North Central State College

MASTER SYLLABUS
2020-2021

A. Academic Division: Health Sciences

B. Discipline: Science

C. Course Number and Title: BIOL1730 Basic Anatomy & Physiology

D. Course Coordinator: Justin Tickhill
Assistant Dean: Melinda Roepke, MSN, RN

Instructor Information:
- Name: Click here to enter text.
- Office Location: Click here to enter text.
- Office Hours: Click here to enter text.
- Phone Number: Click here to enter text.
- E-Mail Address Click here to enter text.

E. Credit Hours: 4
Lecture: 3 hours
Laboratory: 3 hours

F. Prerequisites: ENGL 0040 (minimum grade of C- required for both) or qualifying placement test scores

G. Syllabus Effective Date: Fall, 2020

H. Textbook(s) Title:

Essentials of Anatomy & Physiology
- Authors: Martini and Ober
- Copyright Year: 2017
- Edition: 12th
- ISBN: 9780134395326

I. Workbook(s) and/or Lab Manual: None

J. Course Description: This course presents the basic terms and concepts that deal with the structure and processes of the human body. It involves examination of the body as a whole, the cell, and tissues. The basic structure and physiology of the integumentary, skeletal, muscular, nervous, cardiovascular, lymphatic, respiratory, digestive, urinary, reproductive, and endocrine systems are presented. Laboratory exercises enhance and support the lecture topics and include microscopy, the study of models, specimen dissection, cadaver study, and physiological experiments.

K. College-Wide Learning Outcomes

College-Wide Learning Outcomes	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Describe the body planes and organization and apply these to appropriate models, drawings, and specimens.	Exams, quizzes, practical lab tests throughout the semester
2. Define homeostasis and explain some common examples that apply to the human body.	Exams, quizzes, practical lab tests throughout the semester
3. Identify selected cell structures on models or drawings and state the functions of these cell parts.	Exams, quizzes, practical lab tests throughout the semester
4. List and identify the stages of cell mitosis.	Exams, quizzes, practical lab tests throughout the semester
5. Distinguish between diffusion, osmosis, filtration, and active transports.	Exams, quizzes, practical lab tests throughout the semester
6. Describe and locate examples of the major tissues of the body and explain their general function.	Exams, quizzes, practical lab tests throughout the semester
7. Identify the bones of the skeleton	Exams, quizzes, practical lab tests throughout the semester
8. Distinguish between axial and appendicular skeleton and identify selected examples of bone processes, depressions, and holes	Exams, quizzes, practical lab tests throughout the semester
9. Identify and locate selected major muscles of the human body and state their general action	Exams, quizzes, practical lab tests throughout the semester
10. Briefly describe or identify the microscopic organization of muscle cells and state their role in muscle contraction.	Exams, quizzes, practical lab tests throughout the semester
11. Identify and describe the basic microscopic and macroscopic anatomical components of the nervous system and explain their general functional roles in communication, control, and integration.	Exams, quizzes, practical lab tests throughout the semester
12. Identify selected structures of the eye and state their functional role in vision	Exams, quizzes, practical lab tests throughout the semester
13. Identify and describe the basic microscopic and macroscopic anatomical components of the cardiovascular system and summarize their functional roles in transport and hemodynamics.	Exams, Quizzes, Practical lab tests throughout the semester
14. Briefly describe the overall functions of the lymphatic system and its general circulation.	Exams, Quizzes, Practical lab tests throughout the semester
15. Identify and describe the basic microscopic and macroscopic anatomical components of the respiratory system and state their basic functional roles in external and internal respiratory processes.	Exams, Quizzes, Practical lab tests throughout the semester

Outcomes	Assessments – How it is met & When it is met
16. Identify the basic macroscopic and a few microscopic anatomical components of the digestive system and state their basic functional roles in nutrition, digestion, absorption, metabolism, and elimination.	Exams, Quizzes, Practical lab tests throughout the semester
17. Identify and describe the basic microscopic and macroscopic anatomical components of the urinary system and state their basic functional roles in body fluid homeostasis including pH control, fluid balance and electrolyte balance.	Exams, Quizzes, Practical lab tests throughout the semester
18. Identify and describe the basic microscopic and macroscopic anatomical components of the reproductive system and explain their general functional roles in reproduction and inheritance.	Exams, Quizzes, Practical lab tests throughout the semester
19. Identify the major endocrine glands and state their hormonal secretions and the general actions of these hormones.	Exams, Quizzes, Practical lab tests throughout the semester

M. Topical Timeline (Subject to Change):

Lecture

1. Introduction
2. Anatomical Terminology and Reference Systems
3. Chemistry, Matter, and Life
    a. Cell Anatomy
    b. Cell Physiology
    c. Cell Division
4. Body Tissues
5. Integumentary System
    a. Functions
    b. Layers
    c. Specialized structures
6. The Skeletal System
    a. Functions
    b. Classification of bone
    c. Bone growth and remodeling
    d. Organization of skeleton
    e. Articulations or joints
7. The Muscular System
    a. Structure of muscle tissue
    b. Structure of skeletal muscle cell
    c. Muscle activity
    d. Origin, insertion, action and naming of muscles
8. The Nervous System
    a. Overall function
    b. Divisions of nervous system
    c. Cells of the nervous system
    d. Physiology of neurons
    e. Central nervous system
    f. Peripheral nervous system
        1) Somatic
        2) Autonomic
9. The Special Senses

    a. Receptors and sensations
    b. Eye and vision
    c. Ear and hearing
10. The Blood
    a. Blood and blood cells
    b. Hemostasis
    c. Blood groups and transfusions
11. The Cardiovascular System
    a. The heart
    b. Blood vessels
    c. Blood pressure
    d. Paths of circulation
12. The Lymphatic System
    a. Organization
    b. Purposes
13. The Respiratory System
    a. Organs of the respiratory system
    b. Mechanism of breathing
    c. Respiratory air volumes and movements
    d. Control of breathing
    e. Alveolar gas exchanges and blood transport
14. The Digestive System
    a. Introduction
    b. The mouth, salivary glands, pharynx and esophagus
    c. The stomach
    d. The pancreas
    e. The liver
    f. The small and large intestines
    g. Metabolism
15. The Urinary System
    a. Introduction
    b. The kidney
    c. Urine formation
    d. Hemodialysis and the artificial kidney
    e. pH control by the kidneys
    f. Excretion of urine
    g. Disorders of urinary system
16. Reproductive System
    a. Introduction
    b. Organs of the male reproductive system
    c. Hormonal control of male reproduction
    d. Organs of the female reproductive system
    e. Hormonal control of female reproductive functions
    f. Pregnancy and prenatal period
17. The Endocrine System
    a. Hormones, glands, and their actions
    b. Control of hormone secretions
    c. Endocrine disorders

Laboratory Exercises

1. Introduction, microscope and body references
2. Cells and tissues
3. Cell membrane transport
4. Cellular division
5. Axial skeleton
6. Appendicular skeleton
7. Muscles
8. Central nervous system
9. Peripheral nervous system, eye and ear
10. Blood
11. Heart
12. Vascular System
13. Respiratory Anatomy
14. Respiratory Physiology
15. Digestive Anatomy
16. Urinary Anatomy
17. Urinary Physiology
18. Reproductive Anatomy
19. Endocrine System

N. Course Assignments:

1. Lecture quizzes and exams
2. Laboratory practical quizzes

O. Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
93–100	A	4.00	Superior
90–92	A-	3.67	Superior
87–89	B+	3.33	Above Average
83–86	B	3.00	Above Average
80–82	B-	2.67	Above Average
77–79	C+	2.33	Average
73–76	C	2.00	Average
70-72	C-	1.67	Below Average
67–69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
00-59	F	0.00	Failure

P. Grading and Testing Guidelines:

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Q. Examination Policy:

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R. Class Attendance and Homework Make-Up Policy:

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S. Classroom Expectations:

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T. College Procedures/Policies:

Important information regarding College Procedures and Policies can be found on the syllabus supplement located at

http://catalog.ncstatecollege.edu/mime/download.pdf?catoid=5&ftype=2&foid=3