A. **Academic Division:** Health Sciences  

B. **Discipline:** Science  

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

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

G. **Syllabus Effective Date:** Fall, 2019  

H. **Textbook(s) Title:**  
   
   *Visual Essentials of Anatomy & Physiology*  
   - **Authors:** Martini and Ober  
   - **Copyright Year:** 2012  
   - **Edition:**  
     - **ISBN #:** 032-1780-779  

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

<table>
<thead>
<tr>
<th>College-Wide Learning Outcomes</th>
<th>Assessments - - How it is met &amp; When it is met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication – Written</td>
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<td>Communication – Speech</td>
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<tr>
<td>Intercultural Knowledge and Competence</td>
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<tr>
<td>Critical Thinking</td>
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<td>Information Literacy</td>
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<td>Quantitative Literacy</td>
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</tbody>
</table>

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Assessments – How it is met &amp; When it is met</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe the body planes and organization and apply these to appropriate models, drawings, and specimens.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>2. Define homeostasis and explain some common examples that apply to the human body.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>3. Identify selected cell structures on models or drawings and state the functions of these cell parts.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>4. List and identify the stages of cell mitosis.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>5. Distinguish between diffusion, osmosis, filtration, and active transports.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>6. Describe and locate examples of the major tissues of the body and explain their general function.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>7. Identify the bones of the skeleton.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>8. Distinguish between axial and appendicular skeleton and identify selected examples of bone processes, depressions, and holes</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>9. Identify and locate selected major muscles of the human body and state their general action</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>10. Briefly describe or identify the microscopic organization of muscle cells and state their role in muscle contraction.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>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.</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>12. Identify selected structures of the eye and state their functional role in vision</td>
<td>Exams, quizzes, practical lab tests throughout the semester</td>
</tr>
<tr>
<td>13. Identify and describe the basic microscopic and macroscopic anatomical components of the cardiovascular system and summarize their functional roles in transport and hemodynamics.</td>
<td>Exams, Quizzes, Practical lab tests throughout the semester</td>
</tr>
<tr>
<td>14. Briefly describe the overall functions of the lymphatic system and its general circulation.</td>
<td>Exams, Quizzes, Practical lab tests throughout the semester</td>
</tr>
<tr>
<td>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.</td>
<td>Exams, Quizzes, Practical lab tests throughout the semester</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Assessments – How it is met &amp; When it is met</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>16. Identify the basic macroscopic and a few microscopic anatomical</td>
<td>Exams, Quizzes, Practical lab tests</td>
</tr>
<tr>
<td>components of the digestive system and state their basic functional</td>
<td>throughout the semester</td>
</tr>
<tr>
<td>roles in nutrition, digestion, absorption, metabolism, and elimination.</td>
<td></td>
</tr>
<tr>
<td>17. Identify and describe the basic microscopic and macroscopic</td>
<td>Exams, Quizzes, Practical lab tests</td>
</tr>
<tr>
<td>anatomical components of the urinary system and state their basic</td>
<td>throughout the semester</td>
</tr>
<tr>
<td>functional roles in body fluid homeostasis including pH control, fluid</td>
<td></td>
</tr>
<tr>
<td>balance and electrolyte balance.</td>
<td></td>
</tr>
<tr>
<td>18. Identify and describe the basic microscopic and macroscopic</td>
<td>Exams, Quizzes, Practical lab tests</td>
</tr>
<tr>
<td>anatomical components of the reproductive system and explain their</td>
<td>throughout the semester</td>
</tr>
<tr>
<td>general functional roles in reproduction and inheritance.</td>
<td></td>
</tr>
<tr>
<td>19. Identify the major endocrine glands and state their hormonal</td>
<td>Exams, Quizzes, Practical lab tests</td>
</tr>
<tr>
<td>secretions and the general actions of these hormones.</td>
<td>throughout the semester</td>
</tr>
</tbody>
</table>

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:

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

P. Grading and Testing Guidelines:

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Q. Examination Policy:

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R. Class Attendance and Homework Make-Up Policy:

Click here to enter text.

S. Classroom Expectations:

Click here to enter text.

T. College Procedures/Policies:

Important information regarding College Procedures and Policies can be found on the syllabus supplement located at https://sharept.ncstatecollege.edu/committees/1/curriculum/SiteAssets/SitePages/Home/SYLLABUS%20SUPPLEMENT.pdf

The information can also be found Choose an item.