



LINCOLN-WOODSTOCK COOPERATIVE SCHOOL DISTRICT COURSE SYLLABUS

Course Name: Anatomy and Physiology

Length: Full Year

Teacher: Katie Parent

Course Description:

Anatomy and Physiology is a fast-paced college preparatory course designed to meet the needs of students pursuing careers in science. This course will cover topics of Levels of organization, support and movement, integration and coordination, transport, absorption and excretion, and the human life cycle. Mathematical modeling, mathematical analysis, problem-solving, analytical laboratory techniques, and critical thinking are all emphasized. Ideas are introduced through hands-on activities, while daily assignments, homework, and class discussions are used to reinforce the ideas introduced in the laboratory.

Competencies or Standards Assessed:

NGSS Alignment (Life Science)

HS-LS1-1: Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins, which carry out the essential functions of life through systems of specialized cells.

HS-LS1-2: Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

HS-LS1-3: Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

Health Education Competencies

Core Concepts: Predict how healthy behaviors can affect health status.

Accessing Resources: Demonstrate the ability to access valid health information and products (aligned with textbook/supplementary text use).

Self-Management: Demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks (relevant to sensitive course material).

Anchor Texts or Major Curriculum:

CK-12 College Human Biology. FlexBook 2.0

Addison Wesley Longman –Essentials of Human Anatomy and Physiology, Marieb

Supplementary Texts, Journals, & WEB:

McGraw-Hill- Hole's Human Anatomy & Physiology, Shier, Butler, Lewis

Anatomy Coloring Book

Atlas of Anatomy

Course Outline (major units of study):

Unit Title	Essential Question or Overarching Understanding
Unit 1 The Nature and Process of Science	How do we use evidence and the scientific method to differentiate between fact and pseudoscience?
Unit 2 Introduction to Human Biology	How does the structure of the human body reflect its function at every level?
Unit 3 Chemistry of Life	How do macromolecules and chemical reactions sustain the biological processes of a living organism?
Unit 4 Cells	How do specialized organelles work together to maintain cellular homeostasis?
Unit 9 Introduction to the Human Body	In what ways do various organ systems interact to maintain a stable internal environment?
Unit 10 Nervous System	How does the brain process internal and external stimuli to coordinate a rapid response?
Unit 11 Endocrine System	How do hormones act as long-distance chemical messengers to regulate growth and metabolism?
Unit 12 Integumentary System	How does the skin serve as the body's first line of defense against the external environment?
Unit 13 Skeletal System	How does the architecture of the skeleton provide both mobility and protection?
Unit 14 Muscular System	How is chemical energy converted into mechanical force to produce movement?
Unit 15 Respiratory System	How does the body optimize gas exchange to meet the varying metabolic demands of cells?



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System	Unit 16 Cardiovascular	How does the heart and blood vessel network ensure the continuous delivery of nutrients and removal of waste?
Unit 17 Digestive System		How does the body break down complex matter into usable energy and building blocks?
Unit 18 Excretory System		How does the filtration of blood maintain the body's fluid and electrolyte balance?
Unit 19 Immune System		How does the body distinguish between "self" and "non-self" to fight off pathogens?
Unit 20 Reproductive System		How is genetic information passed from one generation to the next to ensure the survival of the species?

Portrait of a Learner

Independent Learner

I make thoughtful plans and do my best to reach personal goals using feedback to work through challenges.

Responsible Collaborator

I work with others to achieve shared goals by listening actively, contributing ideas, and managing conflict.

Critical Thinker

I analyze information, ask thoughtful questions, and apply reasoning skills to solve problems and make decisions.

Effective Communicator

I express ideas clearly, adapting strategies based on the audience, setting, and/or purpose.

Global Citizen

I show that I care and take responsibility by helping in my community and the world around me.

Additional Classroom Expectations:

I consider all my students to be responsible people. I expect every student to be present for class and to come prepared. I anticipate professional conduct and active participation in class from my students. The class will begin promptly after the bell rings, and I expect everyone to come directly to class to avoid distractions. It is your responsibility to come and talk to me about missed classes. Please do not fall behind-

playing catch-up is never fun. If you know you're going to be absent, collect your work ahead of time. Bring all your problems to me, and I will make sure you are on track all the time. Please refer to and comply with the high school student handbook. All the work submitted for grading should be the student's original work with proper citations on labs. Students may not work together while writing lab reports. When working in groups, submitted work should NOT be copied from each other.

Course Assessment: Course assessment will be based on weekly quizzes, homework, exams, labs, and participation.

Formative Assessments: 20%

Summative Assessments: 80%

Exams: You may not use any electronic devices, such as cell phones, cameras, mp3 players, laptops, or programmable calculators, without prior permission from the instructor. Any student found using these devices would be considered to have cheated and reported for further action.

Quizzes: There are Friday quizzes based on the material covered during that week. It will have 3-15 questions. Quizzes must be taken during the class, and no make-up quiz will be given for unexcused absences. A written note from the doctor/coach is required for an excused absence.

Homework: Homework will be 10-16 questions from the end of the chapter. All homework will be due the following class period unless otherwise instructed. Please see me if you need help with homework or classwork. Make an appointment with a 24-hour notice.

Laboratory Reports: Electronic Laboratory reports will be encouraged to be "Turned In" via Google Classroom. All lab reports are due after the completion of the lab with the assigned reports. Lab reports must include the following sections:

Name of student and any partners and date of the lab (0.5 points)

Title of Lab (0.5 points)

Purpose of the lab (0.5 points)

Introduction (2 points)

Background information/concepts covered by the lab

Materials and safety (0.5 points)

Procedure (not instructions) (1 point)

Results (2 points)

(may include one or more of the following weights, melting points, calculations, tables, charts, and spectra)

Discussions (2 points)

Explain how information from the results helps to verify the purpose. You may also suggest what you will do to avoid any failures and get better results.

Conclusion (2 points)



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Summarize discussions, explain how the purpose was accomplished. Explain any errors and what should change if the lab were to be repeated for better results. Results only provide evidence to support or refute a claim; please avoid terms such as correct or proven.

The material in this course, in some instances, may be sensitive or emotionally provocative. As you review the syllabus, or at any time during the course, please let me know if you anticipate or are having a problem with any assignment or classroom activity. We can then discuss how this assignment or activity can be considered. We can also discuss extra help options and other resources that you may find helpful in dealing with your concerns.