COURSE TITLE & NUMBER: Human Anatomy: BIOL 2140
CREDITS: 4 (3 Lec / 1 Lab)
PREREQUISITES: College-level reading and previous college-level biology or medical terminology recommended.

CATALOG DESCRIPTION:
Human Anatomy is the study of organ systems and tissues of the human body. Systems included are the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive. Focus is on structures and their relationships in these systems. This course is intended for students in health-related fields as well as liberal arts students.

OUTLINE OF MAJOR CONTENT AREAS:
1. Overview of anatomy and physiology
   A. Structural organization
   B. Functional relationships
2. Basic chemistry and biochemistry
   A. Bonds and reactions
   B. Acids, bases, and salts
   C. Organic compounds
3. Cells and tissues
   A. Membranes
      1. Lipid bilayer
      2. Protein and carbohydrate
   B. Epithelium
      1. Type
      2. Location
   C. Connective tissue
   D. Muscle tissue
   E. Nervous tissue
   F. Blood
      1. Composition
      2. Formed elements including cells
      3. Plasma
4. Integumentary system
   A. Epidermis
   B. Dermis and skin color
   C. Hair, nails, and glands
5. Skeletal system
   A. Structure of bone
   B. Skeletal anatomy
   C. Joint anatomy
6. Muscular system
A. Skeletal muscle anatomy
   1. Single fiber
   2. Motor unit
B. Muscle-bone-joint relationships
   1. Lever systems
   2. Movements at synovial joints

7. Nervous system
A. Organization of the nervous system
   1. Neurotransmitters
   2. Neurons and glial cells
B. The brain and spinal cord
C. Peripheral nervous system
   1. Receptors
   2. Motor endings
   3. Cranial nerves
   4. Spinal nerve
D. Autonomic nervous system
   1. Sympathetic division
   2. Parasympathetic division
E. Special senses
   1. Eye
   2. Ear

8. Endocrine system
A. Hormones
   1. Target cell specificity
   2. Types of hormones
B. Endocrine organs
   1. Pituitary gland
   2. Other glands

9. Cardiovascular system
A. Heart anatomy
B. Blood vessels
   1. Arteries, capillaries, and veins
   2. Circulatory pathways

10. Lymphatic system
    A. Lymphatic vessels
    B. Lymph nodes
    C. Spleen, thymus, and tonsils

11. Respiratory system
    D. Upper respiratory
    E. Respiratory tree

12. Digestive system
    A. Gastrointestinal anatomy
    B. Liver and gall bladder
    C. Oral and pharyngeal anatomy

13. Urinary system
    A. Kidney anatomy
B. Bladder

14. Reproductive system
   A. Anatomy of male reproductive system
   B. Anatomy of female reproductive system
   C. Pregnancy and the embryo

COURSE GOALS/OBJECTIVES/OUTCOMES:
1. Students will describe the structural organization of the human body’s organ systems.
2. Students will identify and distinguish individual tissues, bones, muscles, central and peripheral nervous system structures, special sense organs, organs of the ventral body cavity, and their accessory structures.
3. Students will relate joint structure and muscle action to physical properties of velocity, force, endurance, and lever systems.
4. Students will trace blood supply throughout the body, including major organs.

MNTC GOALS AND COMPETENCIES MET:
Natural Sciences

HCC COMPETENCIES MET:
Working Productively and Cooperatively
Communicating Clearly and Effectively
Thinking Creatively and Critically

STUDENT CONTRIBUTIONS:
Students are expected to attend all laboratory sessions, participate in and contribute to class discussions, complete all assignments on time, and request assistance when needed. Attendance is critical for the successful completion of this course.

STUDENT ASSESSMENT SHALL TAKE PLACE USING INSTRUMENTS SELECTED/DEVELOPED BY THE COURSE INSTRUCTOR.

ADDITIONAL INFORMATION: Students are required to manipulate small sharp dissection instruments. Dissection is an integral component of this course. Exposure to chemical preservatives is minimal. Students may provide their own gloves (optional) which are available for purchase in the college bookstore. Students must observe all lab safety procedures.

Curriculum Approval Date: February 5, 2018
AASC APPROVAL DATE: February 21, 2018
REVIEW DATE: February 2023