Biology 121 – Human Anatomy and Physiology I
Course Syllabus
Fall 2004

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Lecture: MWF 11:45AM - 12:35PM, Room 101, Pierce Hall
Laboratory: Monday 2:00-5:00 PM, Room 123, Pierce Hall

Required Textbooks:
1) *Anatomy and Physiology*, by F. H. Martini. 2005. First Edition. Benjamin / Cummings Publishing Co., Inc.
2) Lab Text: *Human Anatomy and Physiology Lab Manual*, Cat version, by Elaine N. Marieb. 2005. Eighth edition. Benjamin / Cummings Publishing Co., Inc.

Required lab tools: Dissection Kit. Available in the bookstore.

Optional Lab Text: *A Guide to Anatomy and Physiology Lab* by T. G. Rust. Southwest Educational Ent.

Course objectives: In Biology 121, you will learn about the physical characteristics of the human body (anatomy) and about the intricate mechanisms that allow these physical parts to function (physiology). The human body is divided into eleven organ systems. Biology 121 is the first installment of a two-part course that explores each individual organ system. This semester you will be introduced first to general features of biological systems in the context of the human body. The course will then cover the integumentary, skeletal, muscular, and nervous systems. For the body to function as a whole, the smallest units – cells and tissues – must work together within each organ system. Therefore each organ system must be examined on both macroscopic and microscopic levels. You will be expected to learn anatomical terminology at all levels and to identify structures on specimens in the laboratory. It is important for you to integrate concepts of physiology as you study the anatomical structures. You will apply your knowledge of normal human body function to understand the basis of various human diseases. Maintaining homeostasis is crucial for human body function. Throughout this course, you will comprehend the biological condition of homeostasis and its effect on the body. You will be encouraged to think critically about the information that you learn in this course. The course aims to make you familiar with practical situations in the health field.

Biology 121 - Fall 2004 Lecture Schedule
Dr. Nitya Jacob

Date	Topic	Assigned Reading
W, Aug 25	Introduction	
	Organization of the human body	Chapter 1
F, Aug 27	Homeostasis and body function	Chapter 1
M, Aug 30	Chemical molecules in the body	Chapter 2
W, Sep. 1	Cell structure and duplication	Chapter 3
F, Sep 3	Cancer	Chapter 3
M, Sep 6	LABOR DAY - no class	
W, Sep 8	Tissues in the human body	Chapter 4
F, Sep 10	Tissues in the human body	Chapter 4
M, Sep 13	Integument– epidermis and dermis (Article #1 is due)	Chapter 5
W, Sep 15	Integument –accessory structures, injury	Chapter 5
F, Sep 17	Bones – structure and histology	Chapter 6
M, Sep 20	Bones - development and growth	Chapter 6
W, Sep 22	Bones - functional properties	Chapter 6
THURS, Sep 23	**EXAM I – 8:00-9:30 AM**	**(Chapters 1-5)**
F, Sep 24	Axial Skeleton - Skull	Chapter 7
M, Sep 27	Axial Skeleton – vertebral column	Chapter 7
W, Sep 29	Axial Skeleton – thoracic cage	Chapter 7
F, Oct 1	Appendicular Skeleton – upper limbs	Chapter 7
M, Oct 4	Appendicular Skeleton – lower limbs	Chapter 7
W, Oct 6	Joints and function	Chapter 8
F, Oct 8	Articulations and movement	Chapter 8
M, Oct 11	FALL BREAK – no class (Article #2 is due)	
W, Oct 13	Skeletal, cardiac and smooth muscles	Chapter 9
F, Oct 15	Skeletal tissue - mechanism of function	Chapter 9
M, Oct 18	Organization of skeletal muscles	Chapter 10
TUES, Oct 19	**EXAM II – 8:00-9:30 AM**	**(Chapters 6-8)**
W, Oct. 20	Axial and appendicular muscles	Chapter 10
F, Oct 22	Neurons and electrical potential	Chapter 11

Biology 121 – Fall 2004 Lecture Schedule (continued)

Date	Topic	Assigned Reading
M, Oct 25	Processing of nerve potentials	Chapter 11
W, Oct 27	Spinal cord and spinal nerves	Chapter 12
F, Oct 29	Reflexes	Chapter 12
M, Nov 1	The Brain – organization (Case study # 1 is due)	Chapter 13
W, Nov 3	The Brain – cerebrum	Chapter 13
F, Nov 5	The Brain – diencephalon, mesencephalon	Chapter 13
M, Nov 8	The Brain – medulla oblongata	Chapter 13
W, Nov 10	The Brain – review of cranial nerve functions	Chapter 13
F, Nov 12	Neurons – sensory and motor pathways	Chapter 14
M, Nov 15	Neurons – higher order functions	Chapter 14
W, Nov. 17	Neurons – age-related diseases	Chapter 14
F, Nov 19	Special senses - receptors	Chapter 17
M, Nov 22	Special senses - olfaction	Chapter 17
THURS, Nov 23	**EXAM III – 8:00-9:30 AM**	**(Chapters 10-12)**
W, Nov 24	THANKSGIVING BREAK – no class	
F, Nov 26	THANKSGIVING BREAK - no class	
M, Nov 29	Special senses – vision and equilibrium	Chapter 15
W, Dec 1	Autonomic nervous system	Chapter 14
F, Dec 3	Autonomic nervous system (Case study # 2 is due)	Chapter 14
M, Dec 6	Review – putting the pieces back together again	
Thurs, Dec 9	**FINAL EXAMINATION 2:00 – 5:00 PM**	

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Biology 121 - Laboratory Schedule, Fall 2004
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Date	Topic	Lab Exercise / Reading
Aug 30	Getting comfortable with anatomy, Using microscopes, *Dissection kit required*	Exercises 1, 2, 3
Sep 6	LABOR DAY	No lab
Sep 13	Cells and cellular transport	Exercises 4, 5A
Sep 20	Tissues and integumentary system	Exercises 6A, 7, 8
Sep 27	Osseous tissue and bones, Axial skeleton, Medical imaging	Exercises 9, 10
Oct 4	**LAB PRACTICAL EXAM I**	
Oct 11	FALL BREAK	No lab
Oct 18	Appendicular skeleton, Articulations, *Dissection kit required*	Exercises 11, 12, 13
Oct 25	Muscles - gross anatomy *Dissection kit required*	Exercises 14, 15 Dissection Ex 1 (pg 751)
Nov 1	Muscles – gross anatomy *Dissection kit required*	Exercises 14, 15 Dissection Ex 1 (pg 751)
Nov 8	**LAB PRACTICAL EXAM II**	
Nov 15	Brain and cranial nerves *Dissection kit required*	Exercises 17, 19, 21
Nov 22	Sensory reception, olfaction, taste *Dissection kit required*	Exercises 22, 23, 26
Nov 29	Vision, hearing, equilibrium *Dissection kit required*	Exercises 24, 25
Dec 8	**LAB PRACTICAL EXAM III**	

******Please bring all texts (Martini, Marieb and Rust) to the laboratory. We will use them for photographs and illustrations while observing specimens.******

Camera phones and digital cameras are not permitted in the laboratory.

Honor Code: Regulations of the Honor Code apply to all work for credit in this course, including lecture and lab examinations. Please pledge all of your work with your signature to indicate that you have followed the rules of the Honor Code.

Attendance: Attached to this syllabus is the Biology Department Absence Policy. Please read through this handout carefully for conditions on absences in lecture and lab. Unexcused absences, tardiness or a failure to follow the procedures outlined in the handout will result in a reduction in your grade. Any questions about absences should be raised immediately. It is your responsibility to be aware of the policy.

Cell phones: Cell phones must be turned off during lecture and lab. Cell phones are not permitted during lecture and laboratory exams.

Lecture Examinations: There will be three lecture exams, held on the dates specified in the syllabus. Lecture exams cover the topics indicated, which include textbook readings, lecture notes and concepts learned in lab. The final exam is cumulative.

Study tips: Please review the chapters listed for each lecture BEFORE the day of that lecture. Pay special attention to the figures. Bring your textbook to class. In class, take good, detailed notes and do not hesitate to ask questions. Follow along and label textbook figures in class. Make sure that you are reviewing the lecture material and the figures on a regular basis. Last minute preparation does not work for this course. It is a good idea to form a study group or pick a study buddy for regular reviews.

Laboratory: In the laboratory, you will spend a lot of time identifying macroscopic and microscopic anatomical structures. Make sure that you are fully attentive during lab and ask questions. There are three laboratory exams. To be well prepared for the lab exams, I strongly advise you to return to the lab every week outside of lab time to review the materials. The lab will be accessible to you Mon-Fri from 8:00 AM – 5:00 PM, except for Wednesday and the day before a lab exam.

Dissection: Since this is an anatomy course, lab exercises will involve dissection of preserved specimens. Extensive dissection of cats will be performed to study the muscular system. Sheep brains and eyes will be dissected to study the nervous system. Each student will be expected to participate in the dissections. This course is not ideal for persons that are uncomfortable with performing dissections.

Written assignments: There are 4 writing assignments for this course – 2 articles and 2 case studies. In the first part of the semester, you need to find 2 articles from scholarly publications, such as the *American Journal of Nursing*. For the second half of the semester, you will be given 2 case studies to analyze. Each assignment is worth 10 points. The due dates for these assignments are indicated in the lecture schedule. More details will be provided when the assignment is given.

LearnLink Class Conference: A class conference labeled "Jacob 121/122" has been set up for this course on LearnLink. Please use the conference regularly to communicate with each other and to ask questions. I will use this conference to correspond with you about items we may have missed in class. The syllabus and weekly lab instructions will also be posted under the Biology 121/122 conference – check the folders. It is a good idea to place the conference on your desktop for easy reference.

Class Participation: Class participation is extremely important in this course. Asking questions will help you learn the subject matter better. Health issues are a common concern and I would like to encourage your curiosity about these topics. Please pay attention during lecture and write down questions that come up in your mind. Participation is included in your final grade evaluation.

Office Hours: Every student is strongly encouraged to meet with me in person about any concerns or questions that may arise during the semester. I have scheduled specific office hours but if these times are not suitable for you, please do not hesitate to make an appointment with me for a different time.

Evaluation: The point distribution given below will be used to evaluate your performance in Biology 121.

Lecture Exams (3)	300 points
Lab Practical Exams (3)	150 points
Writing assignments (4)	40 points
Class Participation	20 points
Final Exam	150 points
Total	660 points

Your letter grade will be determined on the standard scale of:

90-100 %	A
80-89 %	B
70-79 %	C
60-69 %	D
<60	F

Plus and minus grades will be given.

Reminder: A minimum grade of C- in this course is required for pre-nursing students.