Dr. Patrick Slavin
Anatomy and Physiology I
Bio 110, Sections 01 and 31
Spring, 2008

SYLLABUS

(Subject to Change)

Week 1	Scientific Method. Anatomy and Physiology Overview. Anatomical position. Surface anatomy, body planes, body cavities, abdominopelvic quadrants, organ systems. Chemistry review: atoms, ions, isotopes, chemical bonds, reactions, polarity, pH
Week 2	Organic chemistry review: carbon, important biochemical compounds, hydrolysis and dehydration synthesis, structural and functional proteins, enzymes
Week 3	Cell Biology. Plasma membranes Transport across a membrane. Osmosis. Organelles. Cellular respiration. Nucleic acids, protein synthesis, transcription and translation. Biology of cancer, behavior of cancerous cells.
Week 4	Tissues. Epithelial tissue: function, characteristics, classification.Connective tissue: structure, matrix fibers and cells, types of connective tissue. Muscle tissue: skeletal, smooth, cardiac. Nervous tissue. **TEST #1**
Week 5	Integumentary System. Functions of the skin. Layers and sublayers of the epidermis and dermis. Pigmentation. Structure of hair and nails. Skin glands. Disorders and diseases of the skin. Sensory receptors of the skin.
Week 6	Skeletal System. Bone cells. The functions of the skeletal system. Classification of bones. Bone markings. Ossification and growth. Nutritional requirements.
Week 7	Axial skeleton: Bones of the face and cranium, vertebrae, thoracic cage.
Week 8	Appendicular skeleton: pectoral girdle, bones of the arms and hands, pelvic girdle, bones of the legs and feet. Joints, bursae, tendons and ligaments. Bone diseases. **TEST #2**
Week 9	Nervous system, organization and function. Neurons and supporting cells. Action potentials, myelin sheath. Synapses and neurotransmitters
Week 10	The Brain. Cerebrum functions and divisions. Divisions of the diencephalon. Divisions of the brainstem. Structure and function of the cerebellum. Meninges
Week 11	Spinal cord, reflexes, nerves, peripheral nervous system. The Autonomic nervous system. Diseases of the nervous system. **TEST #3**
Week 12	Muscular System. Anatomy of the skeletal muscle. Muscle cells and contraction physiology. Exercise physiology, oxygen debt and heat production. Smooth muscle contraction.
Week 13	Muscles of the body. Origins, insertions and actions
Week 14	The special senses. Chemoreception, olfaction, gustation. Structure of the eye, photoreception, structure of the ear, physiology of hearing, equilibrium and orientation. **Test #4**

FINAL EXAM – The final exam will be given in the classroom of instruction. Time and date to be announced.

Prerequisites
The prerequisites for this course are High School Biology or BIO 120,121.

Course Objectives
At the completion of the course the student should be able to:
- Explain the scientific method from the formation of hypotheses to the arrival of conclusions.
- Describe, using proper terminology, the overall structure/function relationships of the major body systems.
- Describe the components of the scientific method.
- Explain the progression of structural levels from chemical compounds to organ systems.
- Explain how homeostasis maintains body function by dynamic counterbalancing forces.
- Identify the major anatomical and histological features of the major organ systems.
- Critically analyze the interrelationships of the organ systems.

Examinations
Four tests, each contributing 25% to the final grade, will be given throughout the semester. The tests are not cumulative. Each test will cover the lecture material since the previous test. These tests will be of the "objective" type: multiple choice, matching, one or a few word answers. These four tests will be given in the Pemberton and Mt. Laurel Test Centers.

It is the responsibility of the student to find out the hours and days that the Test Centers are open.
The final exam is optional. If the final exam is taken, the lowest of the four tests will be dropped. If you miss a test, you must take the final. All make-up exams will be given during finals week. The make-up exams may include essay questions. The final exam will be given in at a place, time and date to be announced.

Attendance will be taken before every class. Please let me know ahead of time if you are unable to attend. **It is the student's responsibility to obtain material from missed lectures**. Class notes are posted on my web page. (BCC Faculty Web Pages)

Grades
A = 90 – 100
B+= 85 – 89
B = 80 – 84
C+= 75 – 79
C = 70 – 74
D = 60 – 69
F = < 60

X - X grades will only be given if a student is receiving a grade of C or better at the time of the contract

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Office Hours:
Monday, Wednesday and Friday - Parker 331J, 9:00 – 10:00 am
Tuesday and Thursday - Laurel Hall, 11:00 - Noon

Email: pslavin@bcc.edu

Telephone: (609) 894-9311, EXT. 1371