Biology 121 – Human Anatomy and Physiology I
Course Syllabus
Fall 2002

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Office Hours: TTh 9:30-10:30 AM, W: 2:00-3:00 PM or by appointment
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Lecture: MWF 11:45 AM - 12:35 PM, Room 101, Pierce Hall
Laboratory: Monday 2:00-5:00 PM, Room 123, Pierce Hall

Required Textbooks: **1)** *Fundamentals of Anatomy and Physiology*, by F. H. Martini. 2001. Fifth Edition. Prentice Hall Inc.
2) Lab Text: *Human Anatomy and Physiology Lab Manual*, Cat version, by Elaine N. Marieb. 2003. Seventh 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: Biology 121 is designed for you to understand the physical layout of the human body (anatomy) and the mechanisms behind how these physical entities function (physiology). In this course, it is expected that you will become well acquainted with the integumentary, skeletal, muscular, and nervous systems on both microscopic and macroscopic levels. The relationship between individual structures of these systems and their specific functions in the human body is a key emphasis. You will learn to use your knowledge in an applied manner by studying the anatomical and physiological basis of human diseases. You will become familiar with terminology and identification of anatomical structures. Through this course, you will comprehend the biological condition of homeostasis and its effect in physiology. Exercises and written assignments are designed to gear you towards critical thinking.

Biology 121 - Lecture Schedule, Fall 2002
Dr. Nitya Jacob

Date	Topic	Assigned Reading
W, Aug 28	Introduction	
	Layout of the human body	Chapter 1
F, Aug 30	Homeostasis and biological function	Chapter 1
M, Sep 2	LABOR DAY - no class	
W, Sep. 4	Organization – chemical molecules	Chapter 2
F, Sep 6	Organization – cells	Chapter 3
M, Sep 9	Cell duplication and cancer	Chapter 3
W, Sep 11	Organization – tissues	Chapter 4
F, Sep 13	Integument– epidermis and dermis	Chapter 5
M, Sep 16	Integument – hair, nails and glands	Chapter 5
W, Sep 18	Integument – injury and aging	Chapter 5
F, Sep 20	Bones – structure and histology	Chapter 6
M, Sep 23	Bones - development and growth	Chapter 6
W, Sep 25	Bones - functional properties	Chapter 6
THURS, Sep 26	**EXAM I – 8:00-9:30 AM**	**(Chapters 2-5)**
F, Sep 27	Axial Skeleton - Skull	Chapter 7
M, Sep 30	Axial Skeleton – vertebral column	Chapter 7
W, Oct 2	Axial Skeleton – thoracic cage	Chapter 7
F, Oct 4	Appendicular Skeleton – upper limbs	Chapter 8
M, Oct 7	Appendicular Skeleton – lower limbs	Chapter 8
W, Oct 9	Joints and function	Chapter 9
F, Oct 11	Articulations and movement	Chapter 9
M, Oct 14	FALL BREAK – no class	
W, Oct 16	Skeletal muscle tissue, mechanism of function	Chapter 10
F, Oct 18	Cardiac and smooth muscles	Chapter 10
M, Oct 21	Organization of skeletal muscles	Chapter 11
W, Oct. 23	Axial and appendicular muscles	Chapter 11
THURS, Oct 24	**EXAM II – 8:00-9:30 AM**	**(Chapters 6-9)**
F, Oct 25	Neurons and electrical potential	Chapter 12
M, Oct 28	Processing of nerve potentials	Chapter 12
W, Oct 30	Spinal cord and spinal nerves	Chapter 13
F, Nov 1	Reflexes	Chapter 13

Biology 121 - Lecture Schedule (continued)

Date	Topic	Assigned Reading
M, Nov 4	The Brain – organization	Chapter 14
W, Nov 6	The Brain – cerebrum	Chapter 14
F, Nov 8	The Brain – diencephalon, mesencephalon	Chapter 14
M, Nov 11	The Brain – medulla oblongata	Chapter 14
W, Nov 13	The Brain – review of cranial nerve functions	Chapter 14
F, Nov 15	Neurons – sensory and motor pathways	Chapter 15
M, Nov 18	Neurons – higher order functions	Chapter 15
W, Nov. 20	Neurons – age-related diseases	Chapter 15
THURS, Nov 21	**EXAM III – 8:00-9:30 AM**	**(Chapters 10-13)**
F, Nov 22	Special senses - receptors	Chapter 17
M, Nov 25	Special senses - olfaction	Chapter 17
W, Nov 27	THANKSGIVING BREAK – no class	
F, Nov 29	THANKSGIVING BREAK - no class	
M, Dec 2	Special senses – vision and equilibrium	Chapter 17
W, Dec 4	Autonomic nervous system	Chapter 16
F, Dec 6	Autonomic nervous system	Chapter 16
M, Dec 9	Review – putting the pieces back together again	
Tuesday, Dec 17	**FINAL EXAMINATION 9:00AM – 12:00 PM**	

Syllabus continues on next page

Biology 121 - Laboratory Schedule, Fall 2002
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Date	Topic	Lab Exercise / Reading
Sep 2	LABOR DAY	No lab
Sep 9	Getting comfortable with anatomy, Using microscopes, *Dissection kit required*	Exercises 1, 2, 3
Sep 16	Cells and cellular transport	Exercises 4, 5A
Sep 23	Tissues and integumentary system	Exercises 6A, 7, 8
Sep 30	Osseous tissue and bones, Axial skeleton, Medical imaging	Exercises 9, 10
Oct 7	**LAB PRACTICAL EXAM I**	
Oct 14	FALL BREAK	No lab
Oct 21	Appendicular skeleton, Articulations, *Dissection kit required*	Exercises 11, 12, 13
Oct 28	Muscles - gross anatomy *Dissection kit required*	Exercises 14, 15 Dissection Ex 1 (pg 709)
Nov 4	Muscles – gross anatomy *Dissection kit required*	Exercises 14, 15 Dissection Ex 1 (pg 709)
Nov 11	**LAB PRACTICAL EXAM II**	
Nov 18	Brain and cranial nerves *Dissection kit required*	Exercises 17, 19, 21
Nov 25	Sensory reception, olfaction, taste *Dissection kit required*	Exercises 22, 23, 26
Dec 2	Vision, hearing, equilibrium *Dissection kit required*	Exercises 24, 25
Dec 9	**LAB PRACTICAL FINAL EXAM**	

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

Honor Code: Regulations of the Honor Code apply to all work for credit in this course, including lecture and lab examinations. Please include your signature on all of your work to attest to your upholding the Honor Code.

Attendance: Attached to this syllabus is the Biology Department Absence Policy. Please read through this handout carefully for conditions on absences. 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.

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. There are also two laboratory exams and a laboratory final exam, which will involve recognition of structures and functions of materials encountered in the lab.

Dissection: Since this is an anatomy course, lab exercises will involve dissection of various materials. Extensive dissection of cats will be performed to study the muscular system. Sheep brains and eyes will be dissected to study the nervous system.

Written assignments: There will be three short written assignments related to human disease. These assignments may involve responding to discussion questions handed out in class or writing a short essay. Specifics of the assignment will be mentioned in lecture.

LearnLink Class Conference: A class conference has been set up for Biology 121/122 on LearnLink. Please familiarize yourself with this since it will often be used for communication. Under the class conference you will find sub-conferences for particular topics. The syllabus and weekly lab instructions will also be posted under the Biology 121/122 conference.

Class Participation: I would like to encourage everyone to be actively involved in the classroom. Your participation will help you learn the subject matter. I understand that speaking out in class is not easy for everybody, and therefore I will give you the option of participating on LearnLink. Please pay attention during lecture and write down questions that come up in your mind. Then, please post your thoughts, questions or comments about lecture topics on LearnLink under the Biology 121 conference, in the folder "Class participation". Your postings to this folder will be considered as class participation. Postings on "class participation" should be different from general postings on LearnLink. I will expect to see postings from each student on a regular basis (at least 4 times in the term) to give you credit for class participation.

Syllabus continues on next page

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

Lecture Exams	300 points
Lab Practical Exams	150 points
Written assignments	50 points
Class Participation	20 points
Final Exam	150 points
Total	670 points

Occasionally, lab quizzes may be given to evaluate your performance in lab. Total points allotted for the course will be adjusted to include these quizzes.

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.