# COURSE SYLLABUS

**Course Title:** Anatomy and Physiology II  
**Department:** Mathematics and Science  
**Curriculum:** Biology  
**Date submitted:** November 2017 (AAC: 17-61)

**Course Code:** BIO*212  
**Course Type:** X  
**Credit Hours:** 4  
**Elective Type:** G/LAS/S  
**Course Descriptors:** Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.

**Prerequisites:** C- or better in Anatomy & Physiology I (BIO*211)

**Corequisites:** None

**Other Requirements:** Technology Skills, Lab Coat, Dissection Kit, Nitrile Gloves, Safety Glasses

**Catalog Course Description:** Continuation of Anatomy and Physiology I. Lecture and Laboratory. Dissection is required.

**Topical Outline:** List course content in outline format.

1. Endocrine System  
   a. Chemistry of Hormones  
   b. Pituitary  
   c. Thyroid  
   d. Parathyroid  
   e. Adrenals  
   f. Pancreas  
   g. Glandular Disorders

2. Cardiovascular System: Blood

**Semesters Offered:** F/Sp/Su

<table>
<thead>
<tr>
<th>Developmental:</th>
<th>Lecture:</th>
<th>Clinical:</th>
<th>Lab:</th>
<th>Studio:</th>
<th>Other:</th>
<th>Total:</th>
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**Contact Hours:** Lecture: 3, Clinical: 3, Lab: 3, Studio: 0, Other: 0, TOTAL: 6

**Class Maximum:** 20
a. Blood Cells and Plasma
b. Clotting Mechanism
c. Blood Types and Transfusions
d. Lymph and Interstitial Fluid

3. Cardiovascular System: Heart
a. Anatomy of the Heart
b. Conduction System
c. Blood Supply
d. Regulation of Heart Rate
e. Disorders

4. Cardiovascular System: Vessels and Routes
a. Blood Vessels: Arteries, Veins, and Capillaries
b. Circulatory Routes
c. Physiology of Circulation
d. Disorders

5. Lymphatic System
a. Vessels
b. Lymphoid Tissues
c. Lymphoid Organs
d. Lymphatic Circulation
e. Immunity

6. Respiratory System
a. Anatomy
b. Mechanics of Respiration
c. Internal and External Respiration
d. Disorders

7. Digestive System
a. Processes: Chemical and Mechanical Digestion
b. Anatomy of the Digestive Tract and Accessory Organs
c. Disorders

8. Metabolism
a. Anabolic and Catabolic Reactions
b. Redox Reactions
c. Carbohydrate Metabolism
d. Lipid Metabolism
e. Protein Metabolism

9. Urinary System
a. Anatomy of Kidneys and their Circulation
b. Transport of Nutrients, Wastes, and Ions
c. Urine Formation
d. Disorders

10. Fluid and Electrolytes
a. Fluid Compartments
b. Movement of Water and Electrolytes
c. Acid-Base Homeostasis
d. Disorders
### 11. Reproductive System
- Male and Female Systems
- Comparative Anatomy
- Comparison of Hormonal Controls
- Birth Control

### 12. Development and Inheritance
- Spermatogenesis and Oogenesis
- Fertilization
- Embryological Development
- Fetal Development
- Inheritance: Genetic Disorders

#### Laboratory:
1. The Endocrine Glands
2. Blood
3. Cardiovascular Anatomy and Physiology
4. Respiratory Anatomy and Physiology
5. Digestive Anatomy
6. Urinary Anatomy and Physiology
7. Reproductive Anatomy and Physiology

### COURSE:
Upon successful completion of this course, the student will be able to do the following:
1. demonstrate a written understanding of the following systems: endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive
2. explain the structure and function of the following systems: endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive
3. integrate the principles of immunity, metabolic processes, bioenergetics, fluid and electrolyte function and acid-base balance with homeostatic mechanisms of the human being in health and in disease
4. apply the principles of anatomy and physiology to analyze case studies

### PROGRAM:
*Numbering reflects Program Outcomes as they appear in the college catalog*
N/A

### COMPETENCY FULFILLED:
Scientific Knowledge & Understanding (SCKX) OR Scientific Reasoning (SCRX)

### Evaluation:

Assessment will be based on the following criteria:
- examinations
- quizzes
- assignments during class and laboratory periods

### Instructional Resources:
- **Required:**
  - Histology Slides
  - Anatomical Models
  - Preserved Specimens
  - Software
- **Desired:** None
### Textbook(s)

- **Visual Anatomy & Physiology; Frederic H Martini; latest edition**
- **Laboratory Manual for Anatomy & Physiology (Cat Version); Michael G Wood; latest edition**