ANATOMY AND PHYSIOLOGY

OCAS CODE: 5333

Instructor Information (Determined by Instructor)

Instructor Email Office Hours & Location

Frist, Last Email Info

General information

Grade Level

Comprehensive High School, 9-12

Credit

1 semester, 120 hours, .5 credits

Teacher Certification Necessary

Any certification area

Student Certificate

Course Description

Anatomy/Physiology is the study of the structural complexity of the human body and its intricate functional mechanisms. This course is taught as a laboratory science. Students will conduct scientific investigations and fieldwork using scientific knowledge and methodology that will enable them to make educated conclusions based on higher-level critical thinking and problem- solving skills. The areas studied will be an integration of biology and chemistry and will include but are not limited to: Organization of the body, Chemical Basis for Life, Cells & Tissues, Integumentary System, Skeletal system, Muscular system, Nervous system, Endocrine system, Blood, Circulatory system, Lymphatic & Immune systems, Respiratory systems, Digestive system & Metabolism, Urinary system, and Reproductive system. An emphasis should be placed on real-world applications and active-learning exercises should be included along with laboratory experiences.





Expectations and Goals

- Understanding Structural Complexity: Ensure students grasp the intricate structural
 organization of the human body, from the cellular level to organ systems, and how these
 structures function together to maintain homeostasis.
- 2. **Integration of Biology and Chemistry:** Emphasize the integration of biological concepts with fundamental principles of chemistry, particularly as they relate to biochemical processes essential for life.
- 3. **Scientific Inquiry and Methodology:** Provide opportunities for students to engage in scientific investigations and fieldwork, applying scientific knowledge and methodology to conduct experiments, gather data, and draw evidence-based conclusions.
- 4. **Critical Thinking and Problem-Solving Skills:** Foster the development of higher-level critical thinking and problem-solving skills through the analysis of anatomical structures, physiological processes, and clinical case studies.
- 5. **Real-World Applications:** Highlight real-world applications of anatomy and physiology concepts, demonstrating their relevance to healthcare professions, biomedical research, sports science, nutrition, and everyday life.
- 6. **Active Learning and Laboratory Experiences:** Incorporate active-learning exercises, such as group discussions, case studies, interactive simulations, and hands-on laboratory experiments, to deepen students' understanding and retention of course material.
- 7. **Comprehensive Coverage of Body Systems:** Cover a broad range of anatomical structures and physiological functions, including but not limited to the integumentary system, skeletal system, muscular system, nervous system, endocrine system, circulatory system, respiratory system, digestive system, urinary system, and reproductive system.
- 8. **Application of Technology:** Integrate technology tools and resources, such as virtual dissection software, anatomical models, multimedia presentations, and online databases, to enhance students' learning experiences and access to anatomical resources.
- 9. **Ethical Considerations:** Discuss ethical considerations related to anatomical studies, medical research, and healthcare practices, including respect for donor bodies, patient confidentiality, and informed consent.
- 10. **Preparation for Further Studies and Careers:** Prepare students for further studies and careers in healthcare, biomedical sciences, kinesiology, physical therapy, nursing, and other related fields by providing a solid foundation in anatomy and physiology concepts and skills.

Course Syllabi

	Next	National
	Generation	Health
Objectives	Science	Science
	Standards	Standards





I. Organization of the Body		
A. Define and explain how anatomy and physiology are		
related.		
B. Identify levels of structural organization that make up the	LS 1.A	1.1.1a.
human body and explain the relationship.		
C. State the human body organ systems and list their	LS 1.A	1.1.2
functions.		
D. Identify, locate, and label anatomical position, regional		1.1.1.c,
terms, directional terms, body cavities, planes of the body,		e, f.
abdominopelvic quadrants, and abdominopelvic regions.		
E. Describe the functions of the human body and explain		1.1.2.
how these functions aid in the maintenance of life.		
F. Explain homeostasis and its role in normal body function.	LS 1.A	1.1.2.j.
I-Activities/Labs-Organization of the Body		
a. Observe and describe the anatomical body directions,		1.1.1.c.
regions, and planes.		
b. Explore and/or analyze case studies for directional		1.1.1.c.
content and understand related outcomes.		
Suggested Labs and Activities		
HASPI		T
Teachers pay Teachers—forensic lab		
Ms. Doll		
Simon Says game (body positions)		
Gummy Bear Lab—Activities in a Pinch		
University of Minnesota Web Anatomy Purpose Games		
labeling		
laboling		

II. Chemical Basis for Life		
A. Review how the study of living materials requires understanding of chemistry.	PS 1.A	1.1.1.a





B. Explain the concept of pH, and its effect on body	LS 1.A	1.1.2.i
functions		
C. Describe how and where enzymes work in the body	LS 1.A	1.1.2.i
D. Explain the importance of water and salts to body	LS 1.A	1.1.2.i
homeostasis		
E. Compare the structures and functions of carbohydrates,	PS 1.A	
lipids, proteins, and nucleic acids	LS 1.C	
F. Compare and contrast the structure and functions of DNA	LS 1.A	
and RNA	LS 3.A	
II-Activities/Labs-Chemical Basis for Life		
a. Investigate the function of enzymes.		1.1.2.i
b. Build a model of DNA		1.1.1.a
c. Differentiate between a salt, acid, or base		1.1.2.i
Suggested Activities & Labs		
Case study involving experimental procedures to resolve		
real-world dilemmas		
Perform pH meter lab		
III. Cells and Tissues		
A. Identify or diagram the cell organelles and be able to	LS 1.A	1.1.1.a
explain their function		
B. Compare osmosis, diffusion, filtration and give examples	LS 1.C	1.1.1.a
C. Describe different cell types and explain the functionality	LS 1. B	1.1.1.a
of the differences		
D. Describe the cell cycle, including the phases of mitosis	LS 1.B	1.1.1.a
and explain how the timing of cell division is regulated.		
E. Identify the use of stem cells in modern medical	LS 1.A	1.2.2.
procedures and research		
F. Name classes of human tissues and explain their structure,	LS 1.A	1.1.1.a
function, and location		
G. Describe ways the body repairs damaged tissue	LS 1.B	1.1.2
		a.,b.,c.
		f.,g.,i.,j.





H. Identify the various forms of cancer and describe how it affects the body	LS 1.A	1.2.1
III. Activities/Labs-Cells and Tissues		
a. Investigate osmosis and diffusion		1.1.1a
b. Observe prepared or student-made cell and tissue slides		1.1.1a
Suggested Activities & Labs		I
MAVCC-Anatomy and Physiology Module Set 1-Module 4: Assignment 1		
Viewing and study guide of Osmosis Jones		
Cancer research project (NIH) & Jaimee		
Cookies representing cells—draw organelles in gel		
IV. Integumentary System		l
A. Identify structure and function of the skin and accessory structures	LS 1.A	1.1.2c
B. Describe the normal and pathological colors and conditions of the skin		1.2.1
C. Identify and differentiate between the different types of skin cancer	LS 1.A	1.2.1
D. Describe the three classes of burns, the rule of 9s and treatment of each class		1.1.2c
E. Understand the role of the integumentary system in maintaining homeostasis	LS 1.A	1.1.2c
IV. Activities/Labs-Integumentary System		1
a. Create a model of the layers of skin and accessory structures.		1.1.2c
b. Multimedia project covering different skin diseases and		1.2.1;
conditions		1.2.2
c. Microscope lab that enables the student to observe either prepared or fresh skin cells		1.1.2c
Suggested Activities & Labs		
Burn calculations Activities in a Pinch		
Gotcha Covered—Activities in a Pinch		





MAVCC-Anatomy and Physiology Module Set Il-Module 1:		
Assignment 1 & 2		
HASPI lab sunscreen and skin cancer		
V. Skeletal System		
A. Differentiate between axial and appendicular skeleton		1.1.2a
B. Identify functions of the skeletal system	LS 1.A	1.1.2a
C. Identify, locate, and label bones and bone markings of the body.		1.1.2a
D. Describe bone development through the lifespan	LS 1.B	1.1.2a
E. Identify, locate, and label the joints of the body		1.1.2a
F. Identify location and function of tendons and ligaments		1.1.2a
G. Name different types of fractures		1.1.2a; 1.2.1
H. Identify causes and current medical treatments of skeletal disorders		1.2.1
V. Activities/Labs-Skeletal System	-	
a. Classification of joints according to their shape and function		1.1.2a
b. Review case studies identifying skeletal disorders in the body.		1.2.1
c. Utilize multimedia that enables students to visualize what occurs physiologically		1.1.2a
	•	•
Suggested Activities & Labs		
Suggested Activities & Labs Zoologic System of Human Anatomy in Clay: Lesson B-Them Bones!		
Zoologic System of Human Anatomy in Clay: Lesson B-Them Bones! Bones in a Bag—Activities in a Pinch		
Zoologic System of Human Anatomy in Clay: Lesson B-Them Bones!		





HASPI—Identify bones on x-rays		
The first lacinity beings city rays		
MAVCC-Anatomy and Physiology Module Set II-Module 2:		
Assignment 1		
VI. Muscular System		
A. Distinguish between the three types of muscle tissue and		1.1.2b
tell where they are in the body		
B. Identify major muscle groups of face, neck, shoulder,		1.1.2b
chest, abdomen, back, arms, and legs.		
C. Describe the function of the muscular system	LS 1.A	1.1.2b
D. Compare the structure of the whole muscle and the	LS 1.A	1.1.2b
structure of a single muscle fiber.		
E. Explain how skeletal muscle meets its energy demands	LS 1.C	1.1.2b
during rest and exercise		
F. State the criteria for naming muscles		1.1.2b
G. Describe action of each muscle group related to origin		1.1.2b
and insertion.		
VI. Activities/Labs-Muscular System		
a. Case study exercises in which students formulate		
explanations		
b. Labs that demonstrate muscle fatigue		
c. Multimedia that enables students to visualize the action of		1.1.2b
muscles from within the body		
Suggested Activities & Labs		
Zoologic System of Human Anatomy in Clay: Lessons C-F-		
Muscle Concepts-Muscle Building		
Essentials of Human Anatomy & Physiology Laboratory		
Manual: Exercise 11, Activities 1,2, & 7		
Vernier-grip strength monitor; graph over time		
Chicken Wing Dissection—Activities in a Pinch		





Assignment 1 & 2		
Anatomage Table and Workbook Activities		
My Muscle T-shirt—Activities in a Pinch		
VII. Nervous System		
A. List the general functions of the nervous system	LS 1.A	1.1.2g
B. Explain the structural and functional divisions of the nervous system		1.1.2g
C. List the types of supporting cells and cite their functions	LS 1.A	1.1.2g
D. Identify and label parts of neurons and relate each to a physiological role		1.1.2g
E. Classify sensory receptors according to body location, structure, and stimulus detected		1.1.2g
F. Describe the events that led up to, happen during, and result after a nerve impulse and its conduction from one neuron to another		1.1.2g
G. Identify and indicate the functions of the major regions of the cerebral hemispheres, diencephalons, brain stem, and cerebellum on a human brain model or diagram		1.1.2g
H. Identify the three meningeal layers, and state their functions		1.1.2g
I. Understand the formation and function of cerebrospinal fluid and the blood-brain barrier		1.1.2g
J. Describe spinal cord structure and list its functions		1.1.20
K. List the components of the peripheral nervous system		1.1.2g
L. Distinguish between sensory, motor, and mixed nerves		1.1.2g
M. Name and locate the cranial nerves and describe their function		1.1.20





N. Identify the major nerve plexuses, give the major nerves	1.1.2g
of each, and describe their distribution	
O. Distinguish between autonomic and somatic reflexes	1.1.2g
P. Compare and contrast the general functions of the	1.1.2g
parasympathetic and sympathetic nervous systems	
Q. Understand from an anatomical and physiological	1.1.2g
perspective, the functions of sight, hearing & balance, taste,	
and smell	
R. Identify diseases and disorders of the special sense	1.2.1
systems	
VII. Activities/Labs-Nervous System	
a. Modeling of the human nervous system, either made by	1.1.2g
the student or prepared	
b. Observation/dissection of preserved animal central	1.1.2g
nervous systems and/or special sense organs	
c. Virtual demonstration of human reflex	1.1.2g
d. Multimedia that enables students to visualize what occurs	1.1.2g
physiologically with the nervous system	
Suggested Activities & Labs	
Zoologic System of Human Anatomy in Clay: Lesson G-	
Nervous System	
Essentials of Human Anatomy & Physiology Laboratory	
Manual: Exercise 16-Human Reflex Physiology & Exercise 17-	
Activities 1-15	
Model of Eye made of Candy—Activities in a Pinch	
Identify lobes of brain and their function—Brain Hat	
Dissect cow's eye	
MAVCC-Anatomy and Physiology Module Set II-Module 4:	
Assignment 1, Module 6: Assignment 1	
Brainiacs-Activities in a Pinch	





Crazy Cranial Nerves-Activities in a Pinch		
Dough brain-Activities in a Pinch Preston's Story (video) about concussions-Activities in a Pinch		
VIII. Endocrine System		
A. Compare between hormonal and neural controls of body functioning		1.1.2h
B. List the major endocrine organs, and describe their locations in the body and the hormones they secrete		1.1.2h
C. Describe what a hormone is and how it functions		1.1.2h
D. Understand the negative feedback mechanism	LS 1.A	1.1.2h
E. Describe major pathological consequences of hypersecretion and hypo-secretion of hormones		1.1.2h
F. Identify the endocrine role of the kidneys, the stomach and intestine, the heart, and the placenta		1.1.2h
E. Describe the effect of aging on the endocrine system and homeostasis		1.2.1
VIII. Activities/Labs-Endocrine System		
a. Multimedia that enables students to visualize what occurs physiologically with the endocrine system		1.1.2h
b. Case study exercises in which students formulate explanations		1.1.2h
Suggested Activities & Labs		1
(Endocrine activity with cards—Kristen padlet, Activities in a Pinch)		
Goldfish lab with insulin and sugar		
Essentials of Human Anatomy & Physiology Laboratory Manual: Exercise 18-Activities 1-5		
MAVCC-Anatomy and Physiology Module Set II-Module 5: Assignment 1		





Endocrine and you—Activities in a Pinch		
IX. Blood		
A. Describe the composition and physical characteristics of		1.1.2d
whole blood and explain why it is classified as a connective		
tissue		
B. List the functions of blood	LS 1.A	1.1.2d
C. Discuss the composition and functions of plasma		1.1.2d
D. Describe the blood-clotting process		1.1.2d
E. Describe the ABO and Rh blood groups and explain the	LS 3.A	1.1.2d
basis of transfusion reactions	LS 3.B	
F. Explain the importance of blood testing as a diagnostic		1.1.2d
tool		
G. Name some blood disorders that become more		1.2.1
common with age		
IX. Activities/Labs-Blood		
a. Examine the formed elements of blood microscopically		1.1.2d
b. Mathematical computation activity in which the ratio of		1.1.2d;
components in human blood is found		1.3.1b
c. Hematologic Tests-Hematocrit, hemoglobin		1.1.2d
determination, coagulation time, blood typing		
d. Case study exercises in which students formulate		1.1.2d
explanations and design controlled experimental procedure		
to resolve real-world dilemmas		
e. Multimedia that enables the student to visualize what is		1.1.2d
occurring physiologically		
IX. Suggested Activities & Labs		
Essentials of Human Anatomy & Physiology Laboratory		
Manual: Exercise 19-Activities 1-6		
HASPI-CBC count, evaluate		
Blood typing with colored water		





https://educationalgames.nobelprize.org/educational/med icine/bloodtypinggame/		
Components of blood Activities in a Pinch		
OBI website, Red Cross activities,		
MAVCC-Anatomy and Physiology Module Set II-Module 7:		
Assignment 1		
X. Cardiovascular System		
A. Describe the location of the heart in the body, and		1.1.2d
identify its major anatomical structures		
B. Describe the structure and functions of the heart		1.1.2d
chambers. Name each chamber and provide the name		
and general route of blood flow		
C. Trace the electrical activity of the heart (EKG)		1.1.2d
D. Compare and contrast the structure and function of		1.1.2d
arteries, veins, and capillaries		
E. Define vasoconstriction and vasodilation		1.1.2d
F. Trace blood flow through the heart.		1.1.2d
H. Identify the body's major arteries and veins, and name		1.1.2d
the body region supplied by each		
I. Discuss the unique features of special circulations of the		1.1.2d
body: arterial to the brain, hepatic portal, pulmonary, and fetal		
J. List and explain the factors that influence blood pressure	LS 1.A	1.1.2d
and describe how blood pressure is regulated		
K. Describe the structure and function of a capillary bed		1.1.2d
L. Draw a diagram of a normal electrocardiogram tracing:		1.1.2d
name the individual waves and intervals, and indicate what		
each represents		
X. Activities/Labs-Cardiovascular		
b. Modeling of the human circulatory system		1.1.2d
d. Demonstration of pulse, heart sounds, and blood		1.1.2d;
pressures		10.1.1





e. Observation/dissection of preserved animal heart		1.1.2d
f. A A alking a client hand a complete the control of the client to the control of the control o		1101
f. Multimedia that enables the student to visualize what is		1.1.2d
occurring physiologically		
g. Case study exercises in which students formulate		1.1.2d
explanations		
Suggested Activities & Labs		
Essentials of Human Anatomy & Physiology Laboratory		
Manual: Exercise 20-Activities 1-3, Exercise 21-Activities 1-7,		
Exercise 22-Activities 1-6		
1-minute heart—Starla Ewan		
Factors affecting vital signs (Activity level changes)		
HASPI—ECG activity		
Zoologic System of Human Anatomy in Clay: Lesson H-		
Cardiovascular System: The Beat Goes On		
MAVCC-Anatomy and Physiology Module Set II-Module 8:		
Assignment 1, Module 9: Assignment 1		
Dissection Cow Heart—Activities in a Pinch		
Heart Activities—Activities in a Pinch		
XI. Lymphatic System and Immune Systems		
A. Identify the structures of the lymphatic system and	LS 1.A	1.1.2e;
explain how the lymphatic system is functionally related to		1.1.2d
the cardiovascular and immune systems		
B. Describe the composition of lymph and explain its		1.1.2e
formation and transport		
C. Describe the general location, histological structure, and		1.1.2e
functions of lymph nodes		
D. Name and describe the other lymphoid organs of the	LS 1.A	1.1.2e
body. Compare and contrast them with lymph nodes		
structurally and functionally		





E Explain the importance of the lymphatic system and its		1.1.2e
role in in protection against disease		
F. Explain the difference between an antigen and an		1.1.2e
antibody.		
G. Explain how fever helps protect the body against		1.1.2e
invading pathogens		
H. Describe immune-deficiencies, allergies, and		1.2.1
autoimmune diseases		
XI. Activities/Labs-Lymphatic & Immune		
a. Multimedia that enabling the student to visualize the		1.1.2e
physiology of the lymphatic system		
b. Creating a model of the human lymphatic system		1.1.2e
c. Case study exercises in which students formulate		1.1.2e
explanations		
Suggested Activities & Labs		
Zoologic System of Human Anatomy in Clay: Lesson I-Lymph		
Zoologic System of Human Anatomy in Clay: Lesson I-Lymph System		
System		
System		
System Bacteria growth		
System Bacteria growth		
System Bacteria growth Where are bacteria in school MAVCC-Anatomy and Physiology Module Set I-Module 3,		
System Bacteria growth Where are bacteria in school		
System Bacteria growth Where are bacteria in school MAVCC-Anatomy and Physiology Module Set I-Module 3,		
System Bacteria growth Where are bacteria in school MAVCC-Anatomy and Physiology Module Set I-Module 3, Assignment 1 & Module Set II-Module 10: Assignment 1	LS 1.A	1.1.2f
System Bacteria growth Where are bacteria in school MAVCC-Anatomy and Physiology Module Set I-Module 3, Assignment 1 & Module Set II-Module 10: Assignment 1 XII. Respiratory System	LS 1.A	1.1.2f
System Bacteria growth Where are bacteria in school MAVCC-Anatomy and Physiology Module Set I-Module 3, Assignment 1 & Module Set II-Module 10: Assignment 1 XII. Respiratory System A. Identify locate and label the structures of the respiratory	LS 1.A	1.1.2f 1.1.2f
System Bacteria growth Where are bacteria in school MAVCC-Anatomy and Physiology Module Set I-Module 3, Assignment 1 & Module Set II-Module 10: Assignment 1 XII. Respiratory System A. Identify locate and label the structures of the respiratory system. B. Trace the air from nostrils to alveoli	LS 1.A	1.1.2f
System Bacteria growth Where are bacteria in school MAVCC-Anatomy and Physiology Module Set I-Module 3, Assignment 1 & Module Set II-Module 10: Assignment 1 XII. Respiratory System A. Identify locate and label the structures of the respiratory system.	LS 1.A	
System Bacteria growth Where are bacteria in school MAVCC-Anatomy and Physiology Module Set I-Module 3, Assignment 1 & Module Set II-Module 10: Assignment 1 XII. Respiratory System A. Identify locate and label the structures of the respiratory system. B. Trace the air from nostrils to alveoli	LS 1.A	1.1.2f
System Bacteria growth Where are bacteria in school MAVCC-Anatomy and Physiology Module Set I-Module 3, Assignment 1 & Module Set II-Module 10: Assignment 1 XII. Respiratory System A. Identify locate and label the structures of the respiratory system. B. Trace the air from nostrils to alveoli C. Describe the process of inspiration and expiration	LS 1.A	1.1.2f 1.1.2f





F. Describe common lung diseases and disorders	LS 1.A	1.2.1
G. Explain the functional importance of the intra-pleural		1.1.2f
space		
H. Describe how oxygen and carbon dioxide are	LS 1.C	1.1.2f
transported in the blood		
I. Name several physical factors that influence respiratory		1.1.2f
rate		
XII. Activities/Labs-Respiratory System		
Measure volumes and capacities of lungs with either a		1.1.2f;
commercial or homemade spirometer		1.3.1c
Indicate types of information that can be gained from		1.1.2f
pulmonary function tests		
Measure respiratory rate		1.1.2f;
		1.3.1b
Multimedia enabling the student to visualize the physiology		1.1.2f
of the respiratory system		
Suggested Activities & Labs		
Spirometer Lab		
Balloon Lung Capacity—Activities in a Pinch		
Don't Blow It—Activities in a Pinch		
Grapes—Activities in a Pinch		
Curiscope T-shirt with Virtual Reality Goggles		
MAVCC-Anatomy and Physiology Module Set II-Module 11:		
Assignment 1		
XIII. Digestive System and Metabolism		
A. Describe the function of the digestive system	LS 1.A	1.1.2i
B. List and briefly describe the major processes occurring		1.1.2i
during digestion		
	LS 1.A	1.1.2i
C. Identify, locate and label the structures of the digestive	LS I.A	1.1.21





D. Differentiate between the organs of the alimentary canal		1.1.2i
and accessory organs		
E. List the major functions of the large intestine		1.1.2i
F. List the major enzymes produced by the digestive system		1.1.2i
and how they function		
G. List the major nutrient categories their dietary sources		1.1.2i
and the main cellular uses		
H. Explain metabolism		1.1.2i
I. Analyze and explain the chemical reactions that provide	PS 1.B	1.1.2i;
energy for the body	LS 1.C	1.1.1a
J. Explain the importance of electrolytes balance and its role in homeostasis		1.1.2i
K. Identify common diseases and disorders of the digestive		1.2.1
XIII. Activities/Labs-Digestive & Metabolism		
a. Multimedia enabling the student to visualize the		1.1.2i
physiology of the digestive system and metabolic processes		1.1.21
b. Observations/dissections of preserved digestive system specimens		1.1.2i
c. Experimentation in which the process and products are found when protein, carbohydrates, and lipids are broken down		1.1.2i
d. Observation and classification of movements and sounds		1.1.2i
of digestion		1
		1.1.2i; 1.3.1b
of digestion Mathematically calculate basal metabolic rate Suggested Activities & Labs		1.1.2i; 1.3.1b
Mathematically calculate basal metabolic rate		





MAVCC-Anatomy and Physiology Module Set II-Module 12: Assignment 1		
From Table to Toilet—Activities in a Pinch		
Potato—Activities in a Pinch		
Silver Bowels—Activities in a Pinch		
XIV. Urinary System		
A. Describe the general structure and function of the urinary	LS 1.A	1.1.2j
system including kidneys, ureters, bladder, and urethra		
B. Identify the parts of the nephron responsible for filtration,		1.1.2j
reabsorption, and secretion		
C. Describe the physical and chemical properties of urine		1.1.2j
D. Describe diseases and disorders of the urinary system.	LS 1.A	1.2.1
E. Define micturition		1.1.2j
XIV. Activities/Labs-Urinary System		
a. Observation/dissection of preserved specimen		1.1.2j
b. Multimedia enabling the student to visualize the		1.1.2j
physiology of the digestive system and metabolic processes		
c. Creating a model of the human urinary tract with an		1.1.2j
understanding of the function of all its components		
d. Conduct urinalysis testing on known and unknown		1.1.2j;
samples of urine (pH normal vs. abnormal)		1.3.2
e. Perform glucose analysis on urine		1.1.2j;
		1.3.2
Suggested Activities & Labs		
Essentials of Human Anatomy & Physiology Laboratory		
Manual: Exercise 26-Activities 1-3		
Zoologic System of Human Anatomy in Clay: Lesson J-Urinary		
System		
MAVCC-Anatomy and Physiology Module Set II-Module 13:		





I Gotta Pee—Activities in a Pinch		
XV. Reproductive System		1
A. Describe the common structure and function of the male	LS 1.A	1.1.2k
and female reproductive systems		
B. Define spermatogenesis and trace the pathway of sperm	LS 3.A	1.1.2k
cells from their site of formation to the body exterior		
C. Discuss effects of testosterone on male reproductive	LS 1.A	1.1.2k
system	LS 1.B	
D. Describe the phases of the ovarian cycle and relate	LS 3.A	1.1.2k
them to events of oogenesis		
E. Describe effects of hormones on the female reproductive	LS 1.A	1.1.2k
organs	LS 1.B	
F. Discuss disorders and diseases of the male and female	LS 1.A	1.2.1
reproductive systems.		
G. Describe the process of fertilization and the changes of		1.1.2k
the female body during pregnancy		
H. Explain how labor is initiated and describe the three		1.1.2k
stages of labor		
I. Discuss risk factors that interfere with normal fetal		1.1.2k
development		
J. Distinguish among the types of inheritance and explain	LS 3.A	1.2.1
techniques to predict genetic disease	LS 3.B	
XV. Activities/Labs-Reproductive System		
a. Case study exercises in which students formulate		1.1.2k
explanations and design controlled experimental procedure		
to resolve real-world dilemmas		
b. Multimedia enabling the student to visualize the		1.1.2k
physiology of the digestive system and metabolic processes		
c. Microscopic examination of prepared slides of sperm cells		1.1.2k
and ovarian tissue		
Suggested Activities & Labs		
Banana: Structures of the Penis—Activities in a Pinch		
Essentials of Human Anatomy & Physiology Laboratory		

Suggested Activities & Labs	
Banana: Structures of the Penis—Activities in a Pinch	
Essentials of Human Anatomy & Physiology Laboratory Manual: Exercise 27-Activities 1-4	



Anatomy & Physiology Coloring Workbook-Chapter 16-The	
Reproductive System	
MAVCC-Anatomy and Physiology Module Set II-Module 14:	
Assignment 1 & Module 15: Assignment 1 Parts A & B	

Course Materials (Determined by Instructor)

Required materials

Need a heading or a bullet? On the Home tab, in the Styles gallery, choose from all styles used in this syllabus.

- Tap to add text.
- Tap to add text.

Optional materials

Want to add more tables to your document that look like the Course Schedule and Exam Schedule tables that follow? Nothing could be easier. On the Insert tab, just select Table to add a new table. New tables you create in this template are automatically formatted to match.

Required text

Item name 1 Media Type, Author Name

Item name 2 Media Type, Author Name

Course Schedule (Determined by Instructor)

Week	Topic	Reading	Exercises
Week 1	Enter topic	Enter reference	Enter exercise
Week 2	Enter topic	Enter reference	Enter exercise
Week 3	Enter topic	Enter reference	Enter exercise





Exam Schedule (Determined by Instructor)

Date	Subject
Date 1	Enter subject
Date 2	Enter subject
Date 3	Enter subject

Additional Information and Resources

Resources

Essentials of Human Anatomy & Physiology Laboratory Manual ...

A brief, hands-on lab manual specifically adapted for one-semester A&P labs in the allied health market—now with more realistic 3-D art, new and modern photos, and a brand-new student-friendly design. Elaine Marieb's Essentials of Human Anatomy and Physiology Laboratory Manual, Sixth Edition

https://www.pearson.com/store/en-us/subjects/science-engineering/anatomy-physiology/anatomy-physiology-lab-manual/se010203

Article title	Essentials of Human Anatomy & Physiology Laboratory Manual, 6th edition
URL	https://www.pearson.com/store/en- us/subjects/science- engineering/anatomy- physiology/anatomy-physiology-lab- manual/se010203
Website title	Pearson

Health Science Activities in A Pinch | National Consortium ...





NCHSE is a national partnership of health science state leaders, organizations, publishers, and resource providers interested in bridging that gap through quality education.

https://www.healthscienceconsortium.org/health-science-activities-in-a-pinch or

ctYou.org

Article title	Health Science Activities in A Pinch
URL	https://www.healthscienceconsortium.org/health- science-activities-in-a-pinch/
Website title	National Consortium for Health Science Education

Models & Curriculum | Anatomy In Clay Learning System ...

The hands-on advantages of the ANATOMY IN CLAY® Learning System are the perfect complement to classic anatomy education, especially during these times of Distance Learning.

https://www.anatomyinclay.com/

Article title	MODELS & CURRICULUM: ANATOMY IN CLAY Learning System: Colorado
URL	https://www.anatomyinclay.com/
Website title	Anatomy In Clay

Science Probeware & Experiment Software for Teachers | Vernier

Vernier provides teachers with the tools to encourage curiosity in all students – high quality science probeware, experiment software, and resources.

https://www.vernier.com/





Article title	Science Probeware & Experiment Software for Teachers
URL	https://www.vernier.com/
Website title	Vernier

Self-Test | Timed Tests | Multiplayer Game | Image Bank | Web Anatomy

Topics include: Levels of Organization/Medical Professions, Medical Terms, Biochemistry, Histology, Skeletal System, Muscular System, Nervous System, Cardiovascular System, Respiratory System, Digestive System, Reproductive System, and Urinary System.

https://webanatomy.umn.edu/

Article title	Web Anatomy
URL	https://webanatomy.umn.edu/
Website title	Self-Test Web Anatomy

The Health and Science Pipeline Initiative (HASPI)

HASPI is a collaborative network of K-16 educators, industry representatives, and community organizations that work together to prepare students from all academic levels and backgrounds to pursue any health training program of their choice, ranging from becoming a technician to a physician.

https://www.easybib.com/mla/website-citation/www.haspi.org





Article title	The Health and Science Pipeline Initiative (HASPI)
URL	http://www.haspi.org/
Website title	Health and Science Pipeline Initiative

Teaching Resources & Lesson Plans | Teachers Pay Teachers

Teachers Pay Teachers is an online marketplace where teachers buy and sell original educational materials. More About Us. Facebook. Pinterest. Instagram. Twitter. About. ... Are you getting the free resources, updates, and special offers we send out every week in our teacher newsletter?

https://www.teacherspayteachers.com/

Article title	Teaching Resources & Lesson Plans
URL	https://www.teacherspayteachers.com/
Website title	Teachers Pay Teachers

Endocrine System Mix and Match Cards

https://www.teacherspayteachers.com/Product/Endocrine-System-Mix-and-Match-Cards-985683?st=5991f6cfa0a90b8a338c19695ac22619

Article	
title	Endocrine System Mix and Match Cards





https://www.teacherspayteachers.com/Product/Endocrine-

System-Mix-and-Match-Cards-

URL 985683?st=5991f6cfa0a90b8a338c19695ac22619

Website

title Teachers Pay Teachers



