Ira Fox. ISBN # 9780077485306★
2. Biology 48 Human Physiology Course Manual, Fall’11 – Spring’12, CHiMPs enterprises, Christine Peters- Stanton, West Valley College, Biology Department

**Optional Texts:**

1. An Introduction to Chemistry for Biology Students, 9<sup>th</sup> edition, Benjamin Cummings, George I. Sackheim, ISBN #: 9780805395716
2. Physiology Coloring Book, 2<sup>nd</sup> Benjamin Cummings Kapit, Macey, and Meisami. ISBN # : 9780321036636
3. Medical Dictionary

**Supplies:**

1. Scantron Forms : exam forms – *at least four #882, and at least six 815EZ forms.*
2. Hand held calculator

**Optional Supplies:**

1. USB pen (flash) drive for saving lab data
2. Three ring binders : One for Lecture Handouts / One for Lab Handouts
3. Laboratory coat

★ **Note:** *You may use an alternate edition of the textbook, but it is up to you to make sure you are reading the appropriate information.*

**Web pages:**

1. Course web page: <http://instruct.westvalley.edu/peters>
2. Textbook support page: <http://www.mhhe.com/fox>

**Additional Help & Reference:** There is a lot of information to be learned in this class and how you utilize your time will greatly influence how well you do. You will set yourself up to succeed if you attend regularly, come to class prepared, ask questions when you don't understand, take good notes... in general, develop good study habits and just a lot of hard work! Each student must find what works best for them, however here are a few helpful suggestions.

1. Skim your reading assignments *prior* to class so that you will have baseline understanding of what is going to be covered. **DON'T** read and try to commit to memory the information **YET**.
  - a. Read the Titles and Bullets
  - b. Skim the chapter reading
  - c. Look at the diagrams
  - d. Skim the lecture handouts; familiarize yourself with the topic to be covered
2. Attend lecture (with this baseline understanding). Bring your lecture handouts, take good notes using your handouts (or additional paper if you choose).
3. Ask questions when something is unclear
4. Review your lecture notes the same day as the lecture. You may want to use the following review techniques:
  - a. Without looking at your notes, write down the overall concept introduced in the lecture.
  - b. Without looking at your notes, write down all of the detailed information you can remember from the lecture.
  - c. Compare what you remember with the actual lecture notes. Highlight anything that you didn't remember. This is information that is not yet in your short term memory.
  - d. Rewrite a complete set of lecture notes.

Remember the goal is to retain the information in your long term memory. To transition the memories from short term to long term, your best opportunity is to review the information while it is still fresh, the longer you wait the less you will remember and will have to start all over creating new short term memories. *In practice you will actually be saving time!*

5. Any questions, which come up during your studying, can be addressed at the new class meeting
6. A few days after the lecture, revisit your notes and repeat the steps a – c above. If there is significant loss of information, you don't know the material well enough and need to review the lecture again.

7. Read the related information in your textbooks for further clarification.
8. Once you feel you have a good understanding of the material, attempt answering the study questions at the end of the handout. DO NOT look through your notes to find the answers. If you do you are only testing how well you can find answers, and remember you will not have the luxury of your study notes on the exam.
9. You can also use the questions in the textbook to help gauge your understanding.
10. Read the labs prior to attending class.
11. Participate in all lab activities
12. Answer all lab questions with completeness and accuracy
13. If you have done all of this – then the weekend before the exam will be simply review.
14. Make sure you are getting a good night's sleep prior to the exams

Note: Studies have shown that much of the conversion of short term memories into long term memories occur during sleep. So if you want to remember the information you are studying a good night's sleep is critical. In addition, memories are more easily retrieved (ie remembered or recalled) if they are "stored" in several locations in your brain. This can be done by using more than one modality. For instance, listening to a lecture uses hearing versus drawing diagrams of the concepts which using complex cognition and manual coordination. Explaining the concept to someone else requires a tremendous amount of complex neural networking. If you can explain a concept to someone you will be even more likely to remember it than simply reciting the material to yourself.

So – Use more than one modality when learning a new concept, Explain the concepts to someone else, and sleep on it! If you are dreaming physiology then memories are being formed!

### **Miscellaneous Notes:**

Due to the disruptive nature of cell phones and pagers these devices must be turned off while in lecture and lab. If for some reason you must leave your cell phone or pager on please switch it to silent mode and leave the room before answering it.

### **Additional Resources :**

1. **Website** : <http://instruct.westvalley.edu/peters/>. The website will provide you with the relevant information regarding the course : Lecture outlines, homework assignments and due dates, syllabus, etc. Check the website weekly for updates and materials.
  - a. ***Lecture Outlines***: These can be downloaded onto your desktops and can then be printed and brought to class.
  - b. ***Syllabus and syllabus quiz*** will be distributed on-line
  - c. ***Homework*** will be assigned and distributed on-line. Check the website weekly to find out if there is any new homework. The homework can be downloaded onto your desktops and printed.
  - d. Links to relevant web sites.

**NOTE: Biology 48 will not be using the ANGEL website. Please do NOT use the ANGEL website for course information or for contacting the instructor!!!!**

2. **ADInstruments Web link**: Student data generated during the ADInstrument computer labs can be saved in a USB pen (flash) drive. You can analyze the data by using the LabChart Reader link. The link and procedure for saving is different depending on if you are using Windows or Mac.

**URL: <http://www.adinstruments.com/products/software/education/LabChart-Reader/>**

**Notes:**

★ Any student who chooses to use an alternate edition for either the textbook or the laboratory manual, is responsible for making sure that they are reading the appropriate material in preparation for lab and lecture.

★ All necessary laboratory & safety equipment will be supplied; Although, if you have access to your own gloves – it would be greatly appreciated if you bring them.

**Student Learning Outcomes:** At the termination of the course you should be able to Explain the process of disease as it changes normal function, Outline a negative feedback loop and understand the interrelationship between organ systems and the maintenance of homeostasis.

*Enjoy this journey through the human body!*