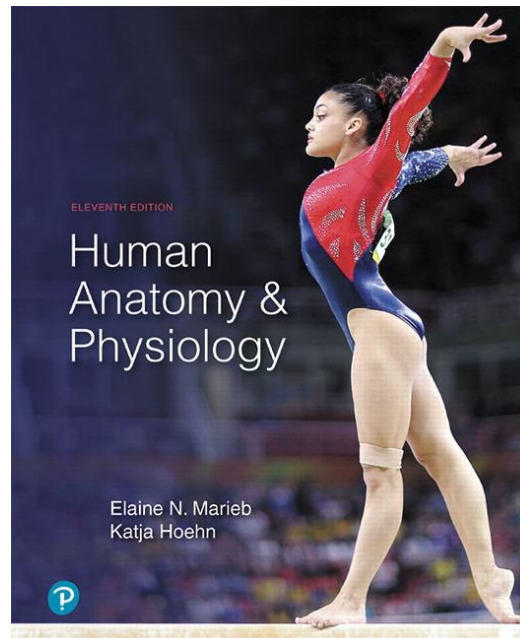


Human Anatomy & Physiology II ***Course Manual– Online Class***



*Did you hear about the optometrist that fell into his lens grinding machine?
He made a spectacle of himself*



BIOL F112X (4 credits)
Summer 2020
Dr Jill Russell & Stephanie DeRonde

Table of Contents

Part I: Syllabus

1. Description of Human Anatomy & Physiology II	3
2. Course Requirements	7
3. Lab Policies	10

Part II: General Course Information

4. Additional Policy Information	12
5. Tentative Lecture/Lab Schedule, Assignments, Exams, Dissections	13
6. How to Get the Most Out of the Course	14
7. Academic Honesty	15
8. Student Behavioral Standards	16

Part I: Syllabus

1. Description of Human Anatomy & Physiology II

Human A & P II is an Integrated view of human structure and function for students in pre-professional allied health programs, biology, physical education, psychology and art. Examines circulatory, respiratory, digestive, excretory, endocrine and reproductive systems. The course discusses biological concepts and principles as a foundation for understanding normal developmental changes as well as pathological alterations. Includes clinical correlations in health practice. Lecture, Lab. Simulated/online animal dissections required.

This course meets a core curriculum requirement for UAF and usually meets the second half of a 2 semester requirement by programs such as Physical Therapy, Occupational Therapy and Physician Assistant. This course is required for students entering the AAS nursing programs at UAF/UAA, the BS nursing program at UAA, the Dental Hygiene program at UAA or UAF and the Radiologic Technology programs at UAA and UAF.

Lecture Instructor: Jill Russell, Ph.D., Visiting Professor of Biology

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E-mail: jrussell4@alaska.edu

Office hours: M/T/W/R 9am – 10am (Alaska time) via zoom or by appt

Lab Instructor: Stephanie DeRonde

Office: MURIE 303

E-mail: sderonde@alaska.edu

Office hours: T/R 12:30pm-4:20pm via zoom or by appt

Lectures: Lecture notes, PowerPoints and pre-recorded lectures will be uploaded to Blackboard each week. Class runs June 29 – August 7, 2020

Laboratories: Lab will be on Mondays and Wednesdays. See schedule in syllabus below.

Prerequisites: BIOL 111

Recommended: High School Biology, High School algebra; CHEM 104X; CHEM F105X-CHEM F106X

Required Text: *Marieb-Human Anatomy & Physiology 11e.* Marieb & Hoehn, Mastering Access Code Card. ISBN: 9780134763415

*Once you have purchased the access code, please go to the "Study Area" and then go to the "Lab Manual Study Area" **Here you can either purchase the elab manual or print it out.***

Lab Manual: *Human Anatomy & Physiology Laboratory Manual, Cat Version, Update, 13/E, Marieb, Pearson. (if you have the 12th Ed from BIO 111– its fine)*

Required Course Websites

1. Internet connection is required of all students (DSL, LAN, or cable connection desirable). **Please have a back-up plan for your internet connection. You are responsible to get assignments turned in on time**
2. Access to this course in **Blackboard** at <http://blackboard.alaska.edu>. All course material including lecture notes, animations, quizzes, lab worksheets, etc are posted on **Blackboard**.
3. Access to Mastering A&P, BIO112 Summer 2020, course ID is: **russell31978**

Recommended Workbooks

Kapit, W. and Elson, L.M. (2013). The Anatomy Coloring Book 4th Ed. Benjamin Cummings.
 Kapit, W. Macey, R.I. and Meisami, E. (1999). The Physiology Coloring Book 2nd Ed. Benjamin Cummings.

How to Get Information on Human Anatomy & Physiology

The human anatomy & physiology website that accompanies the textbook can be found at: [TBA](#). There are many websites that provide excellent information on the different body systems – use them. You may also get great pictures and illustrations on Google images, etc.

This manual will act as your guide for this course. In it is a description of the course requirements, lecture and laboratory topics, and reading assignments, as well as general information to help you get the most out of this class. You should bring it to each class and refer to it regularly throughout the semester.

Student Objectives

General objectives for this semester are to gain an appreciation of the integrity of the human body and to gain a strong understanding of the unifying theme in biology – **homeostasis**. BIOL 112 emphasizes the importance of neural communication in the immediate and long-term maintenance of homeostasis. The course also covers how body systems function to maintain homeostasis on a moment-to-moment basis through cells, tissues, organs, and organ systems. Our goal is to provide you with information that will help you when facing medical situations in your future. By having an understanding of how the body works, you will be better suited to make informed decisions regarding your health, the health of your family, and the health of the people you serve.

Learning Outcomes and Performance Indicators

The purpose of the Core Curriculum in an undergraduate education at UAF is to provide students with a broad range of learning experiences in order to create a habit of mind conducive to a lifetime of learning in a diverse society. Although BIOL 112 is primarily focused on learning biological content, you will also be asked to make connections to Cultural Competence, Ethics, Integrative Learning, Communication, and Critical Thinking. Each lecture will include discussions of health, disorders, aging, exercise and development to provide students with real life application and everyday relevance of each organ system. The Learning Outcomes and Performance Indicators that are addressed and assessed in this course are detailed below.

Critical Thinking: Support claims and conclusions

1. **Problem definition:** You will complete and be assessed on problem definition by completing Lecture Exams and Lab Quiz/Practical questions. For example, you will determine how a drop in blood pressure affects urine production.
2. **Quantitative literacy:** You will be assessed on elements of Quantitative Literacy by completing Lab worksheets and Lab Practical questions. For example, you will calculate the movement of various molecules through a semipermeable membrane based on molecular weight cutoff.
3. **Scientific literacy & Synthesis:** You will be assessed on your Scientific Literacy by completing Lecture exams, lecture/lab quizzes, and Lab Practical questions. For example, you will collect experimental data in labs on diffusion and be assessed on your laboratory worksheet questions on your ability to draw rational inferences and draw the appropriate conclusions from those experiments. **Competence in critical thinking will enable you to perform well on tests by evaluating class material beyond rote memorization.**

Group work as occurs in laboratory settings also requires you to display effective communication skills, leadership skills, ethical behavior, and cooperative learning, with sensitivity to the needs and learning styles of your fellow classmates.

We will use a variety of approaches to understand these concepts and achieve the learning outcomes:

1. **Lecture and discussion.** In lecture, we will talk about the basic concepts in A&P. Opportunities for discussions will be available on a regular basis. An important source for this information is from the textbook and lab manual. These are excellent resources and you will want to keep them as references. I will try to get the Lecture Notes up on Blackboard at least a day in advance of lecture.
2. **Simulated Labs Online.** In the laboratory, we will study human organ systems and metabolic and physiological processes discussed above by dissection, observation (microscopic & models), and experimentation. Trying to get from the laboratory exercises a feeling for the set of specific facts presented, an understanding of the procedures used, and experience in extrapolating to new information and processes will be very important.

Student Learning Goals

By the end of the semester, you will:	Evaluated by:
1. Build a body of knowledge of anatomical and physiological terms	Lecture and lab assignments, exams and practicals
2. Be able to use this terminology to describe an anatomical feature of the body, a chemical process within the body and apply your knowledge of medical terminology to new words and concepts	Classroom activities and assignments, homework and laboratory questions, lecture tests & lab practicals
3. Investigate how homeostasis is achieved through the integration of all the functions of the body from the cellular level through tissues,	Classroom activities and assignments, homework and laboratory questions, lecture tests & lab practicals

organs to interactions between the organ systems	
4. Identify the features of tissues of the body on histological preparations (microscope slides) and explain how these microscopic structures contribute to homeostasis	Laboratory questions, lecture tests & lab practicals
5. Demonstrate knowledge of the scientific method, basic experimental design and purpose of the peer review process	Term lab based experiment; includes peer review of individually written lab reports
6. Describe the structure and functions of cells, tissues, organs, and the integumentary, skeletal, muscular & nervous systems.	Classroom activities and assignments, homework and laboratory questions, lecture tests & lab practicals

In summary, it is our hope that through this course you will: understand the connections within human A & P; see the relationship of this material to what you already know; take the skills and competencies you learn in this class and apply them in your life. An understanding of the course material will make you more scientifically literate, and help you become a more informed citizen, parent, patient and clinician.

Your minimal responsibilities for this course are defined in the Course Requirements section below. Be aware, however, that your performance on quizzes, exams and laboratory practicals often depends on how well you integrate all of the different kinds of information you receive from lectures, discussions, laboratory exercises, and your own experiences. Therefore, do not think of those assignments as separate entities but rather as parts of a jigsaw puzzle; together the complete concepts emerge.

2. Course Requirements

Rubrics and Learning Objectives: Where appropriate (e.g., Case Studies or the lab worksheet), I will provide individual rubrics for an activity at the time that it is assigned. Learning outcomes for each chapter will be included in every PowerPoint. These tools can be used to guide you in writing assignments and studying for exams and practicals. The following is an overall grading rubric for the course.

1. Exams	50%
2. Lecture Quizzes (drop lowest)	20%
3. Mastering A&P Homework (drop lowest)	5%
4. Lab Worksheets/Quizzes (drop lowest)	7%
5. Laboratory Practical	<u>18%</u>
Total:	100%

Grading

The class will be graded on a straight percentage basis:

90-100% = A

80-89% of total points = B

70-79% of total points = C

60-69% of total points = D

below 60% of total points = F

I will not grade on a curve. This means that in principle everyone will be able to get an A in this course (but of course everyone will also be able to get an F). However, I am confident that you will work hard enough to avoid this scenario.

Note: Be aware that the grading scale above will be used without exception. Therefore, for example 89.9% will result in a final grade of B and 59.9% will result in a final grade of F. The 0.1% difference may seem like a small difference, but since it is based on many separate grades, it truly reflects a level of performance that does not warrant a higher grade. Being on the right side of the cut-off is your responsibility!

Online Homework Assignments

My Lab and Mastering A&P

Assignments will be assigned per the course schedule on Blackboard. You will be expected to complete assignments by the due date per the course calendar. Homework and quizzes are due by midnight the day new material is introduced in lecture. If new material is covered on Tuesday, the homework **for that material is due by 11:59PM (before the next class on Wednesday).**

Lecture Exams

Five exams will be given on Blackboard (see course manual section 3 for dates). Exams will cover any material presented in all lecture meetings from the beginning of the course (exam 1) or since the last exam (exams 2-4). These materials include assigned readings fully or partially discussed in class. The questions will be multiple choice, matching, and true/false. **This is a closed book exam. NO OUTSIDE SOURCES MAY BE USED TO AID IN ANSWERING THESE QUESTIONS** (no notes, PPTs, google websites, friends, co-workers, etc). **All exams will be timed (you will have 30s/question).** The exams will not be available for you to keep.

You will have the opportunity to discuss your exam and go over it during ZOOM appts. **NO exam makeups will be offered.**

Review Quizzes

Lecture review quizzes will be given on Blackboard prior to each exam (see section 3 for dates). Each lecture quiz will be based on the big picture of homeostasis at the system level and on the details of homeostasis at the cellular level, the relationship of form and function, and information previously covered in lecture and chapter readings. These quizzes will include Case Studies. The questions will all be multiple choice, or true/false or matching. **This is a closed book quiz. NO OUTSIDE SOURCES MAY BE USED TO AID IN ANSWERING THESE QUESTIONS** (no notes, PPTs, google websites, friends, co-workers, etc). These quizzes are also timed (30s/question). **Missed quizzes may not be made up.**

Extra Credit

I usually have a few extra credit questions built into my exams and practicals. These are usually questions that are more challenging and assess the students at an 'A' level or higher (see the table above). There will be no retakes of tests for low grades, and no extra credit assignments.

Contacting your instructors

Please use only your university email to contact your instructors.

3. Lab Policies

Objectives

The laboratory component of BIOL 112 is designed to meet several objectives. One is to provide students with experiences in making scientific observations of physiological phenomena. This typically involves the use of the scientific method, electronic equipment, and group effort. For the most part, scientific study is done by groups of investigators, rather than individuals working alone. In this course, you will use a hands-on approach and work in small groups to conduct experiments designed to illustrate the physiological concepts presented in lecture. You will also explore some of the bio-ethical and environmental issues facing society today and discuss their social and economic impact. See UAF Learning Objectives and Performance Indicators.

Lab Assignments

The lab schedule is located in section 3 of this syllabus. You will complete online lab assignments through Blackboard. These will replace the in-class worksheets that would be completed during each lab. Labs will be open on Blackboard from 8am to 11:59pm on Mondays and Wednesdays for everyone, regardless of which lab section you registered for.

Laboratory Practicals

Three laboratory practicals will be given (see course manual section 3 for dates). These will cover information from the previous two laboratory sessions. Questions will be in reference to actual specimens (microscopic or gross), drawings, models, or photographs and, among others, will ask for specific information on identity, function, and relationship to other structures. Students will complete Blackboard assignment that will include question form lab assignments, images from the lab manual, and models from the lab. All lab practicals will be timed and missed lab assignments and/or lab practicals may not be made up. Lab practicals will be open on Blackboard from 8am to 11:59pm on the day of the lab practical. **This is a closed book exam. NO OUTSIDE SOURCES MAY BE USED TO AID IN ANSWERING THESE QUESTIONS** (no notes, PPTs, google websites, friends, co-workers, etc).

Open Lab: Lab instructor will be available on Tuesday and Thursdays during regularly scheduled lab times for questions, etc.

Part II: General Course Information

1. Additional Policy Information

Disabilities Services

The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. We will closely work with the Office of Disabilities Services (203 WHIT, 474-7043 or 474-1827 TTY; email: fydso@uaf.edu) to provide reasonable accommodation to students with disabilities.

To ensure that everyone has equal opportunities to succeed in this course, please let me know if we need to accommodate any disabilities that you may have. Any information you provide will be held strictly confidential.

Support Services

Computer labs in 301 Bunnell and 407 Bunnell are available for your use, including printing. For general support services, please contact Student Support Services, 508 Gruening Building, Phone: 474-6844, E-mail: fysssp@uaf.edu.

Student Protections and Services Statement: Every qualified student is welcome in my classroom. As needed, I am happy to work with you, disability services, veterans' services, rural student services, etc to find reasonable accommodations. Students at this university are protected against sexual harassment and discrimination (Title IX), and minors have additional protections. As required, if I notice or am informed of certain types of misconduct, then I am required to report it to the appropriate authorities. For more information on your rights as a student and the resources available to you to resolve problems, please go the following site: www.uaf.edu/handbook.

Your instructor follows the University of Alaska Fairbanks Incomplete Grade Policy: "The letter "I" (Incomplete) is a temporary grade used to indicate that the student has satisfactorily completed (C or better) the majority of work in a course but for personal reasons beyond the student's control, such as sickness, has not been able to complete the course during the regular semester. Negligence or indifference are not acceptable reasons for an "I" grade."

Credit/No credit

If a student has chosen Credit/No-Credit, they will be awarded Credit for the course if their performance is at the C- grade level or higher; if their performance falls below that level, the course will not appear on their academic record. In either case, the course will not be included in any GPA calculations. For spring and summer 2020 courses only, all non-degree seeking, undergraduate, and graduate students may receive an unlimited number of Credit/ No-Credit grades, and a Credit grade will count for prerequisites, general education, degree, minor, and major requirements.

Information on Dropping Classes

You will find the drop dates for the current semester at:
<http://www.uaf.edu/summer/information/calendars/>.

5. Tentative Lecture & Lab Schedule, Readings, Quizzes, Practicals & Exams

Biology 112X, Tentative Lecture & Lab Schedule - Summer 2020					
Date	Day	Lecture Topic	Reading	Lecture Quiz	Lab Exercises
Jun 29	Mon	Introduction, Endocrine system	Chapter 16		Exercise 27
Jun 30	Tue	Endocrine System			
Jul 1	Wed	Blood	Chapter 17		
Jul 2	Thur	No class or lab			
6-Jul	Mon	Blood		1	Exercise 29 Exercises 30 & 31
7-Jul	Tues	Exam 1			
8-Jul	Wed	Heart	Chapter 18		
9-Jul	Thur	Heart/ Blood Vessels	Chapter 19		
13-Jul	Mon	Blood Vessels		2	Exercise 32
14-Jul	Tues	Exam 2			
15-Jul	Wed	Lymphatic System	Chapter 20		Lab Practical 1
16-Jul	Thur	Immune system	Chapter 21		
20-Jul	Mon	Respiratory system	Chapter 22	3	Exercises 36, 37
21-Jul	Tues	Exam 3			
22-Jul	Wed	Digestive System	Chapter 23		Exercise 38, 39 & Rat
23-Jul	Thurs	Digestive/Nutrition/Met	Chapter 24		
27-Jul	Mon	Nutrition/Metabolism		4	Lab Practical 2
28-Jul	Tues	Exam 4			
29-Jul	Wed	Urinary system	Chapter 25		Exercise 40
30-Jul	Thur	Urinary			
3-Aug	Mon	Fluids & Electrolytes	Chapter 26		Exercises 42, 43
4-Aug	Tue	Reproductive System	Chapter 27		
5-Aug	Wed	Development	Chapter 28	5	Final Lab Practical
6-Aug	Thu	Final Exam			

6. How to Get the Most Out of the Course

1. **Twenty hours each week is the minimum amount of time you will have to commit to this course in order to do well.** Three hrs in lectures, 9 hrs study related to lecture content, 2 hrs in lab, & 6 hrs study related to lab content.
2. Do the assigned readings before coming to class. This will help you understand the lecture material and see how a topic is going to be developed. It will also give you the necessary background to participate meaningfully in class discussions.
3. Establish a schedule of study that includes some time set-aside for review. Ex., as we discuss muscle function, review the anatomical organization of muscle tissue.
4. Never cram for a test. You will just get by in the course, and you will not learn & understand the subject. Remember, you will only get out of the course what you put in to it.
5. Don't be embarrassed or afraid to admit that you are having difficulty. We should all work together to see that everyone learns. Please contact me, because I want this class to be a successful learning experience for everyone. I have office hours because I want to help you succeed; use me!
6. Read the laboratory exercise before coming to lab. This will allow you to concentrate on the substance of the exercise rather than on the procedures.
7. Do the lab work thoroughly and carefully. Don't just say to yourself, "Yeah, I understand it." Quiz yourself. Ask me or a friend to quiz you informally. That is one of the surest ways to determine if you really understand the material.
8. Learn the structures on the models and slides. Simply writing down the number of the structure for each model may help you locate it when studying, but it won't help you on a lab practical. How do you know if you have learned the material? Get the model or slide without any labels or keys and see if you can name all of the structures for the organ system being studied. If you can, great! If not, you don't know the material well enough to perform well on the practical.
9. Approach new terminology you will encounter by thinking about its derivation. You will discover that most of the terms can be understood with knowledge of relatively few Latin and Greek roots. Word roots, prefixes, suffixes, and combining forms and word roots are listed on the last two pages of the textbook. Avoid rote memorization.
10. Ask questions. This is the best way you have for clearing up confusing points and misunderstandings and to go beyond what we talked about in lecture. Learning to ask questions is the first skill that a scientist has to develop in order to find meaningful answers.
11. Have fun! Nothing works better than enjoying what you are doing. Please let me know at any time what I can do to improve the course.

7. Academic Honesty

UAF students are subject to the Student Code of Conduct. In accordance with board of regents' policy 09.02.01, UAF will maintain an academic environment in which freedom to teach, conduct research, learn and administer the university is protected. Students will benefit from this environment by accepting responsibility for their role in the academic community. The principles of the student code are designed to encourage communication, foster academic integrity and defend freedoms of inquiry, discussion and expression across the university community.

UAF requires students to conduct themselves honestly and responsibly, and to respect the rights of others. Conduct that unreasonably interferes with the learning environment or violates the rights of others is prohibited. Students and student organizations are responsible for ensuring that they and their guests comply with the code while on property owned or controlled by the university or at activities authorized by the university.

The university may initiate disciplinary action and impose disciplinary sanctions against any student or student organization found responsible for committing, attempting to commit or intentionally assisting in the commission of any of the following prohibited forms of conduct:

- cheating, plagiarism or other forms of academic dishonesty
- forgery, falsification, alteration or misuse of documents, funds or property
- damage or destruction of property
- theft of property or services
- harassment
- endangerment, assault or infliction of physical harm
- disruptive or obstructive actions
- misuse of firearms, explosives, weapons, dangerous devices or dangerous chemicals
- failure to comply with university directives
- misuse of alcohol or other intoxicants or drugs
- violation of published university policies, regulations, rules or procedures
- any other actions that result in unreasonable interference with the learning environment or the rights of others.

This list is not intended to define prohibited conduct in exhaustive terms, but rather offers examples as guidelines for acceptable and unacceptable behavior.

Honesty is a primary responsibility of you and every other UAF student. The following are common guidelines regarding academic integrity:

1. Students will not collaborate on any quizzes, in-class exams, or take-home exams that contribute to their grade in a course, unless the course instructor grants permission. Only those materials permitted by the instructor may be used to assist in quizzes and examinations.
2. Students will not represent the work of others as their own. A student will attribute the source of information not original with himself or herself (direct quotes or paraphrases) in compositions, theses, and other reports.

3. No work submitted for one course may be submitted for credit in another course without the explicit approval of both instructors.

Alleged violations of the Code of Conduct will be reviewed in accordance with procedures specified in regents' policy, university regulations and UAF rules and procedures. For additional information and details about the Student Code of Conduct, contact the dean of student affairs, visit www.alaska.edu/bor/ or refer to the student handbook that is printed in the back of the class schedule for each semester. Students are encouraged to review the entire code.

8. Student Behavioral Standards

Education at the university is conceived as training for citizenship as well as for personal self-improvement and development. Generally, UAF behavioral regulations are designed to help you work efficiently in courses and live responsibly in the campus environment. They are not designed to ignore your individuality but rather to encourage you to exercise self-discipline and accept your social responsibility. These regulations, in most instances, were developed jointly by staff and students. You should become familiar with campus policies and regulations as published in the student handbook