

BIO121 HUMAN ANATOMY AND PHYSIOLOGY I LAB SYLLABUS

Fall 2009
Pierce 123
F 2:10pm – 5:00pm

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REQUIRED MATERIALS

Marieb, E.N. Human Anatomy and Physiology Laboratory Manual (9th ed.) – Fetal Pig Version. San Francisco: Benjamin Cummings (2009) ISBN 0-321-54246-0

OPTIONAL MATERIALS

Hutchinson, M. et al. A Brief Atlas of the Human Body. San Francisco: Benjamin Cummings (2003). (NOTE – this is usually bundled with the text and lab manual)

DESCRIPTION

This syllabus describes in more detail the laboratory component of the HS301 course. The laboratory involves overview and review of general biological concepts (osmosis, diffusion and movement of substances across a semipermeable membrane; cell anatomy, mitosis and meiosis); an introduction to the language of anatomy and physiology; an introduction to tissue types and classification schemes; and in-depth study of organ systems including integument, bone, muscle and nervous system. Activities are designed to illustrate morphology of organs as well as physiological concepts. **Participation in and completion of the laboratory component is mandatory.**

GRADING SCHEME

POINTS

Grades will be based on the following:

Exams

250

Exams will include practical and essay questions.

Lab Report / Special Art Project

25

Quizzes

25

TOTAL

300

Lab Calendar f2009

August 28	<p>Lab 1: Exercise 1 – The Language of Anatomy (Activities 1-2, pp. 1-6; Activities 4-5, pp. 7-9) Exercise 3 – Basic Microscopy (Activity 1, pp. 27-29; Activity 2, pp. 29-31; Activity 5, pp. 33-34) Exercise 4 – Anatomy and Cell Division (Activity 5, pp. 44-45; Activity 6, pp. 45-48)</p> <p>Homework Assignment (due 2nd lab meeting): Review Sheet Exercise 1 “The Language of Anatomy” (pp. 11-14) Review Sheet Exercise 3, “The Microscope” (pp. 35-38) Review Sheet Exercise 4, “The Cell...” (pp. 49-52)</p>
September 4	<p>Lab 2: Exercise 5A – The Cell: Transport Mechanisms... Activity 1, pp. 55-56; Activity 2, p. 56; Activity 3, pp. 56-57; Activity 5, experiment 2, pp. 58-59) Exercise 5B –Cell Transport Mechanisms and Permeability: Computer Simulation (Activity 5, pp PEx 14-PEx15)</p> <p>Homework Assignment (due next lab meeting): Laboratory Report Due 10.2.2009</p>
September 11	<p>Lab 3: Exercise 6A – Classification of Tissues (Activities 1-3, pp. 67-83) Exercise 8 – Classification of Covering and Lining Membranes (pp.105-108) (See also Exercise 6B – Histology Tutorial, pp. PEx21-PEx22 – an excellent resource!) Exercise 7 – The Integumentary System (Activity 1, pp. 91-95; Activities 3-4, pp. 97-99)</p> <p>Homework Assignment (due next lab meeting): Review Sheet Exercise 6A “Classification of Tissues” (pp. 85-90)</p>
September 18	<p>Lab 4: Exercise 6A (continued) – Classification of Tissues (Activities 1-3, pp. 83) Exercise 8 (continued) – Classification of Covering and Lining Membranes (pp.105-108) (See also Exercise 6B – Histology Tutorial, pp. PEx21-PEx22 – an excellent resource!) Exercise 7 (continued) – The Integumentary System (Activity 1, pp. 91-95; Activities 3-4, pp. 97-99)</p>
September 25	<p>Lab 5: Exercise 9 - Overview of the Skeleton... (Activity 3, pp. 115-117) Exercise 10 – The Axial Skeleton (Activity 1, pp. 123-131; Activity 4, p. 137)</p> <p>Homework Assignment (due next lab meeting): Review Sheet Exercise 9, “Overview of the Skeleton...” (pp. 119-122) Review Sheet Exercise 10 “The Axial Skeleton” (pp.139-144)</p>
October 2	<p>Lab 6: Exercise 11 – The Appendicular Skeleton (Activity 1, pp. 145-150; Activities 3-4, pp. 152-156) Exercise 12 – The Fetal Skeleton (pp. 165-166)</p> <p>Homework Assignment (due next lab meeting): Review Sheet Exercise 11 “The Appendicular Skeleton” (pp. 561-570). LAB REPORT or ART PROJECT DUE</p>

October 9	<p>LABORATORY TEST #1 (Exercises 1, 3, 4, 5A, 6A, 7 -13) NOTE: The exam will be given during the scheduled lecture time, beginning at 12:45pm. (Make-up exam by permission only)</p>
October 16	<p>Lab 7: Exercise 13 – Articulations and Body Movements (Activities 1-3, pp. 169-173; Activities 5-6, pp. 174-178; Activities 8-9, pp. 180-181) Exercise 14 - Microscopic Anatomy...(Activities 1-3, pp. 187-191) Exercise 15 - Gross Anatomy...(Activities 1-3, pp. 197-213) (Emphasis upon head and neck muscles, back, thorax, and abdomen.) Exercise 6A - Muscle Tissue (pp. 82-83) (REVIEW)</p> <p>Homework Assignment (due next lab meeting) Review Sheet Exercise 15, "Gross Anatomy of the Muscular System," (pp. 227-230) Review Sheet Exercise 13, "Articulations..." (pp. 183-186)</p>
October 23	<p>Lab 8: Continue Exercise 15 - Gross Anatomy...(Activities 4-5, pp. 213-226) (Emphasis upon muscles of arms, legs, pectoral and pelvic girdles) Exercise 16B – Skeletal Muscle Physiology (Activity 1, pp. PEx23 – PEx24; Activities 3-5, pp. PEx26 - PEx28)</p> <p>Homework Assignment (due next lab meeting) Review Sheet Exercise 15, "Gross Anatomy of the Muscular System," (pp. 230-234)</p>
October 30	<p>Lab 9: Continue Exercise 15 - Gross Anatomy...(pp. 137-166) (Emphasis upon muscles moving wrist, fingers, lower leg)</p>
November 6	<p>Lab10: Exercise 17 – Histology of Nervous Tissue (Activities 1-3, pp. 257-264) Exercise 21 – Spinal Cord... (Activity 1, pp. 315-317; Activity 3, pp. 326; Activities 4-5, pp. 327-329) Exercise 18B, "Neurophysiology of Nerve Impulses: Computer Simulation" (Activity 1, pp. PEx37-PEx40; Activity 4, pp. PEx41)</p> <p>Homework Assignment (due next lab meeting) Review Sheet Exercise 17, "Histology of Nervous Tissue" (pp 593-596)</p>
November 13	<p>Lab 11: Exercise 19 – Gross Anatomy of the Brain and Cranial Nerves (Activities 1-3, pp. 279-292 - omit testing of cranial reflexes; sheep brain dissection, pp. 293-297) Exercise 22 - Human Reflex Physiology (Activities 1-4, pp. 341-345; Activities 6-9, pp. 347-348)</p> <p>Homework Assignment (due next lab meeting) Sheet Exercise 19, "Gross Anatomy..." (pp. 299-304) Review Sheet Exercise 25, "Special Senses – Hearing and Equilibrium" (pp. 629-632)</p>

November 20	Lab 12: Exercise 24 – Special Senses: Vision (Activities 1-3, pp. 363-367; cow eye dissection, pp. 368-369) Exercise 25 – Special Senses: Hearing and Equilibrium (Activity 1, pp. 383-384; Activity 4, p. 386) Homework Assignment (due next lab meeting) Review Sheet Exercise 24, “Special Senses – Vision” (pp. 370-380) Review Sheet Exercise 25, “Special Senses – Hearing...” (pp. 393-395)
November 27	THANKSGIVING HOLIDAY – Labs do not meet
December 4	LABORATORY TEST # 2 (Exercises 6A, 17, 19, 21, 22, 24, 25, 26.) (Make up exam by permission only)

POLICIES

ATTENDANCE: Attendance is required at all labs. Please refer to the Biology Department’s Absence Policy (attached).

LABORATORY SUPPLIES: Supplies are provided for student use. Equipment, models, slides, etc. may not be removed from the lab.

LABORATORY EXAMS: Lab tests are to be taken on the day scheduled. Emory University ID or valid picture ID may be required for entrance into the laboratory exam.

Laboratory exams are timed. No student will be allowed to exceed the allotted time for any laboratory exam. Students arriving more than 5 minutes late to a laboratory exam may be asked to take the exam during the open lab time, if space and resources allow. Each lab exam is composed of a written portion (with fill-in-the-blank and essay questions) and a practical portion. Each lab exam will be worth 125 points, for a total of 250 points contributing to the overall course grade.

Opportunities for make-up exams are extremely limited and are at the discretion of the laboratory coordinator. If a lab exam is to be missed, the laboratory coordinator is to be notified immediately. Students needing to miss a laboratory exam must obtain permission from the Laboratory Coordinator to take a make-up exam. **Only students having written permission from the instructor will be allowed to take the make-up exam. No student will be allowed to make up more than one lab exam.** Students missing a second laboratory exam will be assigned a score of 0 of the missed exam.

Students who are unable to take the lab test during a regularly scheduled exam time may have the option of taking a COMPREHENSIVE make-up exam at the end of the semester. This comprehensive lab exam may replace one missed lab exam only. Only students who have earned 55% of the possible lab points (ie, 165 out of 300 possible points) will have the option of taking the comprehensive lab exam. Students who are not eligible to take the comprehensive lab exam will receive a 0 score for the missed exam.

Laboratory exam papers remain the property of the NHWSN and Oxford College. Students will have an opportunity to review their performance on each exam and discuss their grade with their instructor. Students may NOT keep their exam papers. Students who do not

return their exam papers to their instructor will be considered in violation of the Student Code of Conduct regarding theft of University property.

HOMEWORK ASSIGNMENTS: If you answer all of the Lab Manual Homework Assignments listed in the Lab Syllabus you can earn up to **5 points** on each lab exam score.

OPEN LAB TIME: The A&P lab will be open for student self-review. A teaching assistant will be present to assist students with questions and review. Time TBA.

CHILDREN and VISITORS IN LAB: Children should never accompany students to lab. Students bringing children to lab will be asked to leave.

Adult visitors may be welcome in the lab at the discretion of the instructor. Adult visitors are expected to abide by the policies and procedures outlined in this syllabus. Adult visitors may be asked to leave at any time, for any reason.

GRADES: Grades will be available via Blackboard throughout the semester. You may contact the course instructor to obtain your grade in person. NO GRADES WILL BE PROVIDED VIA TELEPHONE OR EMAIL.

OTHER

Academic Dishonesty

Dishonesty in the classroom will not be tolerated. The (abridged) policy regarding student dishonesty at Oxford College of Emory University can be found in "Regulations," under Conduct and Honor, pages 103-106 of the 2009-2010 Catalog. An electronic version of the complete policy can be found at http://oxford.emory.edu/audiences/current_students/academics/academic_success/honor_code.dot

Violations of the Student Code of Conduct will receive a grade of 0 for the assignment and a report of the incident will be forwarded to the Honor Council.

When appropriate, students may collaborate on experiments or assignments, however students will generally be expected to turn in their own work. Instructions regarding the nature of each assignment will be provided.

Americans with Disabilities Act

Oxford College of Emory University and Nell Hodgson Woodruff School of Nursing both comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Students with disabilities who seek academic accommodations must first take appropriate documentation to the Office of Disability Services, located on the main campus, University Administration Building, Suite 110 (www.ods.emory.edu) OR 100 Hamill Street on the Oxford College campus. It is the responsibility of ODS to assess the documentation of each student requesting academic accommodations based on disability.

If you believe that you possess a disability for which reasonable accommodation must be made, you must consult with the instructor before the close of the second class meeting. Should a disability requiring accommodation arise after the second class meeting, you must present documentation to the ODS for assessment as quickly as is possible.

“Civility Clause”

Students are expected to behave toward course instructors, guest lecturers and fellow students with courtesy and consideration. This means that talking and disruptive behavior will be kept to a minimum. Students who must arrive late to class should enter quietly and be prepared for class (ie, not fumbling with calculators, backpacks, papers, etc...) Students who need to leave a class early should sit near an exit, then leave quietly. Cell phones, pagers, and other electronic devices should be silenced in the classroom. Laptops are permitted for notetaking only.

The course instructors reserve the right to end a class at any time, for any reason, including the disruptive or rude behavior of anyone in the classroom.

Emails

I love emails! I actually would prefer that you contact me this way for many reasons. To ensure that I can address your issue in a timely manner, please include the following in your message...

1. **the problem** (which should also be included in subject line) that requires a decision or action
2. **the background - why are you making this request?** What is the policy outlined in the syllabus?
3. **options available to you** - first choice, second choice, and why each is an option.
4. **your specific request** (which might also be included in the subject line)
5. **the deadline** by which your request must be met

The subject line should include LAST NAME, COURSE and CRN, and the problem or request stated very succinctly. Email messages without this information in the subject line may not receive a response.

Absence Policy – Biology Department, Oxford College

All students are expected to attend all lecture and laboratory sessions. However, emergencies may arise which will necessitate absences from class. Students are allowed 4 cuts in lecture and **NO CUTS** in lab. Students may only miss lab without penalty in cases of illness, family emergency or a school-sponsored event which is cleared with the professor in advance. Students are responsible for all material which is covered in laboratory and lecture. When possible, students will be allowed to “make-up” laboratory material missed due to an excused absence; however, because of the nature of the laboratory material, actual “make-up” of missed activities is usually impossible.

PENALTIES

Students who exceed the “4-cut” limit in lecture, for whatever reason, or have an unacceptable absence from laboratory will have their final grade reduced 5 points per absence. Students who miss 2 labs without acceptable reasons will fail the course (see below).

LECTURE ABSENCES

THERE ARE NO EXCUSED ABSENCES FOR LECTURE. Each student may be absent four (4) times without penalty. These four (4) cuts may be used for any reason: illness, studying, travel, family emergency, etc. However, ANY additional cuts will result in grade reduction. **USE YOUR CUTS JUDICIOUSLY**, e.g., for sick leave only.

ACCEPTABLE LABORATORY ABSENCES

Although no discretionary absences, ie, “cuts,” are allowed regarding laboratory exercises, on rare occasions, illness, family emergencies or certain school sponsored events may make it necessary for a student to miss a laboratory session. The instructor **MUST** be notified prior to the day of the absence in all but the most extreme emergencies.

In all cases, the final decision regarding whether or not an absence is acceptable will be made by the instructor.

AN UNACCEPTABLE ABSENCE FROM LABORATORY RESULTS IN A FIVE-POINT REDUCTION IN THE FINAL GRADE. TWO UNACCEPTABLE LABORATORY ABSENCES RESULT IN FAILURE OF THE COURSE.

MISSED TESTS

Ordinarily, tests cannot be made up, however, this is up to the instructor. If a student misses a test, and the absence is acceptable, the missed test will not count either for or against the student. If the absence is not excused, the grade will be a zero. Students are cautioned that any excuse for missing an exam will come under severe scrutiny by the instructor. **THE INSTRUCTOR MUST BE NOTIFIED PRIOR TO THE TIME OF THE EXAM, AND THE INSTRUCTOR MAKES THE FINAL DECISION REGARDING WHETHER OR NOT AN ABSENCE IS ACCEPTABLE.** Laboratory tests which are missed for a reason that is excused **MUST** be made up. The instructor must be notified prior to the time of the test.

RELIGIOUS HOLIDAYS

Students must notify the instructor one week in advance if they intend to be absent for a religious holiday.

TARDINESS

Being late to class is rude and distracting. Continued tardiness by any student will result in the assignment of absences and ultimately a reduction in the student's grade. Three tardies equal an absence. The tardy student is responsible for notifying the instructor that s/he entered the classroom late and therefore was not absent. The instructor reserves the option of excluding a person from further classroom or laboratory participation if the student is continuously tardy.

Falsification of information regarding absences from class or laboratory will be considered a breach of academic integrity.

LABORATORY SAFETY POLICIES

1. Students should wear shoes with closed toes to lab. Safety goggles, gloves (excepting latex gloves) or lab coats are not required.
2. Students should arrive on time for lab. Those needing to arrive late or leave early should contact the TA.
3. Unauthorized laboratory experiments are NOT permitted.
4. Students are expected, at all times, to consider the safety and comfort of those around them. Students acting in an unsafe or disruptive manner will be asked to leave immediately.
5. **Food is absolutely prohibited in the laboratory.**
6. Electronic devices (CD players, iPods, etc.) should be turned off when coming to lab. Cell phones and pagers should be turned off or set on "vibrate" mode. Students speaking on cell phones during the laboratory exercise will be considered disruptive and may be asked to leave.
7. Students are expected to clean up after themselves. Equipment, slides and models should be returned to their places, spills cleaned and trash discarded. Dissecting tools should be cleaned with soap and water. Grade reductions may be taken if a work area is left unclean or unsafe for others working in the laboratory.
8. Injuries should be reported to the TA immediately. Students should familiarize themselves with the location of the safety equipment (ie, safety shower, eye-wash stations, fire blankets and extinguishers, sinks, etc...)
9. Do not operate any equipment until you are instructed in its proper use.