

SHASTA COLLEGE
SCIENCE, LANGUAGE ARTS, and MATHEMATICS DIVISION
FIRST CLASS HANDOUT, SPRING 2019

TITLE OF COURSE AND NUMBER

PHY 1, Human Physiology

Prerequisite: Determination, Perseverance and a Quest for Knowledge

Course Units: 5

Class Hours/Week: 4 Lecture/ 3 Lab

INSTRUCTOR INFORMATION

Instructor Dr. Croes

Office: Room 1618

Office Phone: (530) 242 – 2328

E-mail: scroes@shastacollege.edu

Website: <http://www.drcroes.com>

This website contains important course documents and useful web links related to the subjects discussed in this class.

Office Hours: M 10:00 – 11:00 am

T 9:00 – 11:00 am

W 1:00 – 2:00 pm

F 8:00 – 9:00 am

You are welcome to schedule an appointment if you need to meet outside my office hours. Additionally, I have an open door policy so you are welcome to just drop by anytime I am in my office.

T TH Physiology Lecture – Tuesday 11:00 – 12:50 pm (Life Science Building, room 1632)
Lecture Class Thursday 11:00 – 12:50 pm

Schedule:

Laboratory – Tuesday 2:30 – 5:20 pm (Life Science Building, room 1612)

Note: Lab day depends on the Thursday 8:00 – 10:50 am

specific section you are Thursday 2:30 – 5:20 pm

enrolled. Friday 9:00 – 11:50 am

COURSE DESCRIPTION:

A systematic hands-on approach to understanding human physiology. Study of the physiological principles, function, integration and homeostasis of the human body at the cellular, tissue, organ, organ system and organism level: integumentary system, bone, skeletal, smooth and cardiac muscles, nervous system, sensory organs, cardiovascular system, lymphatic and immune systems, respiratory system, urinary system, digestive system, endocrine system, and reproductive system as well as some of their common pathologies. Experiments are performed in the laboratory to illustrate functional characteristics of cells, membranes, and organ systems discussed in lecture and to provide direct experience with lab techniques, recording systems and methods of data analysis. This course is primarily intended for Nursing, Allied Health, Dental Hygiene, Kinesiology, and other health related majors.

Important Dates	
Classes Begin	January 22
Last Day to Drop with 100% Refund	February 1
Last Day to Drop without record or a "W"	February 1
Last Day to drop with a "W"	April 26
Semester Ends	May 24
Holidays – Class will not meet	
Holiday – Lincoln's Birthday	February 15
Holiday – Washington's Birthday	February 18
Holiday – Spring Break	April 15 - 21

REQUIRED MATERIALS:

1. You have a choice of how you would like to purchase the text book. All choices are fine, it just depends on how you want to receive the text book and how much extra material you want. I have a great deal of study aids built into the class so you really only need the text book for a resource.

Option 1 is a Subscription the Electronic Text Book Version:

Human Physiology: Human Physiology An Integrated Approach (Subscription), 7th Edition.

by Dee Unglaub Silverthorn.

Publisher: Pearson. ISBN- 13: 978-0-13-398340-1

Option 2 is the Electronic Text Book Version with Mastering A&P:

Human Physiology: Human Physiology An Integrated Approach Plus Mastering A&P with eText – Access Card Package, 7th Edition,

by Dee Unglaub Silverthorn.

Publisher: Pearson. ISBN-13: 978-0321970336

Option 3 is the Actual Paper Text book:

Human Physiology: Human Physiology An Integrated Approach 7th Edition,
by Dee Unglaub Silverthorn.

Publisher: Pearson. ISBN-13: 978-0321981226

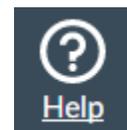
2. Physiology Lab Manual, by Dr. Scott Croes and Dr. Rebecca Osborne, 2019
Publisher: Shasta College

3. Lecture note outlines: Can down load from Canvas or the physiology section of my website. These are not required. However, I believe that you will find them helpful. <http://www.drcroes.com>

4. Computer Requirements: Since a portion of the course will be on Canvas, you will need to have an up-to-date browser and operating system. You can check information on the **Distance Education** page for hardware & software requirements. A number of the documents in this course will be available to you in PDF form. If you do not have Adobe Acrobat Reader software on your computer, you can download it for free by going to <http://get.adobe.com/reader/>

Technical Support:

For technical questions about computer access, etc., we have a great technical support team available 24 hours a day, 7 days a week by phone (844) 698-7484 or you can click on the question icon at the bottom left hand side when you are in Canvas.



SUPPLEMENTARY MATERIALS:

Clinical Applications and Diagrams, printed from physiology web page. You need a set of colored pencils to complete these learning tools.

COURSE OBJECTIVES

Upon successful completion of the course, the student will be able to:

1. Describe and distinguish various roles of major classes of biomolecules in living cells.
2. Identify the general roles of metabolic enzymes, their control in metabolic reactions, and how their dysfunction contributes to disease.
3. Describe key functional features of different types of human cells and how they communicate.
4. Describe the differences of diffusion, osmosis, and active membrane transport processes and their significance to cellular function.
5. Identify key functions of major organ systems and the physiological mechanisms underlying their operation.
6. Demonstrate an understanding of how organ systems of the body are integrated and regulated; e.g., explain how hormones exert their effects on target cells and how their secretion is regulated.
7. Demonstrate an understanding of how homeostasis is maintained in the body.
8. Demonstrate knowledge of metabolic and physiological disorders of the major organ systems that occur in disease, injury or aging of the human body systems; e.g., identification of different types of thyroid disorder due to hyper and hypothyroidism.
9. Identify the functional components of skeletal muscle in contraction and motor-unit recruitment.
10. Describe the relationship between the nervous system and the endocrine system in cellular communication.
11. Describe the intrinsic rhythm of the heart and relate this to a typical electrocardiogram.
12. Explain the laws of hemodynamics in blood pressure regulation.
13. Using spirometer measurements, identify one's pulmonary volumes as a method to discuss the parameters of pulmonary physiology.
14. Identify the digestive process from the ingestion of food, its absorption, and priority of metabolism. Calculate of Basal Metabolic Rate.
15. Describe the role of the kidney in regulating water and electrolyte balance, and general homeostatic functions.
16. Analyze experimental data to demonstrate physiological principles.
17. Demonstrate an understanding of the scientific method, experimental design, and the philosophy of science. Apply the scientific method and philosophy of science by designing components of and carrying out physiological experiments.

COURSE CONTENT

Lecture Course Content:

1. The chemistry of life; organic compounds in physiology and their diversity; enzymes, cell organelles and their functions.
2. Homeostasis and feedback systems
3. Cell membrane, and cell-cell communication; cell membrane transport mechanisms.
4. Major body control systems
5. Functions of the integumentary system
6. Role of bone tissue in homeostasis
7. Skeletal muscle structure and function; muscle contraction mechanisms, fiber types, energy metabolism
8. Membrane potential, action potential, neurotransmitters and their receptors.
9. Nervous system and integration and regulatory mechanisms of the autonomic nervous system.
10. Sense organ function

11. Heart and cardiac cycle; characteristics of cardiac muscle, intrinsic rhythm, electrocardiogram analysis.
12. Cardiovascular system function and regulation; hemodynamics of circulation, blood flow and pressure, capillary pressures and edema, homeostasis mechanisms.
13. Lymphatic system functions and immunity
14. Respiratory system function and regulation, ventilation, gas exchange, hypoxia, lungs role in acid-base balance.
15. Urinary system function and regulation
16. Water, electrolyte and acid-base balance
17. Digestion and nutrition; nutrient absorption, control of digestive processes, glands, and their secretion
18. Metabolism and metabolic disorders
19. Thermoregulation
20. Endocrine functions and regulation
21. Reproductive functions and regulation
22. Clinical applications. Ability to identify and describe disease processes as they relate to changes in the normal physiology. Application of knowledge to various case studies.

Lab Course Content

Note: As we cover each lecture content area there will be a corresponding hands-on lab component for students to develop a deeper understanding using experimentation and clinical case studies.

1. Lab organization; laboratory safety; data management and graphing
2. Characteristics of enzymes - the chemistry of life; organic compounds in physiology and their diversity
3. Fundamental physiological principals -homeostasis and feedback systems; cell membrane, and cell-cell communication; cell membrane transport mechanisms.
4. Human Genetics and inheritance patterns; disorders associated with inheritance
5. Functions of the integumentary system
6. Role of bone tissue in homeostasis
7. Skeletal muscle structure and function; muscle contraction mechanisms, fiber types, energy metabolism. Equipment use – physiographs and BioPac data acquisition system for experimental analysis
8. Membrane potential, action potential, neurotransmitters and their receptors.
9. Electroencephalogram/ Biofeedback; Nervous system and integration and regulatory mechanisms of the autonomic nervous system.
10. Sense organ function; Sensory and reflex physiology
11. Electrocardiology/ Cardiophonics; Heart and cardiac cycle; characteristics of cardiac muscle, intrinsic rhythm, electrocardiogram analysis.
12. Hemodynamics and blood pressure; Cardiovascular system function and regulation; hemodynamics of circulation, blood flow and pressure, capillary pressures and edema, homeostasis mechanisms.
13. Respiratory system function and regulation, ventilation, gas exchange, hypoxia, lungs role in acid-base balance. Analysis of student lung volumes
14. Urinary system function and regulation; Student does urinalysis on their urine
15. Water, electrolyte and acid-base balance
16. Digestion and nutrition; nutrient absorption, control of digestive processes, glands, and their secretion
17. Basal metabolic rate and body fat assessment; Metabolism and metabolic disorders
18. Thermoregulation

19. Clinical applications. Ability to identify and describe disease processes as they relate to changes in the normal physiology. Application of knowledge to various case studies.

STUDENT LEARNING OUTCOMES

Upon successful completion of the course, a student should be able to:

1. Explain the basic physiological functions of the 11 organ systems within the human body.
2. Compare and contrast normal physiological processes and be able to recognize the relationship between pathogenic progression and altered physiological responses.
3. Evaluate the health of the human body by analyzing and correctly interpreting physiological data collected by students utilizing scientific instrumentation.

COURSE REQUIREMENTS AND METHODS OF EVALUATION:

This course will involve both lecture and guided discussion. A typical week will involve 10-40 pages of textbook reading, review of lecture notes, quiz and class discussions. Various homework assignments in the form of study guides will be due on a weekly basis. There will be 5 exams given throughout the course – 4 regular exams plus a comprehensive final exam. Your final grade for this course is based on the combined scores of lecture and lab. **Regularly check your scores on my website and keep all graded material until you receive a final grade for the course.**

1. Lecture Examinations

Five lecture exams will be given, each worth 100 points. Format of questions will include essay, short answer, multiple choice, matching, and fill-in. **The 5th lecture exam is a comprehensive final.** Of the five exams, **the lowest score will be dropped.** Thus, **the comprehensive final exam is optional** and is offered to those who would like an opportunity to increase their grade by replacing a lower exam score received on a previous lecture test with the grade received on the final.

2. Lecture Quizzes

Sixteen lecture quizzes counted, each worth 5 points, will be given throughout the semester and **may be given at the beginning, during or end of each lecture.** There are no make-up quizzes. The number of quizzes given will vary with a total of 16 quizzes to be counted toward your grade. Of these, **only your 16 highest scores will be applied.** This will provide an opportunity to drop one or more low quiz scores. Quizzes will be based on lecture material and readings consisting of a similar format as lecture exams.

3. Laboratory Quizzes

Fourteen laboratory quizzes counted, each worth 20 points. A quiz will be given at the beginning of each lab period. A student must attend the entire lab session to get credit for their quiz. 15 quizzes will be given and your top 14 scores will be counted. Quizzes will be based on lab material from the previous week and **may contain questions from the current lab so be sure to read the current lab before coming to class.** Questions may be in the form of short answer, fill in, multiple choice and matching.

4. Lab Reports

Fifteen laboratory reports counted, each worth 10 points. Lab reports are due at the end of the laboratory period. A student must attend the entire lab session to receive credit for their report. If an individual misses a major portion of the lab session, they will **NOT** be eligible to submit their lab report for credit. You will have the opportunity to complete 16 laboratory reports and of those, I will count your highest 15 lab report scores. See the Laboratory Schedule of a list of lab topics/exercises and dates.

5. Study Guides

Sixteen study guides counted, each worth 5 points. The number of study guide given will vary with a total of 16 study guides to be counted toward your grade. **Complete the study guide in Canvas after you have learned the information from the lecture note outline and key medical terms.** There may be a few questions that you will need to do additional research in your textbook or via the internet. The study guides are set up like a quiz in order to keep track of your points for doing the study guide. It is not a "quiz" so it is alright if you would like to use your notes, book, or each other. You can attempt the study guide as many times as you like to earn up to **5 points** for this assignment. Your highest score will be recorded in the grade book. The study guide for a particular unit that we complete will be **due on the following Tuesday by 11:59 pm**. The correct answers will show on the next day and be available until the exam. This is a great study tool for you to assess your understanding after you have spent the time to learn the information found in the lecture note outline and text book.

6. Clinical Applications and Diagrams

Fifteen selected clinical applications and diagrams will be given at the beginning for each chapter covered in class. Once we have finished the chapter, the clinical oriented case studies, questions, and diagrams for that chapter are to be completed and turned in at the **beginning of the next class meeting.** **Late work will not be accepted. If absent you can take pictures of each of the pages of the assignment and email it to me.** However, it is due at the same time as the rest of the class. A key to the **clinical application questions and diagrams** will be posted by 9 pm on the day the assignment is due. **Clinical application questions and diagrams are given in order to test your understanding of the lecture material, help you prepare for lecture exams/quizzes, and increase your overall knowledge of Physiology.** The portions of the assignment that direct you to color the diagrams are required to be colored for you to receive credit. If you complete and turn in (on time) at least 15 of the 16 clinical applications and diagrams, you will receive **10 bonus points** toward your grade. **Note: if you miss 2 or more of these assignments then you will not receive any bonus points.** It is your responsibility to check the grade sheet for verification that I have received and graded your assignment.

7. Examination Make-ups: Exams will be given at the times noted in the course schedule. However, the schedule is tentative and exams may be rescheduled at the instructor's discretion. Make-up lecture exams may be permitted, at the discretion of the instructor, when clear documented reasons are provided. **A make-up exam score will be automatically reduced by 8%.** If you are unable to take the Final Exam at the scheduled date and time, contact your instructor at least two weeks in advance to schedule an alternate test date.

8. Questions about the class material: I make it a priority to respond to emails, questions, and phone messages in a prompt manner. You can expect a reply within by the next business day when you contact me Monday - Thursday. Due to the high volume of emails that I receive it is usually faster and more effective if you can speak with me during my office times and during your lab. I typically check emails early in the morning and late in the evening Monday through Thursday. Times on Friday and during the weekends can vary.

9. Organization is one of the main keys to being successful. I highly recommend that you have a binder with labeled dividers for the following sections: **Lecture Notes, Clinical Applications/Diagrams, Key Medical Terms, Power Quizzes, Blood Tests, Case Studies, Returned Papers, and Lab Manual.** I suggest the following two options for your binder system:

Option 1) Have a single 2 ½" to 3" binder in which you combine both the lecture information and the lab manual. This works well because you have all your information in one binder but it is bulky to carry to each class.

Option 2) Have two binders; a 1" binder for your lab manual and current lecture information for the upcoming lecture exam and a second 2" binder to put past sections into once that lecture exam is completed. The advantage is that you take a smaller lighter binder to each class.

Summary of Evaluation Methods:

Lecture: At the end of term – a student's highest 4 lecture exams scores, highest 16 lecture quiz scores and 16 study guide scores will be totaled and multiplied by a factor of 0.75. Lecture exam and lecture quiz scores count for 75% of your final grade.

Lecture is worth 75% of class grade

4 Lecture Exams	100	points each =	400	
16 Lecture Quizzes	5	points each =	80	
16 Study Guides	5	points each =	80	
Clinical application questions/Diagrams	10	bonus points =	NA	
		Total =	560	X 0.75 = 420 pts

Lab: At the end of term – a student's highest 15 lab report scores and highest 14 lab quiz scores will be totaled and multiplied by a factor of 0.25. Combined lab points will count for 25% of your final grade.

Lab is worth 25% of class grade

14 Lab Quizzes	20	points each =	280	
15 Lab Reports	10	points each =	150	
		Total =	430	X 0.25 = 107.5 pts

Final Grade Calculation:

(Your total lecture points / 560) X 0.75 X 100 = _____ %

(Your total lab points / 430) X 0.25 X 100 = _____ %

Total Percentage = _____ %

Grade percentages will be as follows:

A = 90-100%

C = 70-79.9%

F = less than 59.9%

B = 80-89.9%

D = 60-69.9%

Please note: As a student enrolled in this course, **it is YOUR responsibility to judge whether or not you have the skills to succeed.** Although this course has no pre-requisites or advisories, each student must carefully assess their own skill level, particularly in their background knowledge of chemistry, the human body, and essay writing. Assistance in the areas of writing, math, etc. are available (and free of charge) at tutoring centers on campus for all students. Human Biology lecture and lab (BIO 5 and 6) are great introductory preparation courses. Please be proactive and ask for assistance early!

ATTENDANCE/LATENESS: The *Shasta College Course Catalog* states that “students are expected to attend all classes.” Success in the course is dependent upon attendance; attending a class means arriving on time, coming back to class promptly from breaks, and staying for the entire class period. Any missed class sessions may affect your performance. Please be aware the instructor may drop a student after the no record drop deadline (approximately 20% of the term) and before the “W” drop deadline (approximately 75% of the term) for excessive absences. Lecture attendance is mandatory and attendance will be taken at random. **It is the student's responsibility to sign the attendance sheet for each class if available. A student can be dropped from the course if the first day of class is missed. However, IT IS ALWAYS THE STUDENT’S RESPONSIBILITY TO OFFICIALLY DROP OR WITHDRAW FROM THE CLASS.**

GUESTS AND CHILDREN: Only authorized persons are allowed in the classrooms. College liability coverage does not extend to guests or children and thus they are not allowed in the classroom. If a student needs assistance with childcare during class time, please contact the EOPS office. EOPS may be able to help with long-term day care; however, it does not provide day-care service on a drop-in basis.

COLLEGE POLICIES

Academic Honesty: According to the *Shasta College Student Handbook* and the *Shasta College Catalog*, there are a number of unauthorized behaviors that violate the campus academic honesty policy. Each student should become familiar with the policy.

Failure to acknowledge the work of other scholars constitutes an egregious breach of ethics and is a violation of civil law. You must, in all cases, do your own work, acknowledge sources, and document them appropriately. Otherwise, disciplinary sanctions will be applied. If you have any questions about plagiarism, please do not hesitate to contact me.

In other words, cheating of any sort will not be tolerated and will result in an “F” for the assignment, quiz, or exam, and the case may be reported to the Dean of Students.

Examples of cheating are defined as:

1. Receiving aid during an exam from anyone other than the instructor
2. Using unauthorized materials during the exam.
3. Giving unauthorized aid to a student taking an exam.
4. Plagiarism. Defined as copying ones words or ideas without giving them proper credit (citing them as a reference).
5. Copying another student’s work of any assignment given during class.

Student Conduct and Discipline: In accordance with the Student Code of Conduct (Board Policy 5500), students are expected to obey all California State laws and all Federal laws that pertain to behavior on a college campus. Shasta College’s jurisdiction and discipline shall be limited to conduct that occurs on Shasta College premises or that is related to school activities. Any student found to have committed misconduct is subject to the disciplinary sanctions outlined in Board Policy 5520.

This is a college classroom. You are expected to arrive on time and stay for the entire class period. Late arrivals and early departures are disruptive for the entire class. Three late arrivals/early departures will count as one absence.

Behaviors that impede the teaching/learning process, including private conversations, cell phone or pager calls, and texting are not acceptable. Please turn off all cell phones and pagers during class. If you are texting during class you will be asked to leave for the remaining class period. If you were asked to leave class due to your distracting behavior and you missed a quiz given during this time then you will not be able to make up this quiz. **I reserve the right to administratively withdraw any student who presents behavioral issues that impede the learning environment.** As a courtesy to your fellow students and instructor, please turn off all cell phones for

the duration of class. If you respond to a phone in class, you will be asked to leave the class for the remainder of the meeting; furthermore, you will not receive credit for the day. If there is some pressing issue that requires you to have your phone on, please set your phone to vibrate, inform the instructor, and leave the class if you have to take a call.

Academic accommodations imposed by a disability: Academic adjustments due to a disability or serious medical condition: Students should contact the office of Partners in Access to College Education (PACE) for authorization of academic adjustments (accommodations) for this course. The office is located in room 2006 (242-7790). Students will need to provide documentation that verifies the condition and the type of limitations that may result. The staff in PACE have been designated with the authority to 1) evaluate that documentation, 2) determine which academic adjustments are appropriate to this course, and 3) facilitate the provision of approved academic adjustments. Students will submit notices directly to the course instructor regarding specific academic adjustments that are authorized for this class.

Full Non-Discrimination Statement: The Shasta-Tehama Trinity Joint Community College District (“Shasta College”) does not discriminate against any person on the basis of race, color, national origin, sex, religious preference, age, disability (physical and mental), pregnancy (including pregnancy, childbirth, and medical conditions related to pregnancy or childbirth), gender identity, sexual orientation, genetics, military or veteran status or any other characteristic protected by applicable law in admission and access to, or treatment in employment, educational programs or activities at any of its campuses. Shasta College also prohibits harassment on any of these bases, including sexual harassment, as well as sexual assault, domestic violence, dating violence, and stalking.

SCIENCE LEARNING CENTER
Life Science Building – 1600 Room 1626 530-242-2325
www.shastacollege.edu/ScienceLearningCenter

The Science Learning Center offers a comfortable study environment and a variety of resources to assist students in any of the Science classes. There are computer programs that cover specific topics, old tests, Text books for most courses and the Solution Manuals that go with them. Microscopes and slides are available for reviewing some labs.

FREE TUTORING is done by students who have successfully completed the course; often with the same instructor. Tutors must have a “B” or better in the courses they tutor. They can help you initiate good study habits and organizational skills to maximize your study time. They can also help to clarify any confusing concepts. When there is interest, we run study groups that are led by tutors.

OTHER RESOURCES AVAILABLE

- **Copy Machine** A copy machine is available in the computer area of the Learning Center for .10 per copy.
- **Office Supplies** For your use, we have a paper cutter, stapler, scissors, and tape. Colored pencils are also available.
- **Calculators** We have both basic scientific and graphing calculators. They can be checked out for use in the center and for test-taking. We hold your driver’s license.
- **Computers** We have four internet connected computers with Microsoft Office suite installed. Printing is available off the computer for .10 cents a page. We also have 2 Laptops for check-out to use in the center.

STUDYING IN THE SLC

There is room available for students to study alone or in groups. We have one small room where students can isolate to minimize distractions. You are allowed to eat in the SLC.

The **Science Learning Center** is a friendly, helpful, encouraging environment, which could become your home away from home. Come in and check it out. Margaret Savage, SLC Coordinator.

Hours: Call for current hours, 242-2325

Human Physiology, Spring Semester Lecture/Lab Schedule, 2019

*This schedule is **tentative** and subject to amendment.*

Week	Lecture Topic	Text	Lab Topic
1 (1/21)	Introduction; Body Organization; Homeostasis	Ch 1	Lab Organization/Blood Tests Data Management/Graphing
2 (1/28)	Chemical Composition of the Body Enzymes and Energy <u>Last day to drop without record 2/1</u>	Ch 2 Ch 4	Characteristics of Enzymes
3 (2/4)	Cell Structure, Function, and Genetic Control Membrane Transport	Ch 3 Ch 4 Ch 5	Fundamental Physiological Principals/Membrane transport Blood Tests Part I
4 (2/11)	Endocrine System Exam 1 – Thursday Ch 1,2,3,4,5,	Ch 7 Ch 6, 8	Human Genetics Electrophoresis lab
5 (2/18)	Neurons, Membrane potentials, Neurotransmitters	Ch 5 Ch 13	Equipment Use / Vivisection PhysioEx Frog
6 (2/25)	Muscle: Mechanisms of Contraction	Ch 12	Skeletal Muscle Contraction
7 (3/4)	Central Nervous System Autonomic Nervous System	Ch 9 Ch 11	Electroencephalogram / Biofeedback
8 (3/11)	Sensory Physiology	Ch 10	Sensory / Reflex Physiology
9 (3/18)	Cardiovascular System: Heart Exam 2 – Thursday Ch 7,8,9,11,12,13	Ch 14	Electrocardiology: ECGs
10 (3/25)	Cardiovascular System: Blood Flow/Pressure, Blood	Ch 15 Ch 16	Cardiophonics/Blood Pressure Blood Typing
11 (4/1)	Respiratory System	Ch 17 Ch 18	Pulmonary Function Clinical spirometry
12 (4/8)	Digestive System Cell Respiration and Metabolism	Ch 21 Ch 5 Ch 23	Digestive Physiology Basal Metabolic Rate Body Fat Assessment
4/15	SPRING BREAK: Vacation with your physiology book		
13 (4/22)	Urinary System Exam 3- Thursday Ch14 - 18, 5, 10, 21, 23 <i>Last day to withdraw from a class (W) 4/26</i>	Ch 19	Renal Physiology; PhysioEx
14 (4/29)	Urinary System / Acid Base Homeostasis	Ch 20	pH Homeostasis lab
15 (5/6)	Immune System	Ch 24	Immunology Lab
16 (5/13)	Reproductive System and Development	Ch 26	Clinical Case Studies Part II
17 (5/20)	Exam 4 – Tuesday Ch 19, 20, 24, 26 Exam 5 – Thursday Optional Comprehensive Lecture Final		

TIPS FOR GETTING GOOD GRADES:

Lecture:

1. Read the chapter BEFORE lecture and come to class with questions on material that you did not understand.
2. In order to test your understanding, answer the “study guide and clinical case study questions” that are given in class along with the end of the chapter questions. I sometimes take test questions from these sources
3. Study handouts before tests—the material from these is on lecture tests.

Lab:

1. Read labs ahead of time, do questions on labs before lab when possible.
2. Use lab time to do lab exercises concentrating on terms listed in course objectives--these terms make up ~85 % of the lab tests.
3. Re-read labs before lab test, so that you understand the main point of the lab exercises, this can be done at home.

Most importantly: Always do you best and never give up! Persistence and Perseverance are key character traits to mastering physiology and anything else you want to succeed in. You are capable of comprehending this information and I am here to help you succeed. Do not hesitate to ask questions when you do not understand a concept.

Two phrases to keep in mind are:

“Argue for you limitations and they are yours”

“Today Decides Tomorrow”

Characteristics of an “A” versus “C” Students

“A” Students . . .

1. **Never miss class.** Attending class is their highest academic priority.
2. **Show initiative.** Their desire to excel makes them do more work than is required.
3. **Are well-organized.** They know when assignments and tests are scheduled.
4. **Write well and easy to understand.** Their communication work is well-organized, covers all relevant problems and is easy to read.

“C” Students . . .

1. Periodically miss class and/or are often late. They place other priorities ahead of attending class.
2. Seldom show initiative. They never do more than is required and sometimes do less.
3. Are poorly organized and not usually prepared for tests/quizzes.
4. Do not write particularly well. Their written work may require a second reading by the professor to comprehend meaning.

5. Are visibly interested during class and display interest in the subject matter. They often volunteer thoughtful comments and ask interesting questions.

5. Participate in class with indifference or boredom. They show little interest in the course material. Their questions reflect a superficial understanding of the course material.

6. Ask questions in class or after class if the material is not clear.

6. Seldom ask questions when they do not understand.

7. Are always prepared for class. They always respond when called on.

7. Are not always prepared for class. They may not have fully completed the assignment, have completed it in a careless manner, or hand in their assignments late.

8. Learn concepts rather than memorize details so they are better able to connect past learning with present material.

8. Memorize details rather than learn concepts. Since they usually cram for tests, they perform relatively better on short quizzes than on longer, more comprehensive tests.

9. Maintain a fixed study schedule. They regularly prepare for each class no matter what the assignment. They average 3-4 hours of study for every hour in class. Do not allow for interruptions – once the books are open there is no texting, phone calls, TV or visiting.

9. Study only under pressure. When no assignment is due, they do not review or study ahead. They average 2 hours of study for every hour in class. They tend to cram for exams.

Seven Characteristics of Good Learners

1. **Good learners are curious** – They wonder about all sorts of things, often about things way beyond their areas of expertise. They love the discovery part of learning. Finding out about something they didn't know satisfies them for the moment, but their curiosity is addictive.
2. **Good learners pursue understanding diligently** – A few things may come easily to learners but most knowledge arrives after effort, and good learners are willing to put in the time. They search out information—sometimes aspiring to find out everything that is known about something. They read, analyze, and evaluate the information they've found. They talk with others, read more, study more, and carry around what they don't understand; thinking about it before they go to sleep, at the gym, on the way to work, and sometimes when they should be listening to others. Good learners are persistent. They don't give up easily.
3. **Good learners recognize that a lot of learning isn't fun** – That **doesn't change how much they love learning**. When understanding finally comes, when they get it, when all the pieces fit together, that is one special thrill. But the journey to understanding generally isn't all that exciting. Some learning tasks require boring repetition; others a mind-numbing attention to detail; still others periods of intense mental focus. Backs hurt, bottoms get tired, the clutter on

the desk expands, the coffee tastes stale—no, most learning isn't fun but **the results are worth it.**

4. **Failure frightens good learners, but they know it's beneficial** – It's a part of learning that offers special opportunities that aren't there when success comes quickly and without failure. In the presence of repeated failure and seeming futility, good learners carry on, confident that they'll figure it out. When faced with a motor that resists repair, my live-in mechanic announces he has yet to meet a motor that can't be fixed. Sometimes it ends up looking like a grudge match, man against the machine, with the man undeterred by how many different fixes don't work. He's frustrated but determined to find the one that will, all the while learning from those that don't.
5. **Good learners make knowledge their own** – This is about making the new knowledge fit with what the learner already knows, not making it mean whatever the learner wants. Good learners change their knowledge structures in order to accommodate what they are learning. They use the new knowledge to tear down what's poorly constructed, to finish what's only partially built, and to create new additions. In the process, they build a bigger and better knowledge structure. It's not enough to just take in new knowledge. It has to make sense, to connect in meaningful ways with what the learner already knows.
6. **Good learners never run out of questions** – There's always more to know. Good learners are never satisfied with how much they know about anything. They are pulled around by questions—the ones they still can't answer, or can only answer part way, or the ones without very good answers. Those questions follow them around like day follows night with the answer bringing daylight but the next question revealing the darkness.
7. **Good learners share what they've learned** – Knowledge is inert. Unless it's passed on, knowledge is lost. Good learners are teachers committed to sharing with others what they've learned. They write about it, and talk about it. Good learners can explain what they know in ways that make sense to others. They aren't trapped by specialized language. They can translate, paraphrase, and find examples that make what they know meaningful to other learners. They are connected to the knowledge passed on to them and committed to leaving what they've learned with others.