Laboratory Manual: Handouts that must be downloaded from NYU Classes.

Grade Determination:
60% Lecture / Exams: No make-ups or drops; consists of fill ins, short answers and essays.
No make-ups for exams

40% Lab reports
A = 96+; A- = 92-96; B+ = 88-92; B = 84-88; B- = 80-84; C+ = 76-80; C = 72-76; C- = 68-72; D = 64-68

Pre-requisite:

Course Layout:
Physiology is a systems approach to learning Human Physiology. Each system will be outline and practically understood through examples and integration.

Weekly Requirement:
Check NYU Classes and e-mails for assignment and ancillary materials.
Introduction to Physiology & Basic Chemistry
Review of Basic understanding and the definition of life, how it is defined and its composition. Review of the biomacromolecules, atoms, organic and inorganic compounds and organic functional groups. Review of the Eukaryotic cells and its structures; its organization and review of the systems, cell membrane transport and tonicity; cellular function and the cell cycle.

Nervous System
Overall view of the Central Nervous System and the Peripheral Nervous System, including the function of the Autonomic Nervous System with the Enteric Brain. Understanding of the cell types, function, signal transduction and the Action Potential.

Sensory Physiology
Sensory receptors and their function in reflex control, Vision and the Optic system, Audition and the Auditory system, Vestibular and understanding gravity, and Chemical senses will be explained.

Exam I

Muscles Systems
Skeletal muscle physiology with contractile proteins and their interaction explained using electrophysiology of Twitch, Tetanus, Treppe and Fatigues. Comparing and Constrasting the three type of muscle systems and the types of exercise; isotonic vs isometric.

Cardiovascular Physiology
Overall understanding of the structures and how the electroconductance and action potential of the heart are generated will be presented. How ions affect the function of the heart and the EKG, further how the various drugs affect the Heart function and blood pressure; and the function of baroreceptors.

Respiratory System
Understanding of the structures, role of hemoglobin and Acid-Base balance; Respiratory volumes and disease; and the role of chemoreceptors in proper ventilation.

Renal Physiology
Renal Anatomy, Urine/Urea production, Protein metabolism and Erythrocyte production and regulation; Renin - Angiotensin system and shock; Ion regulation.

Exam II

Digestive System:
Alimentary track anatomy and function; Chemical vs Mechanical digestion; role of HCl on Pepsin regulation and pathogen control; Smooth muscle physiology and the function of the Enteric NS; Peristalsis vs Segmentation; Acid Reflux Disease.

Reproductive System and Endocrine System:
Sex Determination; Gametogenesis and Embryology; Stem Cells; Hormones and their functions; Mechanism of Action and the second messenger systems. Homeostasis and Feedback loop systems.

Final Exam