

BIOL 242: Human Anatomy and Physiology II

Winter 2011 Syllabus

Instructor: Joel Dahms
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Office hours: By appointment
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Class meeting times:
Sat 8:30AM- 3:00PM in: AS1615

Course Website: <http://facweb.northseattle.edu/jdahms/biol241/242.htm>

Required texts

- *Human Anatomy and Physiology*, Eighth Ed., Elaine N. Marieb & Katja Hoehn, Pearson Benjamin Cummings, 2009.
- *Human Anatomy & Physiology Laboratory Manual*, Main Version, **Ninth Edition**. Elaine N. Marieb & Susan J. Mitchell, Pearson Benjamin Cummings, 2010. ISBN: 9780321616142

Optional Texts

- *An Atlas of Histology*. Shu-Xin Zhang, Springer, 1999.
- *Brief Atlas of the Human Body*, Second Ed., Matt Hutchinson et al., Pearson Benjamin Cummings, 2007.
- *Study Guide for Human Anatomy and Physiology*, Eighth Ed., Elaine N. Marieb & Katja Hoehn, Pearson Benjamin Cummings, 2009.
- *The Anatomy Coloring Book*, Third Ed., Wynn Kapit and Lawrence M. Elson, Benjamin Cummings, 2001.
- *The Physiology Coloring Book*, Wynn Kapit, Robert I. Macey, and Lawrence Meisami, Second Ed., Benjamin Cummings, 2000.

Grading

Exams (5)	400 points
Lab Practicals (2)	200 points
Lab Exercises	150 points
Assignments	50 points
TOTAL	800 points

Grades will be assigned as follows:

Percent	Grade	Decimal Grade	Percent	Grade	Decimal Grade
95 - 100%	A	3.9 - 4.0	65 - 69	C	1.9 - 2.1
90 - 95	A-	3.5 - 3.8	60 - 64	C-	1.5 - 1.8
85 - 89	B+	3.2 - 3.4	57 - 59	D+	1.2 - 1.4
80 - 84	B	2.9 - 3.1	53 - 56	D	0.9 - 1.1
75 - 79	B-	2.5 - 2.8	50 - 52	D-	0.7 - 0.8
70 - 74	C+	2.2 - 2.4	< 50%	E	0.0

Note: a 4.0 grade requires a 96%

Commitment

Anatomy and Physiology is a course that requires a strong commitment in order to succeed. It is not an easy course: the subject-matter is difficult and learning the terminology can be like learning a foreign language. To successfully complete this course you must commit to attend all lectures and laboratory sessions and plan on spending at least an additional 25 hours per week of studying time. This will include not only reading the text but also several hours per week studying laboratory materials (e.g., microscope slides, models) for practical quizzes. Additional resources such as computerized review programs, audiovisual materials and student tutors are available during the **open laboratory** sessions (see below).

Disabilities

In my commitment to student learning I want to support all students. If you have a disability that will affect your performance in this class please let me know. Students with disabilities are encouraged to use disability services for support in implementing reasonable accommodations for their disabilities.

Attendance

Students should attend every class session, *especially* since the class only meets once a week; missing even one class session can leave you way behind. If you miss a class session, it is *your responsibility* to obtain the lecture notes, handouts, assignments or other materials distributed in class. If you must miss class due to prolonged illness or other unexpected circumstances, you should notify the instructor as soon as possible to make special arrangements.

Lectures

Due to the amount of information covered in the course, lectures cannot cover all the relevant material. Students will be responsible for all the material in the chapters covered unless otherwise noted. However, in order to help students determine what to focus on, **objectives** for each unit are available on the course website.

Objectives

There will be five units in BIOL 242, each with an exam at the end of it. Course objectives for each unit are available on the course website. The objectives are designed to give students a list of learning outcomes for each unit, and to serve as a study guide for the exams and quizzes. They cover *most* of the things you need to know; however, they are not exhaustive.

Labs

For BIOL 242, most laboratory exercises must be completed in the laboratory. After completion of each lab exercise you are expected to answer the questions found in the back of the lab book titled "Review Sheet" and turn them in during class the following week. **NOTE: you must turn in the actual pages torn out of a laboratory manual; no photocopies will be accepted.** In 242, most labs will also have additional handouts that require you to draw microscope slides and answer a few related questions. These will be due the week following the lab, along with the Review Sheet. Students who miss a

laboratory exercise must schedule a make-up session with the instructor or make arrangements to complete the activities during **open lab** time in order to get credit for that exercise. Students who report data obtained from another student will receive the grade of 0 for that exercise.

Open laboratory

There will be specified times each week that the laboratory room will be open to students and staffed by student tutors who have taken this class before. During these times, you may be able to make up missed labs, study lab materials for upcoming quizzes and exams, and have your questions answered by the student tutors. The schedule of open lab times should be available during the first week of the quarter.

Exams

There will be five exams: the first four will be worth 75 points each and the fifth exam will be worth 100 points. The exams will be composed of about half objective questions – multiple-choice, matching, and true/false – and half free response questions – short answer, fill-in-the-blank and short essay questions – and may also include diagrams for you to label. A new, unwrinkled green Scantron form and a #2 pencil will be needed for each exam. These are available at the campus bookstore. It is assumed that each student will do their own work. Cheating is unacceptable and will be referred to the Vice President of Student Affairs for disciplinary action. **NOTE: Exams may not be rescheduled or made-up due to tardiness or absence. Students with extraordinary circumstances should discuss them with the instructor as soon as the situation occurs.**

Lab Practical Quizzes

There will be two lab practical quizzes, one in week 6 and one in week 11, each worth 100 points. These are designed to test your “practical” ability to identify tissues and structures from slides, models, or diagrams. Consult the **Lab Practical Study Guide** (attached) for details on what you are expected to know for each practical.

Assignments

Assignments such as case studies will make up 50 points of your grade. Details of these will be announced during class as the quarter progresses.

BIOL 242 Lecture & Lab Schedule – Winter '11

Week	Date	Topics - Chapters Covered	Lab Exercises
1	1/8	Introductions Endocrine System – 16	Lab Safety & Introduction Lab #27-Endocrine
2	1/15	Blood – 17	Lab #29A-Blood Blood typing “whodunit” handout
3	1/22	Cardiovascular: Heart - 18	Lab #30-Heart Heart dissection
		● Exam 1 (Chaps 16, 17)	
4	1/29	Cardiovascular: Vessels - 19	Lab #32-Blood Vessels Lab #33A-Cardiovascular Phys.
5	2/5	Lymphatic System - 20 Immune System - 21	Lab #35A-Lymphatic System ELISA simulation handout
		● Exam 2 (Chaps 18, 19)	
6	2/12	Respiratory System - 22	Lab #36-Respiratory Anatomy Vernier Respiratory Phys Lab handout Pluck demo
			● Practical 1
7	2/19	Digestive System – 23	Lab #38-Digestive Anatomy
		● Exam 3 (Chaps 20-22)	
8	2/26	Nutrition, Metabolism, & Body Temp - 24	Lab #39B-Digestive Enzymes (Bring your PhysioEx CD) Lab #40-Urinary Tract Anatomy Kidney dissection
9	3/5	Urinary System - 25	Lab #41A-Uranalysis
		● Exam 4 (Chaps 23, 24)	
10	3/12	Fluid, Electrolyte, & Acid-Base Balance - 26	Lab #42-Reproductive Anatomy Lab #43-Reproductive Physiology
11	3/19	Reproductive System – 27 Development - 28	Lab#44 – Embryonic Development
			● Practical 2
Final	3/23 Wed	● Exam 5 (Chaps 25-28) Due	

Lab Practical Study Guide

Winter 2011

Practical quizzes will be administered in the laboratory and will test your knowledge of both gross anatomy and microscopic anatomy (histology). Each of the two practicals will be worth 100 points and will include microscope slides, models, and/or figures. All of the information listed below will be presented in laboratory prior to each practical quiz. If there are open lab times during the quarter, these may be used to review the material in preparation for the practicals. **This guide is subject to change throughout the quarter** so be sure to get any updates from me during laboratory as to exactly what is to be covered.

For practical quiz #1 (February 12th) you should know the following:

Endocrine System

- Identify on a slide the following tissues: thyroid, adrenal (identify zones of cortex, and medulla), pituitary (identify anterior and posterior), pancreas (identify Islets of Langerhans)
- Be able to identify thyroid, adrenals, spleen and pancreas on a model.

Blood

- Be able to look at a slide and tell me it is blood, and whether it is normal or abnormal. Know how to identify some specific abnormalities (sickle cell anemia, leukemia.).
- Be able to identify the following cells microscopically: red blood cell, lymphocyte, neutrophil, macrophage.
- Be able to correctly identify blood type from the testing we did in class (A, B, and Rh).

Heart

- Be able to look at a model and identify the following structures: the right and left atria, right and left ventricles, semilunar valves, tricuspid and bicuspid valves, chordae tendineae, papillary muscles, pulmonary arteries and veins, inferior and superior vena cava, right brachiocephalic trunk, left carotid and subclavian arteries, and aorta (ascending and descending).

Arteries and Veins

- Be able to identify the following arteries/veins on a model: inferior and superior vena cava, left and right pulmonary arteries and veins, thoracic and abdominal aorta, common carotid, subclavian, brachiocephalic, coronary, celiac, renal, axillary, brachial, radial, ulnar, mesenteric, iliac, peroneal, femoral, popliteal, tibial, jugular, celiac, splenic, gastric, hepatic and saphenous.
- Be able to look at a slide and distinguish an artery from a vein.

Lymphatic/Immune

- Be able to identify the following tissues microscopically: lymph node, Peyer's patch, tonsil, spleen, thymus.

For practical quiz #2 (March 19th) you should know the following:

Respiratory

- Be able to identify lung tissue microscopically and determine whether it is normal or abnormal. Identify the trachea.
- Be able to identify the following structures on a model: trachea, larynx, bronchi, bronchioles, nasal cavity, nasal conchae, pharynx, lungs. Be able to calculate IRV, ERV, TV, and VC when given the proper information

Digestive

- Be able to identify the following tissues microscopically: esophagus, stomach (identify region), small intestine (identify section), liver, pancreas, and large intestine. Be able to identify the following structures on a model or diagram: esophagus, stomach, small intestine (parts), large intestine (parts), pancreas, liver, gall bladder, salivary glands.

Urinary

- Be able to identify the following tissues microscopically: kidney, urinary bladder, ureter/urethra. Be able to identify a glomerulus microscopically.
- Be able to identify the following structures on a model: loop of Henle, distal/proximal convoluted tubules, Bowman's capsule, glomerulus, afferent/efferent arteriole, renal pyramids, renal cortex/medulla, ureter, bladder.
- Identify normal ranges for the following urinary parameters: pH, glucose, blood, specific gravity, ketones, protein. Be able to suggest possible reasons for abnormal parameters.

Reproductive

- Be able to identify the following tissues microscopically: testes (seminiferous tubules), ovary (stages), sperm, mammary gland, prostate gland. Be able to identify stages of a follicle within an ovary.
- Be able to identify the following structures on a model or figure: testes, epididymis, ejaculatory duct, vas deferens, prostate gland, bladder, urethra; ovary, Fallopian tube, uterus, cervix, clitoris, vagina, bladder, urethra