

2nd Semester: Sophomore: AOHS Foundations of Anatomy and Physiology II

Teacher: Ronald Kendrick III (Room 233)

Semester 2 dates: January 3<sup>rd</sup>, 2019 – May 21st, 2019

Class Period: Schedule

A day (Monday, Wednesday, alt. Fridays)

Block 3 (sec 351-1) time: 1:00pm-2:25pm

Block 4 (sec 351-2) time: 2:30pm-3:55pm

B day (Tuesday, Thursday, alt. Fridays)

Block 3 (sec 351-3) time: 1:00pm-2:25pm

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## AOHS Foundations of Anatomy and Physiology II Course Scope and Sequence

Foundations of Anatomy and Physiology II is the second in a set of two semester-long lab courses that introduce students to basic anatomy and physiology. It builds on the knowledge and skills students developed during the first semester as it teaches students about the following body system's: cardiovascular, respiratory, lymphatic system and immunity, digestive, urinary, and reproductive. This course uses a wide range of assessment products in addition to quizzes and exams to evaluate students' mastery of the material.

The course project requires students to build models and conduct demonstrations that illustrate an anatomical or physiological function of the human body that they learned about in A&P I and II. The driving question is, "How can we model or demonstrate a function in human anatomy and physiology?" In small groups, students research the function they chose and use everyday, inexpensive materials to build their models. They also create a trifold display board with text and visuals that describe the anatomy involved in the function, how their model shows the function, and one of several other topics related to the function. Students show their work at an A&P Exploratorium that is attended by invited guests.

### KEY LEARNING OBJECTIVES FOR THE COURSE

List the 16 key objectives

Unit Name	Unit #	Lesson #	Learning Objective	Description
	14	14	1	Describe the components of blood, the determinants of blood types, and the compatibilities of the different blood types

The Cardiovascular System	14	14	3	Identify the major arteries and veins
	14	14	5	Identify and describe the structures of the heart
The Respiratory System	15	15	1	Identify and describe the structures of the respiratory system
	15	15	3	Explain the process of gas exchange and respiration
	15	15	5	Explain how common disorders of the respiratory system affect normal function
The Immune System	16	16	1	Describe the body's defenses that make up nonspecific and specific immunity
	16	16	5	Explain how diseases and disorders of the immune system, including AIDS and autoimmunity, affect normal function
The Digestive System	18	18	1	Identify the parts of the digestive system
	18	18	3	Describe the process of digestion
	18	18	4	Describe the roles and metabolism of major nutrients
The Urinary System	19	19	1	Identify the organs and structures of the urinary system
	19	19	2	Explain the functions of the organs and structures of the urinary system
	19	19	3	Summarize the three main renal processes of filtration, reabsorption, and secretion
The Reproductive System	20	20	2	Explain the functions of the organs and structures of the human reproductive system
	20	20	4	Describe the process of fertilization, including the roles of cells and chromosomes

## Overview of Course Project

### Project Description

In this project, students use models and demonstrations to illustrate an anatomical or physiological function of the human body that they learned about in A&P I and II. The driving question for the project is: "How can we model or demonstrate a function in human anatomy and physiology?"

The students work cooperatively in pairs or triads. Each group chooses a function to research and build a model of using inexpensive, common materials. They also create a trifold display board about their model and the function it illustrates. Students present their work at an A&P Exploratorium for their classmates and invited guests.

### Project Components

Over the course of this project, students produce the following:

1. The model or demonstration of an anatomical or physiological function
2. A trifold poster with text and graphics explaining the function, how the model illustrates the function, and related topics

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## Assessment

There are two main assessments for the project:

3. The model or demonstration is assessed using a rubric.
4. The trifold poster is assessed using a rubric

### **Coarse Dates 1/03/19 -05/18/19**

- a. Beginning of the course: 01/03/19
- b. Final exam dates: 05/15/19-05/17/19
- c. Final Project Start Date / End Dates: 04/15/19-05/04/19
- d. Upload Final Project to portal 05/02/19-05/03/19

### **REQUESTS FOR CLASS SPEAKERS**

Possible classroom speaking engagements around the topics listed below.

#### **1. Speakers**

- a. Date: Cardiovascular system 1/03/19-1/18/19
  - i. Presentation on Cardiovascular health by Cardiologist. (emphasis on heart health and healthy living suggestions)
- b. Date: Respiratory System 1/18/19- 1/29/19
  - i. Dermatologist to give demonstration involving Skin.
- c. Date: The Reproduction System 04/02/19- 04/13/19
  - i. Description: Ob/Gyn or MD give lecture or presentation on Reproduction system. Last year Nurse from Froedert hospital, did a great presentation on this system.

#### **2. Project Support**

- a. Dates:05/04/19-05/07/19
- b. Project Support: Presentation Skills, practice presentations

#### **3. Project Presentations**

- a. Dates:\_05/08/19-05/09/19 Final Project Show case
- b. Final presentations: Student's' final work will be presented and displayed at an A&P Exploratorium event, which their families, school administrators, and community professionals will be invited to attend. In this project, students are not doing experiments. Their models or demonstrations must illustrate a function, rather than just form, using simple commonplace household materials. For example, students should not build a skeleton out of paper towel rolls. However, they can use paper towel rolls to create a model that shows how a specific type of joint works.

## REQUESTS FOR POSSIBLE FIELD EXPERIENCES

1. Date: Digestive system 2/20/19-3/08/19
  - a. Description: Give students opportunity to observe the human digestive systems up close.(MCW Gross Anatomy lab)
2. Date: Urinary System 3/11/19-3/29/19
  - a. Description: Overview of kidney functions Regulation of blood ionic composition Regulation of blood pH Regulation of blood volume Regulation by a Urologist. Divita Labs

# NAF ANATOMY AND PHYSIOLOGY II CALENDAR SEM.2 2018-20192017- 2018

PROJECT/EVENT	NAF ANATOMY AND PHYSIOLOGY II COARSE OUTLINE	<ul style="list-style-type: none"> <li>• MPS High School Science Standard Unit Title</li> </ul>
ORGANIZER	MR. RONALD KENDRICK III	

PROJECT PHASE	STARTING	ENDING	PROJECT PHASE	STARTING	ENDING
*CARDIOVASCULAR SYSTEM	01/03/19	01/17/19	FINAL PROJECT UPLOAD DATES	05/02/19	05/03/19
*RESPIRATORY SYSTEM	1/18/19	01/29/19	PRESENTATION HELP ASK DAY	05/04/19	05/07/19
IMMUNE SYSTEM	1/30/19	02/15/19	FINAL PROJECT PRESENTATION DATE	05/08/19	05/09/19
*DIGESTIVE SYSTEM	2/20/19	03/08/19	EXAM DATES	05/15/19	05/16/19
*URINARY SYSTEM	03/12/19	3/23/19			
*REPRODUCTIVE SYSTEM	04/02/19	04/13/19			
FINAL PROJECT STAR/END DATES	04/16/19	05/03/18			


