Miami-Dade COMMUNITY COLLEGE

06-09-05

Common Course Number: BSC-2086-L

Course Title: Human Anatomy and Physiology II Laboratory

Catalog Course Description:

Laboratory for BSC-2086, Human Anatomy and Physiology II. Upon successful completion of this course, the students should be able to complete laboratory exercises, practices with models, charts, videos, and computers that reinforce topics covered in BSC2086 (Cardiovascular System and blood, Lymphatic System, Respiratory System, Digestive System, Urinary System, Reproductive System and development, and Endocrine System).

Credit Hours Breakdown: 1 lecture hour

Prerequisite: None

Co requisite: BSC-2086, Human Anatomy and Physiology II

Course Competencies:

Competency 1: The blood

Upon successful completion of this laboratory, the students will be able to describe the physical characteristics and functions of the various components of the blood by:

1.1 Naming/explaining the various cellular components of the blood.

1.2 Stating the functions of the formed elements of the blood.

Competency 2: The Circulatory System

Upon successful completion of this laboratory, the students will be able to demonstrate an understanding of the gross and microscopic anatomical features of the circulatory system, as well as the regulation and physiology of the heart and blood pressure by:

2.1 Identifying the gross anatomical structures of the heart and state their location and function.

2.2 Recognizing and explaining the heart sounds.

2.3 Differentiating arteries and veins under the microscope.

2.4 Locating the major arteries and veins of the systemic, hepatic portal, pulmonary and cerebral circulation using appropriate models and charts.

2.5 Identifying structures unique to fetal circulation and by contrasting these with normal adult structure and function.

2.6 Measuring systemic blood pressure, and explaining the concepts of systolic and diastolic blood pressure.

2.7 Identifying and explaining the components of the EKG.

2.8 Measuring pulse rates, and explaining the concepts of heart rate and pulse.

Competency 3: The Lymphatic System

Upon successful completion of this laboratory, the students will be able to demonstrate an understanding of the gross and microscopic anatomical structures of the lymphatic system, as well as the principles of lymphatic circulation by:

3.1 Identifying the gross anatomical structures of the lymphatic system and by stating their location and function.

3.2 Differentiating the structures of the spleen in the microscope.

3.3 Explaining/describing the lymph circulation

Competency 4: The Respiratory System

Upon successful completion of this laboratory, the students will be able to demonstrate an understanding of the gross and microscopic anatomical structures of the respiratory system, as well as principles of respiratory physiology by:

4.1 Locating the major organs of the respiratory system and describing their structure and function.

4.2 Tracing the pathways of air from the external environment into the smallest lobules of the lungs.

4.3 Identifying the alveoli, bronchioles, and bronchi.

4.4 Using a spirometer to measure and evaluate respiratory volumes.

Competency 5: The Digestive System

Upon successful completion of this laboratory, the students will be able to understand the anatomical features of the digestive system, as well as principles of the hormonal and enzymatic action in the digestive system by:

5.1 Locating the major organs of the alimentary canal and the accessory organs of digestion, and explaining their structure and function.

5.2 Tracing the flow of bile and pancreatic juice from their origins to the duodenum.

5.3 Enumerating and describing the actions of the different hormones and enzymes involved in the digestive process

Competency 6: The Urinary System

Upon successful completion of this laboratory, the students will be able to understand the structure and function of the urinary system, including gross and microscopic anatomical structures and the physiology of urine formation by:

6.1 Locating the gross anatomical features of the urinary system, and describing their structure and function.

6.2 Identifying the various components of a nephron on charts and anatomical models.

6.3 Identifying renal tubules and renal corpuscles on microscopic sections of kidney tissue.

6.4 Discussing the process of urine formation including filtration re-absorption and secretion.

Competency 7: The Reproductive System

Upon successful completion of this laboratory, the students will be able to understand the structure and function of the reproductive system, as well as primary stages of fertilization and development by:

7.1 Locating the major structures of the male and female reproductive systems and tracing the paths of the gametes from their points of origin to the exterior.

7.2 Describing the structure and function of major components of the male and female reproductive systems.

7.3 Identifying the structures involved in the production of gametes and sex hormones in the ovaries and testes.

7.4 Identifying the histological features of testes and ovaries and relating these structures to spermatogenesis and oogenesis.

7.5 Recognizing the events associated with fertilization, including the formation of a fertilization membrane, as well as the events of early cleavage and embryology.

7.6 Identifying and compare the roles of the placenta and Umbilical cord.

Competency8: The Endocrine System

Upon successful completion of this laboratory, the students will be able to understand the structure and function of the endocrine system, and the hormones produced by each endocrine gland including their actions and interactions by:

8.1 Locating the gross anatomical features of the endocrine system, and describing their structures and functions.

8.2 Identifying the various components of the endocrine system on charts and anatomical models.

8.3 Listing the hormones produced by each endocrine gland and describing the function of each hormone