EASTERN ARIZONA COLLEGE
Human Anatomy and Physiology II
Course Design
2015-2016

Course Information
Division: Science
Course Number: BIO 202 (SUN# BIO 2202)
Title: Human Anatomy and Physiology II
Credits: 4
Developed by: Tammy Gillespie
Lecture/Lab Ratio: 3 Lecture/3 Lab
Transfer Status

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<th>ASU</th>
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<tr>
<td>BIO 202, Natural Science – General (SG)</td>
<td>BIO 202L --and-- BIO 202</td>
<td>PSIO 202</td>
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Activity Course: No

CIP Code: 26.0400

Assessment Mode: Pre/Post Test (120 Questions/120 Points)

Semester Taught: Fall and Spring

GE Category: Lab Science

Separate Lab: Yes

Awareness Course: No

Intensive Writing Course: No

Prerequisites
BIO 201

Description
Continuation of structure and function of the human body. Topics include the endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems.

Supplies
None
Competencies and Performance Standards

1. Identify anatomical features of the endocrine system
   
   Learning objectives
   
   What you will learn as you master the competency:
   
   a. Identify the major endocrine glands
   b. List the major hormones
   c. Identify features of the pancreas, pituitary, thyroid, and adrenal glands
   d. Identify specific tissue hormones
   
   Performance Standards
   
   You will demonstrate your competence:
   
   o through class discussion
   o on an objective test
   o on a lab practical
   
   Your performance will be successful when:
   
   o learner lists the major endocrine organs
   o learner lists the major hormones produced by the major endocrine organs
   o learner identifies features of the pituitary gland
   o learner identifies features of the pancreas
   o learner identifies features of the thyroid gland
   o learner identifies features of the adrenal gland
   o learner identifies tissue hormones

2. Identify anatomical features of the cardiovascular system
   
   Learning objectives
   
   What you will learn as you master the competency:
   
   a. Identify the cardiac anatomy
   b. Identify major blood vessels entering and exiting the heart
   c. Identify the anatomy of arteries, arterioles, veins, venules, and capillaries
   d. Identify special circulations (portal and fetal)
   e. Identify components of the lymphatic system
   f. Identify features of the lymph nodes
   g. Identify fluid components of blood
   h. Identify cellular components of blood
   i. Identify erythrocyte features
   j. Identify the five types of leukocytes and their features
   k. Identify thrombocyte features
   
   Performance Standards
   
   You will demonstrate your competence:
   
   o through class discussion
   o on an objective test
   o on a lab practical
Your performance will be successful when:
- learner identifies the cardiac anatomy
- learner identifies major blood vessels entering and exiting the heart
- learner identifies the anatomy of arteries, arterioles, veins, venules, and capillaries
- learner identifies special circulation (portal and fetal)
- learner identifies components of the lymphatic system
- learner identifies features of lymph nodes
- learner identifies fluid components of blood
- learner identifies cellular components of blood
- learner identifies erythrocyte features
- learner identifies the five types of leukocytes and their features
- learner identifies thrombocyte features

3. **Identify anatomical features of the immune system**

   **Learning objectives**
   
   What you will learn as you master the competency:
   
   a. Identify components of nonspecific defense
   b. Identify features of antigens and antibodies

   **Performance Standards**
   
   Competence will be demonstrated:
   
   - through class discussion
   - on an objective test

   Criteria - Performance will be satisfactory when:
   
   - learner identifies components of nonspecific defense
   - learner identifies features of antigens and antibodies

4. **Identify anatomical features of the digestive system**

   **Learning objectives**
   
   What you will learn as you master the competency:
   
   a. Identify organs of the GI tract
   b. Identify accessory digestive organs

   **Performance Standards**
   
   You will demonstrate your competence:
   
   - through class discussion
   - on an objective test
   - on a lab practical

   Your performance will be successful when:
   
   - learner identifies organs of the GI tract
   - learner identifies accessory digestive organs
5. **Identify anatomical features of the respiratory system**  
   **Learning objectives**  
   *What you will learn as you master the competency:*  
   a. Identify the anatomy of the upper respiratory tract  
   b. Identify the anatomy of the lower respiratory tract  
   c. Identify lung volumes and capacities  
   **Performance Standards**  
   *You will demonstrate your competence:*  
   o through class discussion  
   o on an objective test  
   o on a lab practical  
   *Your performance will be successful when:*  
   o learner identifies the anatomy of the upper respiratory tract  
   o learner identifies the anatomy of the lower respiratory tract  
   o learner identifies lung volumes and capacities

6. **Identify anatomical features of the urinary system**  
   **Learning objectives**  
   *What you will learn as you master the competency:*  
   a. Identify urinary system organs  
   b. Identify nephron structure  
   **Performance Standards**  
   *You will demonstrate your competence:*  
   o through class discussion  
   o on an objective test  
   o on a lab practical  
   *Criteria - Performance will be satisfactory when:*  
   o learner identifies urinary system organs  
   o learner identifies nephron structure

7. **Identify anatomical features of the reproductive system**  
   **Learning objectives**  
   *What you will learn as you master the competency:*  
   a. Identify male reproductive anatomy  
   b. Identify female reproductive anatomy  
   **Performance Standards**  
   *You will demonstrate your competence:*  
   o through class discussion  
   o on an objective test  
   o on a lab practical
Your performance will be successful when:

- Learner identifies male reproductive anatomy
- Learner identifies female reproductive anatomy

8. **Describe functions of the endocrine system**

**Learning objectives**

*What you will learn as you master the competency:*

a. Identify mechanisms of hormone action
b. List the functions of the pituitary hormones
c. List the functions of the hypothalamic hormones
d. List the functions of the thyroid hormones
e. Identify the functions of the parathyroid hormones
f. Identify the functions of the adrenal hormones
g. Identify the functions of the pancreatic hormones
h. Identify the functions of the thymus and pineal glands

**Performance Standards**

*You will demonstrate your competence:*

- Through class discussion
- On an objective test

*Your performance will be successful when:*

- Learner identifies mechanisms of hormone action
- Learner lists the functions of the pituitary hormones
- Learner lists the functions of the hypothalamic hormones
- Learner lists the functions of the thyroid hormones
- Learner identifies the function of the parathyroid hormones
- Learner identifies the functions of the adrenal hormones
- Learner identifies the functions of the pancreatic hormones
- Learner identifies the functions of the thymus and pineal glands

9. **Describe functions of the cardiovascular system**

**Learning objectives**

*What you will learn as you master the competency:*

a. Identify components of hematopoiesis
b. Identify components of hemostasis
c. Identify disorders of hemostasis
d. Identify components of ABO and Rh blood groups
e. Identify the pathway of blood flow
f. Identify the features of the cardiac cycle and conduction
g. Identify components which influence cardiac output
h. Identify components which influence blood flow (pressure)
i. Identify components which influence capillary exchange
j. Identify functions of lymph nodes, organs, and tissues

**Performance Standards**

You will demonstrate your competence:
- through class discussion
- on an objective test
- on a lab practical

Your performance will be successful when:
- learner identifies components of hematopoiesis
- learner identifies components of hemostasis
- learner identifies disorders of hemostasis
- learner identifies components of ABO and Rh blood groups
- learner identifies the pathway of blood flow
- learner identifies the features of the cardiac cycle and conduction
- learner identifies components which influence cardiac output
- learner identifies components which influence blood flow (pressure)
- learner identifies components which influence capillary exchange
- learner identifies functions of lymph nodes, organs, and tissues

10. **Describe functions of the respiratory system**

**Learning objectives**

What you will learn as you master the competency:
- a. Identify mechanics of external respiration
- b. Identify mechanics of internal respiration
- c. Identify factors influencing respiratory rate and depth
- d. Identify respiratory disorders

**Performance Standards**

You will demonstrate your competence:
- through class discussion
- on an objective test

Your performance will be successful when:
- learner identifies mechanics of external respiration
- learner identifies mechanics of internal respiration
- learner identifies factors influencing respiratory rate and depth
- learner identifies respiratory disorders

11. **Describe functions of the immune system**

**Learning objectives**

What you will learn as you master the competency:
- a. Identify features of an inflammatory response
- b. Identify components of humoral immunity
- c. Identify components of cell-mediated immunity
d. Identify features of immunity disorders  
e. Identify features of organ transplantation  

**Performance Standards**  
You will demonstrate your competence:  
- through class discussion  
- on an objective test  

Your performance will be successful when:  
- learner identifies features of an inflammatory response  
- learner identifies components of humoral immunity  
- learner identifies components of cell-mediated immunity  
- learner identifies features of immunity disorders  
- learner identifies features of organ transplantation  

12. **Describe functions of the digestive system**  

**Learning objectives**  
What you will learn as you master the competency:  

a. Identify digestive activities occurring in the mouth, pharynx, and esophagus  
b. Identify digestive activities occurring in the stomach  
c. Identify digestive activities occurring in the small intestines  
d. Identify digestive activities occurring in the large intestines  
e. Identify neural and endocrine influences on digestion  
f. Identify features of carbohydrate metabolism  
g. Identify features of lipid metabolism  
h. Identify features of protein metabolism  
i. Identify features of liver metabolism  
j. Identify influences on metabolic rates  
k. Identify features influencing body temperature regulation  

**Performance Standards**  
You will demonstrate your competence:  
- through class discussion  
- on an objective test  

Your performance will be successful when:  
- learner identifies digestive activities occurring in the mouth, pharynx, and esophagus  
- learner identifies digestive activities occurring in the stomach  
- learner identifies digestive activities occurring in the small intestines  
- learner identifies digestive functions occurring in the large intestines  
- learner identifies neural and endocrine influences on digestion  
- learner identifies features of carbohydrate metabolism  
- learner identifies features of lipid metabolism  
- learner identifies features of protein metabolism  
- learner identifies features of liver metabolism
o learner identifies influences on metabolic rates
o learner identifies features influencing body temperature regulation

13. Describe functions of the urinary system
Learning objectives
What you will learn as you master the competency:
a. Identify filtration, reabsorption, and secretion in urine formation
b. Identify factors influencing urine formation, concentration, and constituency
c. Identify factors influencing water and electrolyte "balances"
d. Identify factors influencing acid-base balancing
e. Identify factors influencing micturation

Performance Standards
You will demonstrate your competence:
o through class discussion
o on an objective test
Your performance will be successful when:
o learner identifies filtration, reabsorption, and secretion in urine formation
o learner identifies factors influencing urine formation, concentration, and constituency
o learner identifies factors influencing water and electrolyte "balances"
o learner identifies factors influencing acid-base balancing
o learner identifies factors influencing micturation

14. Describe functions of the reproductive system
Learning objectives
What you will learn as you master the competency:
a. Identify features of spermatogenesis
b. Identify features of testosterone production
c. Identify features of ejaculation
d. Identify features of oogenesis
e. Identify features of ovulation and menstruation
f. Identify features of estrogen and progesterone production
g. Identify the process of fertilization
h. Identify the process of embryonic and fetal development
i. Identify effects of pregnancy of the mother
j. Identify the processes of labor

Performance Standards
You will demonstrate your competence:
o through class discussion
o on an objective test
Your performance will be successful when:
o learner identifies features of spermatogenesis
15. **Articulate the functions of the various body systems**

*Learning objectives*

*What you will learn as you master the competency:*

a. Identify how one body system affects (influences) other body systems

*Performance Standards*

*You will demonstrate your competence:*

- through class discussion
- on an objective test

*Your performance will be successful when:*

- learner identifies how one body system affects (influences) other body systems

*Types of Instruction*

Classroom Presentation

On Campus Laboratory

*Grading Information*

**Grading Rationale**

Laboratory Work – 40%

Lecture Tests – 50%

Posttest – 10%

**Grading Scale**

A 90-100%

B 80-89%

C 70-79%

D 60-69%

F Below 60%