DEPARTMENT OF BIOLOGY
MEDGAR EVERS COLLEGE of the CITY UNIVERSITY OF NEW YORK

SYLLABUS
BIO 252 *** ANATOMY AND PHYSIOLOGY 2

TEXTBOOKS:

1. Lecture Textbook: Anatomy & Physiology, 7th Edition, by R.R. Seeley, T.D. Stephens, P. Tate; Publishers: McGraw-Hill Higher Education, New York.
2. Laboratory Textbook: Eric Wise Laboratory Manual Anatomy & Physiology, 7th Edition, by R.R. Seeley, T.D. Stephens, P. Tate; Publishers: McGraw-Hill Higher Education, Publishers: McGraw-Hill Higher Education, New York.

COURSE DESCRIPTION

Biology 252 is Part II (final part) of the Anatomy and Physiology course. You must have finished **Bio 252** (Part I). If you have enrolled in **Bio 252**, you must also enroll in **Biol 252**, which is the laboratory component of the course. The course carries 4 credits and meets a total of 6 hours per week. For the lab component, you will receive a letter grade of "P" or "F". If you fail the course, you will receive "F" in both lecture and lab. If you receive a final grade of "INC" in the lecture, you will likewise receive an "INC" as a lab final grade. ***A new component is now added to this part of the course. Each student will be responsible for at least three (3) take home reading assignments relevant to the topic of discussion to be decided throughout the course. A written summary of each reading must be submitted on the following class period. Each student will receive a grade credit for each assignment.***

COURSE REQUIREMENTS:

Reading of the text and lab manual are required to comprehend the principles taught in this course. Attendance is required and will be strictly monitored by each instructor. A student who is absent from a class meeting is responsible for all materials covered and for all announcements made by the professor, including dates and handouts. Students should make every effort to come to class on time, listen to the professor, take good notes, study the textbook and ask questions. Students are urged to see the professor in the event of problems that need attention. In addition to the office hours, your professor is available for conference before and after every class. For both the lecture and the lab components of the course, each student will be required to take a uniform mid-term exam, and also a uniform final exam at the end of the semester. **THERE WILL BE NO MAKE-UP EXAMS FOR THE UNIFORM MID-TERM AND UNIFORM FINAL EXAMS.**

GRADING:

Lecture Exams	25%
Uniform Departmental Midterm	15%
Uniform Departmental Final	20%
Lab Grade	40%
	100%

Lab Grade (40%) will be divided as follows:

Orals and quizzes	20%
Uniform lab midterm & final	20%

BIO 252 LECTURE SCHEDULE

TOPIC	CHAPTER
Functional Organization of Nervous Tissue Functions of the Nervous System; Divisions of the Nervous System; Cells of the Nervous System; Organization of Nervous; The Synapse Spatial and Temporal; Neuronal Pathways and Circuits.	11
The Spinal Cord and Spinal Nerves Gross Anatomy of the Spinal Cord; Spinal Nerves; Interaction with Spinal Cord Reflexes; Structure of Peripheral Nerves; Spinal Nerves; Plexuses.	12
The Brain and Cranial Nerves Brainstem, Cerebellum; Diencephalon; Limbic System; Meninges and Cerebrospinal Fluid; Blood Supply to the Brain; Development of the CNS; Cranial Nerves.	13
Integration of Nervous System Functions Sensation; Sensory Nerve Tracts; Control of Skeletal Tracts; Brainstem Functions. Limbic System; Effects of Aging on the Nervous System	14
The Special Senses. Olfaction; Visual System; Hearing and Balance; Effects of Aging on the Special Senses	15
Autonomic System Contrasting the Somatic and Autonomic Nervous Systems; Anatomy of the Autonomic Nervous System; Physiology of the Autonomic Nervous System	16
Functional Organization of The Endocrine System Chemical Structure of Hormones (Table 17.2); Control of Secretion Rate; Transport and Distribution in the Body; Metabolism and Excretion; Interaction of Hormones and Other Chemical Signals with Their Target Tissues; Classes of Receptors	17
MID-TERM EXAMINATION	
Endocrine Glands Functions of the Endocrine Systems; Pituitary Gland and Hypothalamus; Hormones of the Hypothalamus; Hormones of the Pituitary Gland; Thyroid Gland; Parathyroid Glands; Adrenal Glands and Its Hormones; Pancreas; Hormones of the Reproductive System; Hormones of the Pineal Body; Hormones of the Thymus; Effects of Aging on the Endocrine System.	18
Cardiovascular System: Peripheral Circulation and Regulation General Features of Blood Vessel Structure; Pulmonary Circulation; Systemic Circulation: Arteries; Systemic Circulation: Veins	20
The Lymphatic System and Immunity Functions of the Lymphatic System; Overview of the Lymphatic System; Immunity: Innate/Adaptive; Antibodies.	22
The Respiratory System Functions of the Respiratory System; Anatomy and Histology of the Respiratory System; Measuring Lung Function; Physical Principles of Gas Exchange; Oxygen and Carbon Dioxide Transport in the Blood; Aging and the Respiratory System	24

The Digestive System

Anatomy of the Digestive System; Functions of the Digestive System; Histology of the Digestive System; Regulation of the Digestive System the Structure and Function of the Digestive Tract; The Oral Cavity; The Pharynx; The Stomach; The Small Intestine and Associated Glandular Organs; The Large Intestine; Digestion and Absorption; Aging and the Digestive System. 25

The Urinary System

Organization of the Urinary System; The Kidneys; Renal Physiology; Urine Transport, Storage; and Elimination. 26

Fluid, Electrolyte, and Acid-Base Balance

Fluid and Electrolyte Balance; Acid-Base Balance; Disturbances of Acid-Base Balance. 27

The Reproductive System

An Overview of the Reproductive System; The Reproductive System of the Male; The Reproductive System of the Female; Aging and the Reproductive System. 28

Departmental Uniform Final Examination ---- TBA

BIOL 252 LABORATORY SCHEDULE

LABORATORY MANUAL : Eric Wise Laboratory Manual of Anatomy & Physiology (7th Ed.), Seeley, Stephens, and Tate. McGraw-Hill Publishers, 2006.

SUPPLEMENTARY MATERIALS

1. Dissecting Kit
2. Lab coat (must wear to enter lab)
3. Lab Notebook

LABORATORY SESSION 1:

1. Exercise 16: Introduction to the Nervous System
2. Exercise 18: Spinal Cord and Somatic Nerves

LABORATORY SESSION 2:

1. Exercise 17: Brain and Cranial Nerves
   External and Internal

LABORATORY SESSION 3:

1. Exercise 19: Nervous System Physiology – Stimuli and Reflexes
2. Exercise 20. Introductory to Sensory Receptors

LABORATORY SESSION 4:

1. Exercise 21: Taste and Smell
2. Exercise 22: Eye and Vision
3. Exercise 23: Ear, Hearing, and Balance

LABORATORY SESSION 5:

1. Exercise 24: Endocrine System

LABORATORY SESSION 6:

1. Exercise 27: Structure of the Heart
2. Exercise 28: Electrical Conductivity of the Heart
3. Exercise 29: Functions of the Heart

DEPARTMENTAL MIDTERM

LABORATORY SESSION 7:

1. Exercise 30: Introduction to Blood Vessels and Arteries of theUpper Body
2. Exercise 31: Arteries of the Lower Body

LABORATORY SESSION 8:

1. Exercise 32: Veins and Special Circulations
2. Exercise 33: Function of Vessels and the Lymphatic System

LABORATORY SESSION 9:

1. Exercise 35: Structure of the Respiratory System
2. Exercise 36: Respiratory Function, Breathing, and Respiration

LABORATORY SESSION 10:

1. Exercise 38: Anatomy of the Digestive System. Study all diagrams.

LABORATORY SESSION 11:

1. Exercise 40: Urinary System
2. Exercise 41: Urinalysis

LABORATORY 12:

1. Exercise 42: Reproductive System. Study diagrams.

LABORATORY 13:

1. Exercise 43: Female Reproductive System. Study diagrams.

LABORATORY 14:

<u>UNIFORM DEPARTMENTAL FINAL EXAM</u> - Last day of lab session.