COURSE SYLLABUS

LAST REVIEW	Fall 2022
COURSE TITLE	Human Anatomy & Lab
COURSE NUMBER	BIOL-0141
DIVISION	Math, Science, Business & Technology
DEPARTMENT	Biology
CIP CODE	24.0101
CREDIT HOURS	4
CONTACT HOURS/WEEK	Class: 3 Lab: 3
PREREQUISITES	None
COURSE PLACEMENT	None

COURSE DESCRIPTION
In a systematic study of the gross anatomical organizations of the human body, students examine the interrelationships of the structure of the human body and the general structure and functions of tissues, organs, and organ systems by means of models, skeletons, charts, and audio visual materials. Six hours lecture/integrated lab are required each week. This course is recommended for Life Science and Health Career majors only.

KANSAS SYSTEMWIDE TRANSFER: BIO 2030
The learning outcomes and competencies detailed in this course outline or syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups project for this course as approved by the Kansas Board of Regents.

General Education Learning Outcome
☐ Basic Skills for Communication
☐ Mathematics
☐ Humanities
☒ Natural and Physical Sciences
☐ Social and Behavioral Sciences

Institutional Learning Outcomes
☒ Communication
☐ Computation and Financial Literacy
☒ Critical Reasoning
☒ Technology and Information Literacy
☐ Community and Civic Responsibility
☒ Personal and Interpersonal Skills

TEXTBOOKS
http://kckccbookstore.com/

METHODS OF INSTRUCTION
A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE
The course outline is indicated below and is subject to change as course development dictates.

I. Introduction
- Anatomical position
- Body planes
- Body sections
- Body cavities
- Body regions
- Directional terms
- Levels of organization
- Body systems

II. Cell and Tissue
- Cell structures and functions
- Organelles
- Mitosis
- Cytokinesis
- Meiosis
- Cell pathology

III. Integumentary system
- Gross anatomy and function of skin
- Microscopic anatomy of skin
- Pathology of Integumentary system

IV. Skeletal system
- Gross anatomy and function of bones
- Microscopid anatomy of bones
- Name and location of bones
- Boney landmarks of the bones

Pathology of bones

V. Articulations
- Name of joints
- Type of joints
- Structure of joints
- Function of joints
- Pathology of joints

IV. Muscular system
- Gross anatomy and function of muscle tissue
- Microscopic anatomy of muscle
- Name and location of muscle
- Action of muscle
- Pathology of muscle system

IIV. Nervous System
- Gross anatomy and function of nervous system
- Microscopic anatomy of nervous system
- Anatomy of brain, spinal cord and nerves
- Pathology of nervous system

IX. Special Senses
- Gross anatomy and function of special sense organs
- Microscopic anatomy of special senses
- Pathology of special sense organs

X. Circulatory System
- Gross anatomy and function of heart, blood vessels and blood
- Microscopic anatomy of heart, blood vessels and blood
- Pathology of circulatory system

XI. Lymphatic system
- Gross anatomy and functions of lymphatic organs
- Microscopic anatomy of lymphatic organs
- Pathology of lymphatic system

XII. Respiratory System
- Gross anatomy and functions of respiratory organs
- Microscopic anatomy of respiratory organs
- Pathology of respiratory system

XIII. Digestive system

Gross anatomy and functions of digestive organs
Microscopic anatomy of digestive organs
Nutrition's effect on the body
Pathology of digestive system

XIV. Urinary systems
Gross anatomy and function of urinary organs
Microscopic antomy of urinary organs
Pathology of urinary system

XV. Reproductive System
Gross anatomy and function of female reproductive organs
Microscopic anatomy of female reproductive organs
Gross anatomy and function of male reproductive organs
Microscopic anatomy of male reproductive organs

XVI. Endocrine system
Gross anatomy and function of endocrine organs
Microscopic anatomy of endocrine organs
Pathology of endocrine system

COURSE LEARNING OUTCOMES
Upon successful completion of this course, the student will:

A. Name and describe anatomical and directional terminology. Including the following topics Anatomical position, Body planes and sections, Body cavities and regions, Directional terms, Basic terminology, Levels of organization, and Survey of body systems

B. Name and describe basic chemistry and cellular structures and functions. Including the following topics Intracellular organization of nuceus and cytoplasm, Membrane structure and function, Organelles, Somatic cell division (mitosis and cytokinesis), Reproductive cell division, and predictions related to homeostatic imbalance, including disease states and disorders

C. Identify the basic tissues of he body and their location and explain their functions. Including the following topics Overview of histology and tissue types

D. Microscopic anatomy, location and functional roles of epithelial, connective, muscular and nervous tissues- membranes (mucus, serous, cutaneous and synovial) glands (exocrine and endocrine)- tissue injury and repair

E. Identify major gross and microscopic anatomical comonents of the integumentary system and descrive the functions fo the system. Including the following topics

General functions of the skin and subcutaneous layer, Gross and microscopic anatomy of the skin and Roles of the specific tissue layers of the skin and subcutaneous layer, Anatomy and functional roles of accessory structures, Applications of homeostatic mechanisms, and Predictions related to homeostatic imbalance, including disease states and disorders

F. Identify major gross and microscopic anatomical components of the skeletal system and explain their functional roles is osteogenesis, repair, and body movement. Including the following topics General functions of bone and the skeletal system, Structural components – microscopic anatomy, Structural compoonents – gross anatomy, Physiology of embryonic bone formation (ossification, osteogenesis), Physiology of bone growth, repair, and remodeling, Organization of keletal system- gross anatomy of bones, Classification, structure an function of joints (articulations), Application of homeostatic mechanisms, and Predictions related to homeostatic imbalance, including disease states and disorders

G. Identify major gross and microscopic anatomical components of the muscular system and explain their functioinal roles in body movement, maintenance of posture, and heat production. Including the following topics General functions of muscle tissue, Identification, general location and comparative characteristics of skeletal, smooth and cardiac muscle tissue-detailed gross and microscopic anantomy of skeletal muscle , Principals and types of whole muscle contraction-nomenclature of skeletal muscles, Loation and function of skeletal muscles, Group action of skeletal muscles, Lever systems, and Predications related to homeostatic imbalance including disease states and disorders

H. Identify the major gross and microscopi anatomical components of the nervous system and explain their functional roes in communication, control, and integration. Including the following topics General functions of the nervous system, Organization of the nervous system from bothe anatomical and functional perspectives, Gross and microscopic anatomy of the nerve tissue, Neurotransmitters and their roles in synaptic transmission, Sensory recpetors and their roles, Division, origin and function of component parts of the brain, Protective roles of the cranial bones, meninges and cerebrospinal fluid, Structure and function of cranial nerves, Anatomy of the spinal cord and spinal nerves, and Predictions related to homeostatic imbalance, including disease states and disorders

I. Identify the major gross and microscopic anatomical components of the eye and ear and explain their functional roles in vision, hearing and euilbrium. Students should also be able to identify and locate the receptors responsible for olfaction and gustation and briefly descrive the physiology of smell and taste. Including the following topics Gross and microscopic anatomy of the eye and ear, General gross and microscopic anatomy of hearing and accessory structures of the ear, Role of the ear in equilibrium, and Predictions related to homeostatic imbalance, including disease states and disorders

J. Identify the major gross and microscopic anatomical components of the cardiovascular system and explain their roles in transport and hemodynamics. Including the following topics General functions of the cardiovascular system, Composition of blood plasma, identify microscopic anatomy, numbers formation and functional roles of eh formed elements of the blood, ABO and Rh blood grouping, Gross and microscopic anatomy of the heart, including the condution system-physiology of carediac muscle contraction, blood flow through the heart, Anatomy and functional roles of the different types of blood vessels, Pattern of blood circulation throughout the body, including systemic, pulmonary, coronary, hepatic portal, and fetal circulation, and Predictions related to homeostatic imbalance, including disease states and disorders

K. Identify the major gross and microscopic anatomical components of the lymphatic system and explain their functional roles in fluid dynamics and immunity. Including the following topics General fucnctions of the lymphatic system, Lymph and lymphatic vessels, Lympatic cells, tissues and organs, and Predictions related to homeostatic imbalance, including disease staes and disorders

L. Identify the major gooss an microscopic anatomical components of the respiratory system and explain their functional roles in breathing/ ventilation and in the processes of external andinternal respiration. Including the following topics- general functions of the respiratory system Gross and microscopic anatomy of the respiratory tract and related organs, and Predictions related to homeostatic imbalance, including disease states and disorders

M. Identify the major gorss and microscopic amnatomial components of the respiratory system and explain their functional roles in breathing/ventilation and in the process of external and internal respiration. Including the following topics gross and microscopic anatomy of the respiratory tract and related organs, application of homeostatic mechanisms, and predictions related to homeostatic imbalance, including disease states and disorders

N. Identify the major goss and microscopic anatomical components of the digestive system and explain their functional roles in digestion, absorption, excretion and elimination. Including the following topics general function of the digestive system, gross and cmicroscopic anatomy of the alimentary canal, gross and microscopic anatomy of the accessory glands and organs, peritoneum and mesenteries, predictions related to homeostatic imbalance, including disease states and disorders

O. Articulate the functional relationship among cellular, tissue and organ level metabolism, the role nutrion plays in metabolism, and the mechanisms by which metabolic rate is regulated in body.

P. Identify the major gross and microscopic anatomical components of the urinary system and explain their functional roles. Including the following topics general

functions of the urinary system, gross and microscopic anatomy of urinary tract, including detailed histology of the nephron functional processes of urine formation, including filtration, reabsorption, secretion and excretion, factors regulating and altering urine volume and composition, including the renin angiotensin system and roles of aldosterone and antidiuretic hormone

Q. Identify the major gross and microscopic anatomical components of the reproductive system and explain their functional roles in reproduction and inheritance. Including the following topics general functions of the male and female reproductive systems, gross and microscopic anatomy of male and female reprodutie systems, gametogenesis, conception, pregnancy and embryological and fetal development, and Mammary gland anatomy and physiology

ASSESSMENT OF COURSE LEARNING OUTCOMES
Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES
Student Handbook
https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf

College Catalog
https://www.kckcc.edu/academics/catalog/index.html

College Policies and Statements
https://www.kckcc.edu/about/policies-statements/index.html

Accessibility and Accommodations
https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html.