

Course Code & No. - Section: BIOL 332/336- Section 1
Course Title (Credits): Anatomy and Physiology II (3)/ A&P II Lab (1)
Term & Year: Spring / 2015
Course Ref. No. (CRN): 10018/10019

Instructor: Dr. Debi Walker
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Office: N/A
Office Hours: By appointment

Class Meeting Time: Lecture MW 5:30 pm – 6:45 pm; Lab M 7:00-9:45 pm
Location: Lecture TCES Room 203; Lab Room 204 (Biology Lab)

Prerequisites: Biology 101, 102
Corequisites: BIOL 336 is a corequisite for BIOL 332

Course Description

BIOL 332: Study of physiological systems and relevant anatomy for endocrine, cardiovascular, respiratory, immune, gastrointestinal, hematologic, and renal systems.

BIOL 336: Corequisite lab for Anatomy and Physiology II.

Student Outcomes

- Students mastering the material of Anatomy and Physiology II will have sufficient understanding and recall of facts and concepts of physiological systems in the human body and the anatomy related to each topic to score well on related topics on pre-professional exams, such as the MCAT and GRE, and to be successful at related post-graduate course work.
- Students will demonstrate skill at reading and comprehending science texts.
- Students will demonstrate ability to answer questions about anatomy and physiology like those on standardized exams (such as the GRE, MCAT, or senior exit exams).
- Students will communicate about and critique scientific concepts in paragraph form.
- Students will demonstrate skill at critical analysis, logic, and problem solving involving facts and concepts of physiological systems and anatomical structures related to physiology
- Students will demonstrate mastery in basic compound (brightfield) microscopy techniques and dissection of biological specimens.

Methods of Assessing Student

Mastery of Anatomy and Physiology II material, writing, and laboratory skills will be assessed through:

- 2 Exams (covering 4-5 chapters) in multiple choice, matching, true or false, and short answer format.
- 2 Take Home Quizzes
- (Optional) Homework assignments coordinated with each text chapter (OR Final Exam weighted more)
- A comprehensive final exam in multiple choice, matching, true or false, and short answer format
- Written laboratory assignments
- 2 Laboratory practicals

Instructional Strategies

In order to communicate a body of knowledge, concepts, and skills in anatomy and physiology, Anatomy and Physiology II and Lab will utilize:

- Lectures and lecture discussions
- Laboratory exercises coordinated with lecture topics
- Written homework assignments coordinated with lecture topics to encourage prompt and thorough reading of the text
- Study questions will be provided regularly
- Quizzes to provide feedback to students about their understanding of material before the exams.
- Students are encouraged to use the publisher's companion web site to accompany the text, including tutorials, quizzes, and links to related sites.
- Student study groups outside of class time are greatly encouraged!
- Course material and resources will be available on a Moodle page.

Required Texts and Materials

- 1) Marieb, Anatomy and Physiology, 5th ed, Pearson Benjamin Cummings, 2011. ISBN 10: 9780321860781.
- 2) Marieb, Human Anatomy & Physiology Lab Manual, Cat Version, 11th edition ; Update with Access to PhysioEx 8.0, PAL 2.0, Pearson Education, Inc, 2011. ISBN: 9780321821843.
- 3) Internet access. A lap-top computer is recommended, as some laboratory exercises will include on-line activities. Students can complete the course using internet access available in SNC's Prim Library.

Supplemental Materials

- 1) The course syllabus, handouts, and other material will be posted on a Moodle site at www.sierranevada.moodle.com.
- 2) The publisher supports a companion website to the text at www.anatomyandphysiology.com. This well-designed resource includes animations, tutorials, quizzes, and links to related web sites. A fast internet connection is recommended.
- 3) Students will be required to use a computer with internet access for course and lab assignments. A laptop computer that can be brought to class is recommended. Students can complete the coursework on computers available in the SNC Prim Library.
- 4) Current articles related to class topics will be assigned as supplemental reading. These will be distributed in class and posted on the course Moodle site.
- 5) Marieb, Anatomy & Physiology Coloring Workbook: A Complete Study Guide, 9/E, Pearson Benjamin Cummings, 2009. ISBN: 9780805347784. This optional text, written by our text author, provides exercises to aid students in remembering anatomy and physiology vocabulary and concepts.
- 6) Netter, Atlas of Human Anatomy – This is an excellent book of anatomy organized by body region. This will definitely be useful for any students who plan to pursue a career in healthcare.
- 7) Laboratory materials (optional): Colored pencils for sketching histological slides

Attendance

Success in Anatomy and Physiology II and Lab is largely dependent on faithful attendance at class and lab periods. Thus, laboratory reports will be accepted only from students who have

attended and performed the laboratory exercise. Students MAY NOT be allowed to make up missed labs and exams. Since life happens, students may seek to excuse an absence and have an opportunity to do make up work for missed points. Absences will be excused for illness (of the student or a dependent) with a physician's excuse, military duty, a family bereavement, or at the instructor's discretion. Excused absences will NOT be granted for employment conflicting with class times, vacations, or oversleeping.

1 Lab Absence

You may **miss 1 lab** in the semester without losing points. Please **DO NOT** turn in a lab report for a missed lab, as this will not be graded.

Class Requirements

- You are **REQUIRED** to bring your lab book to every lab.
- It is advised that you bring your laptop to class so you may access materials from Moodle as needed.
- Cell phones and pagers must be turned off or set to 'silent mode.'

Sanctions for Cheating and/or Plagiarism

Plagiarism is "passing off a source's information, ideas, or words as one's own by omitting to acknowledge the sources." This refers to all sources of information, including the Internet, the text, the instructor, and classmates. Examples of plagiarism include: copying the glossary definition of a term for a vocabulary assignment, cutting text from an internet source and pasting it into your answer to a homework question, copying a lab partners answer to a question for a laboratory report. As long as you answer questions, define terms, and write sentences in your own words, you are not guilty of plagiarism.

The following policy regarding cheating and plagiarism has been established at Sierra Nevada College:

- First offense: Student receives a failing grade for that assignment; the instructor notifies the advisor and the Vice President of Academic Affairs. Students identified as committing an act of plagiarism will be referred to Student Services.
- Second offense in the same class or any other class that semester or subsequent semesters: Student receives a failing grade for the class where the second offense takes place; the instructor notifies the advisor and the V. P. of Academic Affairs.
- Third offense: The student is expelled from Sierra Nevada College. The instructor notifies the advisor and the Vice President of Academic Affairs.

The Honor Code

The faculty of SNC believes students must be held to high standards of integrity in all aspects of college life in order to promote the educational mission of the College and to encourage respect for the rights of others. Each student brings to the SNC community unique skills, talents, values and experiences which, when expressed within the community, contribute to the quality of the educational environment and the growth and development of the individual. Students share with members of the faculty, administration and staff the responsibility for creating and maintaining an environment conducive to learning and personal development, where actions are guided by mutual respect, integrity, responsibility and trust. The faculty and students alike must make diligent efforts to ensure high standards are upheld by their colleagues and peers as well as

themselves. Therefore faculty and students accept responsibility for maintaining these standards at Sierra Nevada College and are obligated to comply with its regulations and procedures, which they are expected to read and understand.

Consequences of Violating the Student Honor Code

SNC students and faculty share the responsibility for maintaining an environment of academic honesty. Thus, all are responsible for knowing and abiding by the SNC Faculty/Student Honor Code published in the current SNC Catalog. Faculty are responsible for presenting the Honor Code and the consequences of violating it to students at the start of their classes AND for reporting all incidences of academic dishonesty to the Provost. Students are responsible for knowing what constitutes CHEATING, PLAGIARISM and FABRICATION and for refraining from these and other forms of academic dishonesty. Violations of the Honor Code become part of a student's academic record.

- 1st Offense: Student receives a zero for assignment/exam and counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.
- 2nd Offense: Student fails course and receives counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.
- 3rd Offense: Student is expelled.

Grading Policy

Since BIOL 332 and 336 are co-requisites, and the material of each is so integral to the other, assignments from each will contribute to an overall point total and the same letter grade will be awarded to both courses. The grading is based on a 1000-point scale, with 75% of points from BIOL 331 and 25% from BIOL 335.

For grades A through C:

If your grade is within 1 % point of a grade above, (e.g. 88.5 rounds up to 89) you will receive the higher grade with a minus (e.g. A-).

If your grade is within 2 points of a grade above (e.g. 87.5 rounds up to 88) you will receive the lower grade with a plus (e.g. B+).

For grades D & F: **No plus or minus scale is applied.**

Grade	%	POINTS
A	90-100%	895-1000
A-	88.5-89.4%	885-894
B+	87.5-88.4%	875-884
B	80-87.4%	795-874
B-	78.5-79.4%	785-794
C+	77.5-78.4%	775-784
C	70-77.4%	695-774
C-	68.5-69.4%	685-694
D	60-68.4%	595-684
F	<60%	<595

BIOL 332	Points Each	Total Points Possible
Homework Review Q's (10 best of 12)* <i>*Optional to offset final exam weight on grade.</i>	(10)	(100)
Quizzes (2)	50	100
Exams (2)	150	300
Comprehensive Final Exam	350 (250)	350 (250)
BIOL 336		
Lab Reports (10 best of 11)	15	150
Lab Practicals (2)	50	100
Total		1,000

Description of Assignments and Exams:Homework: Optional to offset Final Exam Weight!

Students are assigned homework to encourage prompt reading of the text and review of class material, and to provide feedback about students' understanding of important concepts before the exams. Assigned chapter problems and due dates are posted in the syllabus packet and on the Moodle site, and will usually be posted on the whiteboard in class before homework is due. A student's 10 best homework scores will count toward the grade. Homework may be hand-written (if legible) or typed (hard copy). **Emailed homework is not going to be accepted.**

Exams: Two exams will cover material from the previous 4-5 chapters. Exams include multiple choice questions, since this format is used on standardized exams, such the GRE and MCAT. Other questions may include short answer, matching, genetics problems, or true-false formats. Make-up exams will not be given without an excused absence. Student must procure an exam proctor for any make up given.

Quizzes: Two hard copy quizzes will be TAKE HOME quizzes and will be due PROMPTLY at the beginning of the next class. NO LATE QUIZZES WILL BE ACCEPTED. The purpose of the quizzes is to encourage students to keep up on reading and studying, and to provide feedback about students' understanding of the material before the exams.

Final Exam: A comprehensive final exam with a format similar to the four exams will be given at the time scheduled by the SNC registrar. Make up exams available only with excused absence. Student must procure an exam proctor for any make up given.

Lab Reports: Students will turn in "Review Sheet" exercises from the laboratory manual as laboratory reports. The 10 best lab report scores will count toward the student's grade. In addition, the instructor will check students' lab manuals before they leave the classroom to make sure that students also answered questions within the laboratory exercises.

Lab Practical Exams: Two lab practical exams will test students' laboratory skills, familiarity with the experiments done, data interpretation, observational skills, and the main concepts presented in lab exercises. Students will be held accountable for all lab exercises, whether or not they have turned in corresponding lab reports. The second lab practical exam will be held Tuesday May 14 from 4 pm – 5 pm, during the final exam time scheduled for BIOL 336. There are no make-ups for lab practicals.

Due dates and late work: Homework and laboratory assignments are designed to help students learn the material and provide feedback before periodic examinations. Accordingly, the instructor will adhere strictly to following late work policy:

- Assignments are due at the BEGINNING of the class period assigned as the due date. Work turned in after class on the due date will be considered one day late.
- Due dates are listed on the running schedule of classes for BIOL 332 and 336, and on any handouts describing the assignments. The running schedule and all assignment handouts are posted on the class Moodle site.
- Late work will be accepted, HOWEVER, 10% of the possible points will be deducted for each CALENDAR day that the work is late. (Work handed in at the end of the class period will be considered late by one calendar day.)
- Work that is **more than seven calendar days late** will **NOT** be accepted.

- If a student anticipates an absence on a date that work is due, it is the student's responsibility to get the work to the instructor on or before the due date.
- Students may submit late work by e-mail if it is being handed in on Monday, Wednesday, Friday, Saturday or Sunday as I will not be on campus on those days. It is the student's responsibility to ensure that e-mailed work has been received by the instructor; students should contact the instructor if a reply to e-mailed assignments is not returned within 24 hours. (48 hours over the weekend) Email late homework to:
AnatomyHomeworksnc@gmail.com
- Extra Credit will NOT be accepted late.

Midterm grades: Midterm grades will be filed March 18, 2015 and will reflect all work through Wednesday March 11, 2015.

Extra credit: The content of extra credit assignments is designed to provide additional information related to course topics. Extra credit assignments may be used to make up points lost due to absences and to supplement a student's point total to earn the next higher grade. Students may earn up to 50 points in extra credit (5% of total points possible). There are several options for earning extra credit, with point values assigned commensurate with the amount of work involved. These will be posted on the class Moodle site. If more than 50 points of extra credit are accrued, the maximum of 50 points will be assigned to a student's score. All extra credit opportunities will have deadlines assigned to them. No late work will be accepted for extra credit.

ADA Statement

In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, students with a documented disability are eligible for support services and accommodations. If a student wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at (775) 831-1314 x7534, hconover@sierranevada.edu, office in Prim Library: PL-304.

The Sierra Nevada College Mission Statement:

Sierra Nevada College graduates will be educated to be scholars of and contributors to a sustainable world. Sierra Nevada College combines the liberal arts and professional preparedness through an interdisciplinary curriculum that emphasizes entrepreneurial thinking and environmental, social, economic and educational sustainability.

The Core Themes: Four core themes from the SNC mission are woven through all courses and the life of the community at SNC.

Liberal Arts

Professional Preparedness

Entrepreneurial Thinking

Sustainability

The SNC Email System

The SNC email system is the official communication vehicle among students, faculty members and administrative staff and is designed to protect the confidentiality of student information as

required by the Family Educational Rights and Privacy Act of 1974 Act (FERPA). Students should check their college email accounts daily during the school year.

Students have a right to forward their SNC e-mail to another e-mail account (for example, @hotmail or @gmail). However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC e-mail forwarded to an outside vendor. Having email redirected does not absolve a student from the responsibilities associated with official communication sent to his or her SNC email account.

Prim Library Resources

Using the library's resources effectively (not just internet resources) contributes to developing each of SNC's core themes by exposing students to high quality academic resources, diverse opinions, new ideas, and a future that includes building on a liberal arts education. In this course, you will be expected to utilize the library's resources (either on-site or remotely) as you complete your assignments.

Prim Library Resources for Research Methods include, but are not limited to:

1. Books (can be checked out):
 - a. In general, books related to biology have Library of Congress Classification numbers ranging from QH through RC. Books about biotechnology have LCC numbers beginning with TP. However, you will find books related to our course with other LCC numbers, so search the Prim Library Catalog using key words related to the topic that you are researching.
 - b. Robson C. How to do a research project: a guide for undergraduate students. Oxford (UK): Blackwell Publishing; 2007. LCC number LB 2369.R575 2007. Although written for students doing research in the social sciences, with examples from history, psychology, and humanities, this is an excellent discussion of the research process equally applicable to the natural sciences.
 - c. Laake P, Haakon BB, Olsen BR. Research methodology in the medical and biological sciences. Amsterdam: Academic; 2007. LCC number: NetLibrary Click on web link in Prim Library electronic database for books to access full-text. This English translation of a Danish text has a general introduction to research methods that is very easy to understand. The discussion of ethics in research with human and animal subjects is especially good. Specific methods used in medical and molecular biology research are then described. This is an eBook that can be read on any device that can access the Prim Library electronic catalog for books.
 - d. Lipson C. Cite Right: a Quick Guide to Citation Styles. Chicago: University of Chicago Press; 2006. LCC number PN171. F56L55 2006. Includes a section on CSE style.
2. Electronic databases (for peer-reviewed primary source research articles, secondary source reviews, newspaper EBSCO: Academic Search Premier, Environment Complete, General Science Collection, GreenFILE, Health Source, Newspaper Source, and TOPICsearch; BioOne; and GREENR).
3. Hardcopy periodicals: Prim Library has current subscriptions for Science, New Scientist, Science News, Scientific American, and National Geographic Magazine. Any of these are likely to have secondary source articles about biology topics written for educated people who are not necessarily scientists. You will find these easy to read and articles

will include references to primary source articles. Full-text articles from many more periodicals are available through the electronic databases.

4. Lib Guides: <http://Libguides.sierranevada.edu> These web pages contain instructions about how to use resources available at Prim Library, Prim Library resources for biology topics, how to evaluation the appropriateness of information from the internet for a research paper, how to cite sources, and other topics related to finding and using information.

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Class Schedule

Anatomy and Physiology II							
Week	Date	Day	Reading	Topic	HW Due	Lab Topic	Lab Report Due
1	1-21-15	W	Ch 15	CH 15 The Endocrine Sx		No LAB!!	
2	1-26-15	M	CH 15	CH 15 The Endocrine Sx		Ex 27 Endocrine Glands Dissect 3 pg 721	NO LAB DUE
	1-28-15	W	CH 17	CH 17 The Heart	CH 15		
3	2-2-15	M	CH17	CH 17 The Heart		Ex 30 Anatomy of Heart Ex 31 Conduction System	Ex 27 Endocrine Glands Dissect 3
	2-4-15	W	CH17	CH 17 The Heart	CH 17		
4	2—9-15	M	CH18	CH 18 Blood Vessels		Ex 32 Anatomy of BVs Ex 33 BP and Pulse PEX 5 (pg PEX-75) Dissect 4 – BVs	Ex 30 Anatomy of Heart Ex 31 Conduction System
	2-11-15	W	CH 18	CH 18 Blood Vessels	CH 18		
5	2-16-15	M	President's Day NO CLASS			NO LAB	Turn in Lab Next Week
	2-18-15	W	CH 21	CH 21 The Respiratory Sx Quiz 1 Ch 16, 18, 19 Handed Out in Class	Quiz 1 DUE!		
6	2-23-15	M	CH 21	CH 21 The Respiratory Sx		Respiratory Anatomy & Physiology Ex 36 Anatomy Ex 37 Physiology (Activity 1-3) PEX 7 (pg PEX-105)	Ex 32 & Ex 33 PEX 5 Dissect 4
	2-25-15	W	CH 21	CH 21 The Respiratory Sx	CH21		

Week	Date	Day	Reading	Topic	HW Due	Lab Topic	Lab Report Due
7	3-2-15	M	CH 16	CH 16 Blood		Vernier Spirometry	Ex 36, 37 & Physio Ex 7
	3-4-15	W		Exam 1 CH 15,17,18,21			
8	3-9-15	M	CH 16	CH 16 Blood	CH 16	Lab Practical I All Labs through Week 7	Vernier Spirometry
	3-11-15	W	CH 19	CH 19 Lymphatic System	CH 19		
3-16-15 – 3-20-15 Spring Break! Rest. Play. Be Safe. Enjoy.							
9	3-23-15	M	CH 20	CH 20 Immune System		Ex 29 A Blood Activity 2,3,4,7,8 PEx-11 (pg PEx-164) Activity 2,3,4	NO LAB DUE!
	3-25-15	W	CH 20	CH 20 Immune System	CH 20		
10	3-30-15	M	CH 22	Finish CH 20 Immune System Start CH 22 Digestive System		Ex 35 Lymphatic System and Immune Response Activity 1,2 Dissect 5 pg 735	Ex 29 Blood PEx -11 Activity 2,3,4 Write Up
	4-1-15 April Fools Day!	W	CH 22	Ch 22 Digestive System	CH 22		
11	4-6-15	M	CH 22	Ch 22 Digestive System Quiz 2 CH 17, 20, 21, 23 Handed out in Class		Ex 38 Anatomy of Digestive Sx PEx-8 (PEx 119) Digestion Dissect 7	Ex 35 Activity 1,2 Dissect 5
	4-8-15	W	CH 24	CH 24 Urinary System	QUIZ 2 DUE!!		

Week	Date	Day	Reading	Topic	HW Due	Lab Topic	Lab Report Due
12	4-13-15	M	CH 24	CH 24 Urinary System		Ex 40 Anatomy of Urinary Sx Ex 41 Urinalysis Dissect 8 Urinary Sx	Ex 38 PEX-8 Dissect 7
	4-15-15	W	CH 25	CH 25 Fluid, Electrolyte and Acid-Base Balance	CH 24		
13	4-20-15	M		Exam 2 CH 17, 20, 21, 23, 25		PEX-9 Renal Physiology PEX-10 Acid-Base Balance	Ex 40 Ex 41 Dissect 8
	4-22-15	W	CH 25	CH 25 Fluid, Electrolyte and Acid-Base Balance	CH 25		
14	4-27-15	M	CH 26	CH 26 Reproductive System		Ex 42 Reproductive Anatomy Ex 43 Gametogenesis Dissect 9	PEX-9 Renal Physiology PEX-10Acid-Base Balance
	4-29-15	W	CH26	CH 26 Reproductive System	CH 26		
15	5-4-15	M	CH 23	CH 23 Nutrition, Metabolism & Body Temp Reg	CH 23	Lab Practical 2	Ex 42 Ex 43 Dissect 9
	5-6-15	W	NO CLASS – Review for Finals!				
FINALS	5-12-15	FINAL EXAM Tuesday May 12, 2015 6:30 pm – 9:30 pm					