

ANATOMY AND PHYSIOLOGY I
BSC 2085C Fall 2006

INSTRUCTOR: Dr. Greg Molnar

OFFICE HOURS: (M-TH) 8:30-9:30 AM (T,TH) 1:00-3:00; 8:00-9:00 PM

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DESCRIPTION: Human Anatomy and Physiology at North Florida Community College is a two-semester offering (BSC 2085 and BSC 2086) designed to aid the student in gaining a clear understanding of the structure and function of the human body. **Students are required** to complete BSC 1010C with a C or better prior to enrolling in this class.

TEXT BOOK: *Anatomy and Physiology The Unity of Form and Function*, Saladin; 2006

LAB BOOK: *Exercises for the Anatomy and Physiology Laboratory*, Erin., Amerman; (2006).

EVALUATIONS:

1. Multiple choice/short answer tests (50%). Material for these tests can be derived from information covered in: lecture, lab, or from out of class assignments. Lowest test can be dropped upon completion of material designed to help students learn concepts that were obviously not understood. Students whose lowest test score is not less than 70% will get to drop test without completing any additional work.
2. Quizzes/class assignments/lab skills (15%). This grade will generally help students who attend class regularly and hurt students who miss class.
3. Digital Library (10%). A series of clinical laboratory tests will accompany every chapter. Students will maintain a digital library for each lab test using the template provided on D2L.
4. Lab write ups (10%).
5. Final (15%).

The final grade will be determined based upon total points. All grades will be presented as your score (numerator) over the total possible points (denominator). At the end of the semester, your final grade (percentage) will be determined by adding your points and dividing by the total points. Letter grades can be calculated using the scale below.

A = Greater than or equal to 90%

B = Greater than or equal to 80%, but less than 90%

C = Greater than or equal to 70% but less than 80%

D = Greater than or equal to 60% but less than 70%

F = Less than 60%

RECOMMENDATIONS FOR STUDY

- Read the assigned material before class and review your notes weekly. Answer the study questions within the chapters and use any online resources provided with textbook.
- Work with others, compare notes, and quiz each other. Make sure you verify any inconsistencies in understanding.
- Keep key words and concepts on index cards and test yourself.
- Prepare concept maps for difficult topics so that you can see the relationship between ideas.
- Review your work and determine why you gave incorrect answers.
- Come to office hours to clarify information or test your understanding. Do this prior to the test, not after. Above all, ask any relevant questions during class or via electronic communication

MY ATTENDANCE POLICY/ MAKEUP WORK

Students are encouraged to attend class. Points will not be deducted for missing class, and students will not be withdrawn for missing classes. However, any graded material (exam, quiz, in class work, ect..) missed during your absence **will not be** considered for makeup. If an examination is missed for any reason other than a documented and approved activity, then that exam will count as your drop (students are only allowed one drop). Also, if you miss a class, contact another student to find out what was missed and any expectations for the upcoming class (quizzes, work due, ect..). Finally, the complexity of many laboratory activities (set up time required) and possible safety considerations has necessitated the elimination of makeup laboratory sessions.

LATE WORK

Late work will be accepted, but will enter the house of pain. Reference to the house of pain results from the fact that this work is often turned back at a later date compared to students who turned their work in on time. **Maximum grade on late work = 60%.**

STUDENT E-MAIL

All NFCC students will be provided an email account through D2L, NFCC's learning management system, and this will be the official email address used by faculty and staff for communication with students. Email addresses and instructions for accessing the email will be provided within the first two weeks of classes each semester, and students are expected to check this email on a regular basis.

LIBRARY SERVICES:

The Marshall Hamilton Library at NFCC is open during the fall semester the following hours:

Monday – Thursday	8:00 a.m. – 9:00 p.m.
Friday	8:00 a.m. – 4:30 p.m.
Sunday	1:30 p.m. – 5:30 p.m. beginning Sunday, October 1, 2006.

Resources and staff are available in the Library to support student learning in the classroom. Students are encouraged to visit, browse the collections, and use the computers during these hours. Librarians are on duty to help with questions and research strategies. Access to the library's extensive collection of electronic resources such as eBooks and academic databases with full-text articles is available 24 hours a day through the Library's website, www.nfcc.edu/library. Wireless Internet is also accessible in the Library. Specific policies and regulations applicable to the Library are available in the Library or by visiting the Library's website.

AMERICANS WITH DISABILITIES ACT:

NFCC is dedicated to the concept of equal opportunity. Students wishing modifications in class or on campus due to a disability may choose to inform the instructor at the beginning of the semester or contact the Office of Student Disability directly. Accommodations and modifications will be made after the student registers with the Office for Student Disability Services and provides appropriate documentation of the disability. After the documentation is evaluated, the instructor may be involved in providing accommodations in order to equalize the educational experience. Please call 973-9484 (V) or 973-1682 (V) or 973-9611 (TTY) for information

STUDENT OMBUDSMAN

The Office of Ombuds/Advocate facilitates understanding, communication, and conflict resolution between students and instructors and other members of the college community without engaging the formal grievance procedures. The Ombuds can listen impartially and confidentially to complaints, explain policies and procedures, and assist finding a solution. The mission of the Ombudsman is to ensure that all students receive fair and equitable treatment at NFCC. NFCC OO/A can be reached at 850-973-9484.

ACADEMIC HONESTY

NFCC is committed to providing a high quality educational experience to all students and students are expected to follow appropriate and honest academic practices. A pamphlet discussing various types of academic dishonesty and specific penalties will be provided to all NFCC students, and is available on the Academic Affairs webpage at www.nfcc.edu. All cases of academic dishonesty will be reported to the Office of Academic Affairs.

CAMPUS SECURITY

The administration of NFCC diligently works to make the campus as safe as possible by keeping shrubbery low, security lights at strategic places, security guards on duty and unused buildings locked when not in use. Students should use normal precautionary measures when returning to cars in parking lots, etc. Campus crime statistics are documented annually and available on page 40 of the 2006-07 catalog.

Campus security can be contacted at 850-973-0280 for assistance while on campus with non-911 security concerns.

COURSE OUTLINE

Unit one—Human Anatomy

- Chapter; 1 Major themes of Anatomy and Physiology
- Labs: 1. understanding graphs, 2. scientific method, and 3. anatomical/directional terms.
- Laboratory tests: endoscopy, x-rays, CAT scan, PET scan, MRI, Ultrasonography, EEG, EMG, and ECG.
- Vocabulary:

Anatomical position, Cytology, Histology, Palpation, Auscultation, Homeostasis, Feedback loops (positive & negative), Scientific method, Experimental design, Sample size, Controls, Placebo, Double-blind method, Statistics (mean, standard deviation, error Peer review, Falsifiability, Psychosomatic effects.

Unit two—Biochemistry

- Chapter 2; The Chemistry of Life
- Labs: 1.chemistry, 2. atomic modeling, and 3. pH
- Laboratory tests: electrolytes, iron, enzymes (CK isoenzymes, Acid phosphatases), hormones (thyroid, estradiol), phenylalanine, glucose tolerance, blood urea nitrogen (BUN), Cholesterol (HDL, LDL)
- Disorders: PKU, lactose intolerance, albinism, obesity.
- Vocabulary:

Subatomic particles, valence electrons, octet rule, ions, electrolytes, radioisotope, biological half-life, free radicals, compounds, functional groups, organic compounds, electronegative, hydrogen bond, buffers, pH, chemical reaction, oxidation, reduction, catalyst, enzyme, biochemical pathway,

Unit three—Cell Biology

- Chapter 3; Cellular Form and Function
- Chapter 4; Genetics and cellular function
- Labs: 1.introduction to the microscope, 2. cytology, and 3. microbiology
- Laboratory tests: Complete blood count (CBC), WBC count, Karyotype, Chloride sweat test
- Disorders: Familial hypercholesterolemia, Cancer, Diabetes, Cystic fibrosis, Muscular dystrophy, Parkinson's Disease,
- Vocabulary

Cell theory, organelles (know all plus function for each), osmosis, tonicity, cytoskeleton, receptor, second messengers, G proteins, adenylate cyclase, kinases, transcription, translation, codon, anticodon, cell cycle, mitosis, genome, gene, allele, homozygous, heterozygous, genotype, phenotype, monohybrid cross, dihybrid cross, punnet square, oncogenes, tumor suppressor genes, carcinogens, biopsy, malignant, benign, angiogenesis, biopsy, chemotherapy.

Unit Four----Cellular Organization of Tissues and the Integumentary System

- Chapter 5; Histology
- Chapter 6; Integumentary system
- Labs: 1. histology, and 2. integumentary system
- Laboratory tests: Skin biopsy, Fungal culture
- Disorders: Marfan syndrome, Dermatitis, Pemphigus vulgarus, Herpes, Shingles, Warts, Candidiasis, Athlete's foot, Scabies, Melanoma, Jaundice
- Vocabulary:

Extracellular matrix, interstitial fluid, Keratin, Pap smear, fibroblasts, glycosaminoglycan, chondroitin sulfate, proteoglycan, tight junction, desmosomes, gap junction, hyperplasia, hypertrophy, neoplasia, differentiation, stem cells, apoptosis, dermatology, transdermal absorption, cyanosis, hematoma,

Unit Five----Bone and Muscle Tissue

- Chapter 7; Bone Tissue
- Chapter 10; Muscular system
- Chapter 11; Muscular tissue
- Labs: 1. introduction to the skeletal system, 2. skeletal system, 3. articulations, and 4.muscle tissue
- Laboratory tests: Calcium, Alkaline phosphatase (ALP), osteocalcin, Bone mineral density (BMD), Bone X-Ray, Electromyography (EMG), Acetylcholine receptor antibody (AChR), Creatine Kinase.

- Disorders: Acromegaly, Achondroplastic dwarfism, Osteoporosis, Paget's disease, Osteomyelitis, Osteomalacia, Muscular dystrophy, Myasthenia gravis, Trichinosis, Fibromyalgia
- Vocabulary:

Osteology, orthopedics, hydroxyapatite, osteosarcoma, ectopic ossification, hypocalcemia, hypercalcemia, tetany, axial skeleton, appendicular skeleton, sutures, foramen magnum, fontanel, articulate, Myology, origin, belly, insertion, electrophysiology, resting membrane potential, cholinesterase inhibitors, rigor mortis.

Unit Six----Nervous system

- Selections from Chapters 12,13,14,15;
- Labs: 1. nervous tissue, 2. central nervous system, and 3. peripheral and autonomic nervous system
- Laboratory tests: Lumbar puncture (spinal tap), Electroencephalography (EEG), Computerized tomography (CT or CAT scans), Magnetic resonance imaging (MRI), Analysis of Cerebral spinal fluid (CSF): pressure, color, cells present, bacterial culture.
- Disorders: Meningitis, Rabies, Encephalitis, Concussions, Multiple sclerosis (MS), Cerebral palsy, Spina bifida, Parkinson's, Alzheimer's, Headaches, Shingles.