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| **School Year** | 2020-21 | **Teacher Name** | William Thielke |
| **Office** | Room 213 | **Website** | Biologymrt.weebly.com |
| **Phone** | 970-846-5235 | **Classroom information** | Schoology Access code:4CBJ-NMDR-T5TW5  |
| **Email Address** | william.j.thielke@adams12.org |

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| **Course Name** | **CP Anatomy and Physiology** |
| **Course Description** | The students in this year-long, college-prep course will develop a vocabulary of appropriate terminology to effectively communicate information related to anatomy and physiology, recognize the anatomical structures and explain the physiological functions of body systems, recognize and explain the principle of homeostasis and the use of feedback loops to control physiological systems in the human body, use anatomical knowledge to predict physiological consequences, recognize and explain the interrelationships within and between anatomical and physiological systems of the human body, synthesize ideas to make a connection between knowledge of anatomy and physiology and real-world situations including healthy lifestyle choices and homeostatic imbalances, demonstrate laboratory procedures used to examine anatomical structures and evaluate physiological functions of each organ system, and interpret graphs of anatomical and physiological data. Students will also demonstrate information literacy skills to access, evaluate, and use resources to stay current in the field of anatomy and physiology, approach and examine issues related to anatomy and physiology from an evidence-based perspective, and communicate clearly and in a way that reflects knowledge and understanding of the human body and demonstrates the ability to adapt information to different audiences and applications.  |
| **Unit of Study** | **Grade Level Expectations/Content Standards** | **Time Spent** | **Targeted Date of Assessment** |
| Unit 1: The Body as a Whole | Students will develop an understanding of how the body is organized into systems. Students will be able to explain how information about the body is effectively communicated using directional and regional terms. Students will effectively communicate using medical terminology related to body systems and the interrelationship between anatomy and physiology. | 2 weeks | 8/30/19 |
| Unit 2: Homeostasis | Students will study general types of homeostatic mechanisms in order to explain how body systems work together to maintain homeostasis. Students will create a working model of a feedback loop to demonstrate their understanding of homeostasis. Students will apply concepts of homeostasis in order to make predictions related to imbalance including disease states and disorders. | 2 weeks | 9/13/19 |
| Unit 3: Chemistry and Cell Biology | Students will study the basic building blocks of life in order to explain and examine chemical bonding, the importance of water and minerals in the body, energy transfer and ATP, and membrane function and structure. | 2 weeks | 9/27/19 |
| Unit 4: Histology | Students will study different tissue types in order to develop an understanding of both macroscopic and microscopic differences in anatomy and physiology. Students will apply this understanding to a real-world application involving tissue injury and repair, and current research in the field of organ and tissue donation.. | 2 weeks | 10/4/19 |
| Unit 5: Integumentary System | Students will be able to describe the general functions of the skin and explain the anatomy and physiology of the skin as an organ system. Students will use the knowledge to predict outcomes when homeostatic imbalance of the skin occurs. | 3 weeks | 10/26/19 |
| Unit 6: Skeletal and Muscular System | Students will describe the major structure and function of the skeletal and muscular systems and use this knowledge to create a multipart case that involves an imbalance of the muscular and skeletal systems.  | 4 weeks  | 11/30/19 |
| Unit 7: Nervous System and Special Senses | Students will describe the major functions of the nervous system along with the organization of the nervous system. Students will use their knowledge of the nervous system to determine the cause and treatment of an individual with a nervous system disorder. Students will interpret data from an action potential. | 3 weeks | 12/20/19 |
| Unit 8: Cardiovascular System | Students will differentiate between the compositions of blood and identify the microscopic anatomy and the functional roles of the formed elements of blood. Students will explain the process of blood typing and its importance. Students will use a case study to explain how the cardiovascular system works and how an imbalance in the cardiovascular system can impact other systems of the body. | 3 weeks | 1/24/20 |
| Unit 9: Respiratory System/PBL | Students will describe the major functions of the respiratory system and the anatomy of the respiratory system. Students will explain how the respiratory system and cardiovascular system work together to maintain homeostasis in the body. In the PBL students will create an informational product for a Mt. Kilimanjaro trekking company clients to prepare for high altitude climbs. | 3 weeks | 2/14/20 |
| Unit 10: Endocrine System | Students will explain the anatomy and physiology of the endocrine system. Students will describe the classification and control of hormones and use this information to explain a case involving an individual with a hormone imbalance. | 2 weeks | 2/28/20 |
| Unit 11 Digestive System and Metabolism | Students will explain how the digestive system works from a physiological standpoint as well as explain the anatomy of the digestive system. Students will use the information to explain metabolism using a case study related to healthy eating. | 3 weeks | 3/20/20 |
| Unit 12 Lymphatic System and Immunity | Students will describe the anatomy and physiology of the lymphatic system and how it relates to the health and well-being of the body. Students will analyze data in order to explain how the immune system works and explain what happens when the immune system is not working properly. | 2 weeks | 4/10/20 |
| Unit 13 Excretory System | Students will explain the anatomy and physiology of the urinary system in order to explain how the body maintains normal levels of water, ions, and glucose in the body. Students will outline what happens when the system is not functioning properly. | 2 weeks | 4/24/20 |
| Unit 14 Reproductive System and Heredity | Students will learn about human development as they explain the reproductive system. Students will analyze different conditions of disease with a hereditary nature in order to explain the condition. | 2 weeks | 5/08/20 |
| Unit 15 Capstone Project Final | Students will develop, present, and defend case involving multiple organ systems. Students will work collaboratively to present their case. | 2 weeks | Finals Week |
| NGSS Crosscutting Concepts | Cause and Effect/ Systems and System Models/ Energy and Matter/ Patterns/ Stability and Change/ Scale, proportion and quantity/ Structure and Function | Ongoing | Ongoing |
| Common Core Communication | Key ideas and details / Craft and structure / Integration of knowledge and ideas / Range of reading and level of text complexity / Text type and purposes / Production and distribution of writing / Research to build and present knowledge / Range of writing / Comprehension and collaboration / Presentation of knowledge and ideas / Conventions of standard English / Knowledge of language / Vocabulary acquisition and use. | Ongoing | Ongoing |

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| **Grading Scale** | **Grade Percentages/Weights** |
|  **A** | 90-100 | **Summative Assessments & Projects** | **80%** |
| **B** | 80-89 | **Formative Assessments & Projects** | **20%** |
| **C** | 70-79 | **\*Weekly progress grades are posted at https://ic.adams12.org/campus/portal/adams12.isp** |
| **D** | 60-69 |
| **F** | 59 or below |

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| **General Expectations*** Grades are based upon the demonstration of proficiency on units associated with a standard given during each formative or summative assessment. Formative grades in addition to summative unit assessments will be used to holistically determine your grade.
* **Summative: 80%** Summative measures of achievement are taken when unit master is expected. (i.e., unit tests, culmination of a project, embedded assessments, etc.)
* **Formative: 20%** Formative assessments measure the scaffolding skills and/or content embedded in the unit. Formative assessments are taken frequently, after a student has practiced a skill or become familiar with content. Examples of formative assessments include but are not limited to exit tickets, paragraphs, oral check for understanding, warm-ups, stages in a large project, etc.
* Assessments will be graded based on teacher/district/state rubrics.
* On group projects, students will receive a grade for individual work and a group grade.
* Grades are based on achievement of Content Standards and Grade Level Expectations.

If a student is struggling with the material it is vital that they see the teacher immediately to get help before the student falls too far behind and is unable to recover their grade. Accommodations for students will be handled on an individual basis. |
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| **Student/Class Expectations****Missing or incomplete assignments/assessments for this course:** Superintendent Policies 6280 Homework and 6281 Make-Up Work, will be followed for this course. (Number of days absent plus 1 for excused absences.)* Work is expected to be turned in on time and late work will not be accepted for unexcused absences.
* Due dates for all work will be posted on Google Classroom
* Missing work will be entered into the gradebook as a Missing assignment (M) which is scored as a zero.
* For extended absences, students need to let the instructor know so that arrangements for classwork, lab work, and projects can be discussed.
* Students should be respectful of others in the class, guests, the teacher, equipment, and specimens within the class.
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