North Central State College

**MASTER SYLLABUS**
**2020-2021**

A. Academic Division: Health Sciences

B. Discipline: Science

C. Course Number and Title: BIOL2752 Human Anatomy & Physiology II

D. Course Coordinator: Jeff Taylor
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: BIOL2751 with minimum C minus (C-) grade

G. Syllabus Effective Date: Fall, 2020

H. Textbook(s) Title:

*The Anatomy Coloring Book*
- Author: Kapit and Elson
- Copyright Year: 2002
- Edition:
- ISBN #: 0805350861

I. Workbook(s) and/or Lab Manual:

*Pocket Anatomy & Physiology (Optional)*
- Author: Jones
- Copyright Year: 2009
- Edition:
- ISBN #: 080-3618-247

*Visual Anatomy & Physiology*
- Authors: Martini and Ober
- Copyright Year: 2011
- Edition:
- ISBN #: 978-0321-5601-55

*Pocket Anatomy & Physiology*

- Author: Jones
- Copyright Year: 2009
- Edition: N/A
- ISBN #: 0803618247

J. Course Description: This course is a continuation of BIOL2751. It includes the study of structure and function of blood and the cardiovascular, lymphatic/immunity, digestive, respiratory, urinary, and reproductive systems. Laboratory exercises are designed to supplement lecture topics and include microscopy, the study of models, cat and specimen dissection, cadaver study, and physiological experiments. (OTM approved course in Natural Sciences TMNS)

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 | Given a homeostatic imbalance, predict the physiological responses (all body systems throughout the semester). |
| Information Literacy | Accessing course quizzes, tutorials, audio presentations and grades in Blackboard and faculty websites (throughout the semester). |
| Quantitative Literacy | Determination of cardiac output, mean arterial pressure, capillary hydrostatic and osmotic pressures, respiratory volumes and effective filtration pressure (completion of the cardiovascular, respiratory and urinary systems). |

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. Identify the major microscopic components of blood, describe their functional roles in the cardiovascular system, and explain the principles governing transfusions and blood typing. | Exams, quizzes, practical lab tests throughout the semester |
| 2. Identify and describe the major microscopic and macroscopic anatomical components of the cardiovascular system and explain their functional roles in transport and hemodynamics. | Exams, quizzes, practical lab tests throughout the semester |
| 3. Identify and describe the major circuits of lymphatic drainage, the role of the lymphatic system in fluid dynamics and immunity. | Exams, quizzes, practical lab tests throughout the semester |
| 4. Identify and describe the major microscopic and macroscopic anatomical components of the digestive system and explain their functional roles in nutrition, digestion, absorption, metabolism and elimination. | Exams, quizzes, practical lab tests throughout the semester |
| 5. Identify and describe the major microscopic and macroscopic anatomical components of the respiratory system and explain their 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 |
|---|---|
| 6. Identify and describe the major microscopic and macroscopic anatomical components of the urinary system and explain their functional roles in body fluid homeostasis. | Exams, quizzes, practical lab tests throughout the semester |
| 7. Identify and describe the physiology of the basic homeostasis mechanisms that control fluid, electrolyte, and acid-base balance. | Exams, quizzes, practical lab tests throughout the semester |
| 8. Identify and describe the major microscopic and macroscopic anatomical components of the reproductive system and explain their functional roles in reproduction and inheritance. | Exams, quizzes, practical lab tests throughout the semester |

M. Topical Timeline (Subject to Change):

**Lecture**

1. The Blood
   a. Introduction and purposes
   b. Components of the blood
   c. Blood clotting
   d. Blood groups and transfusions
2. Cardiovascular System
   a. Introduction and overall design
   b. Heart
   c. Vascular System
   d. Cardiovascular Patterns in Health and Disease
3. Lymphatic System and Immunity
   a. Introduction and purpose
   b. Lymph organs
   c. Lymph vessels
   d. Immune function
4. The Digestive System
   a. General characteristics
   b. Regulation of the G.I. system
   c. The mouth, salivary glands, pharynx and esophagus
   d. The stomach
   e. The pancreas
   f. The liver
   g. The small intestine
   h. The large intestine
   i. Metabolism
5. The Respiratory System
   a. Organs of the respiratory system
   b. External and internal respiration
   c. Mechanism and control of breathing
   d. Respiratory volumes, movements and tests
   e. Transport of respiratory gases
6. The Urinary System
   a. Introduction
   b. The kidney
   c. Urine formation and the nephron unit
   d. Water, electrolyte, and acid-base balance
   e. Some clinical considerations
   f. Excretion of urine

7. The Reproductive System
    a. Organs of the reproductive system
    b. Gametogenesis in the reproductive system
    c. Effect of hormones involved in human reproduction
    d. Pregnancy, Parturition and lactation
    e. Disorders of the reproductive system

**Lab Exercises**

1. Blood cell types
2. Blood typing
3. Heart anatomy (human)
4. Heart anatomy (Beef and Sheep)
5. Heart Physiology and ECG
6. Human Veins
7. Human arteries below diaphragm
8. Human arteries above diaphragm
9. Digestive Anatomy of the Human
10. Digestive Anatomy of the Cat
11. Physiology of Intestinal motility
12. Digestive physiology and enzyme actions
13. Respiratory anatomy
14. Respiratory volume
15. Respiratory movements and physiology
16. Microscopic anatomy of the kidney
17. Pig kidney
18. Urinalysis and physiology of urine flow
19. Male and female reproductive anatomy (gross and micro structure)
20. Pregnant pig uterus, embryology
21. Cross-sectional anatomy (models and CT Scans)

N. Course Assignments:

1. Assignments as dictated by instructor
2. Lecture exams
3. Laboratory practical exams
4. Completion of pre-laboratory worksheets

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**