Mountain Range High School
12500 Huron Street • Westminster, CO 80234
Office: (720) 972-6300 • Fax: (720) 972-6529
http://www.mountainrange.adams12.org

Adams12 Five Star Schools

School Year	2020-2021
Course Name	AP Biology
Course Description	This course is designed to offer students a solid foundation in introductory college-level biology. Students will explore four big ideas in biology. 1) The process of evolution drives the diversity and unity of life, 2) Biological systems utilize free energy and molecular building blocks to grow, to reproduce and to maintain dynamic homeostasis, 3) Living systems store, retrieve, transmit and respond to information essential to life processes, 4) Biological systems interact, and these systems and their interactions possess complex properties

Unit of Study	Content Standards/Grade Level Expectations	Approximate Time Spent or Percent of time Spent	Targeted Date of Assessment
Unit 1 Chemistry of Life	1.1 Structure of Water and Hydrogen Bonding 1.2 Elements of Life 1.3 Introduction to Biological Macromolecules 1.4 Properties of Biological Macromolecules 1.5 Structure and Function of Biological Macromolecules 1.6 Nucleic Acids	7 Days	August
Unit 2 Cell Structure and Function	2.1 Cell Structure: Subcellular Components 2.2 Cell Structure and Function 2.3 Cell Size 2.4 Plasma Membranes 2.5 Membrane Permeability 2.6 Membrane Transport 2.7 Facilitated Diffusion 2.8 Tonicity and Osmoregulation 2.9 Mechanisms of Transport 2.10 Cell Compartmentalization 2.11 Origins of Cell Compartmentalization	13 Days	September
Unit 3 Cellular Energetics	3.1 Enzyme Structure 3.2 Enzyme Catalysis 3.3 Environmental Impacts on Enzyme Function 3.4 Cellular Energy 3.5 Photosynthesis 3.6 Cellular Respiration 3.7 Fitness	15 Days	October

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Unit 4 Cell Communication and Cell Cycle	4.1 Cell Communication 4.2 Introduction to Signal Transduction 4.3 Signal Transduction 4.4 Changes in Signal Transduction Pathways 4.5 Feedback 4.6 Cell Cycle 4.7 Regulation of Cell Cycle	11 Days	November
Unit 5 Heredity	5.1 Meiosis 5.2 Meiosis and Genetic Diversity 5.3 Mendelian Genetics 5.4 Non-Mendelian Genetics 5.5 Environmental Effects on Phenotype 5.6 Chromosomal Inheritance	12 Days	December
Unit 6 Gene Expression and Regulation	6.1 DNA and RNA Structure 6.2 Replication 6.3 Transcription and RNA Processing 6.4 Translation 6.5 Regulation of Gene Expression 6.6 Gene Expression and Cell Specialization 6.7 Mutations 6.8 Biotechnology	21 Days	January-February
Unit 7 Natural Selection	7.1 Introduction to Natural Selection 7.2 Natural Selection 7.3 Artificial Selection 7.4 Population Genetics 7.5 Hardy-Weinberg Equilibrium 7.6 Evidence of Evolution 7.7 Common Ancestry 7.8 Continuing Evolution 7.9 Phylogeny 7.10 Speciation 7.11 Extinction 7.12 Variations in Populations 7.13 Origin of Life on Earth	19 Days	March
Unit 8 Ecology	8.1 Responses to the Environment 8.2 Energy Flow Through Ecosystems 8.3 Population Ecology 8.4 Effect on Density of Populations 8.5 Community Ecology 8.6 Biodiversity 8.7 Disruptions to Ecosystems	18 Days	April-May

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Course Grade Scale	
A	89.5 - 100
B	79.5 – 89.4
C	69.5 – 79.4
D	59.5 – 69.4
F	0 – 59.4

Assessment/Practice Proficiency Levels	
4	Advanced Understanding of the Standard
3	Meets the Standard
2	Approaches the Standard
1	Does not Meet the Standard

Grade Reporting Criteria/Weights	
Disciplinary Core Ideas (Content)	**60%**
Science Engineering Practices	**15%**
Communication	**15%**
Practice	**10%**
Grades are based on achievement of Content Standards and Grade Level Expectations. ***Weekly progress grades are posted at https://ic.adasm12.org/campus/portal/adams12.isp**	

General Expectations

- Grades are based upon the demonstration of proficiency on units associated within specific grade reporting criteria.
- **Assessment: 90%** Assessments are a means to determine a student's mastery and understanding of information, skills, concepts, or processes.
- **Practice: 10%** Practice includes opportunities for students to receive clear, specific, and timely feedback as they are developing knowledge and skills, prior to Assessments.
- Assessments will be graded based on teacher/district/state rubrics.

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. They state that it is the student's responsibility to request and obtain missing work. When a student has an excused absence, the student has the same number of days they were absent plus one day to make up assignments. *Example: A student is **excused** absent, Monday and Tuesday. The student would have Wednesday, Thursday and Friday to make up the work, which would then be due at the beginning of the period on Monday.* Students who are unexcused may not be able to receive feedback from Practice prior to required Assessments.

In order to preserve test security, students may be required to take a missed test immediately upon return from an authorized absence if that student has had the opportunity to access all learning prior to the absence. Students missing a group or individual presentation may also be required to give that presentation upon return. *Example: A test is given on Thursday and a student is absent on that day (authorized, excused), but was present the days prior. This student may be required to take the test on Friday.*

Plagiarism/Cheating: Plagiarism means to present, as one's own, the work, writing, words, ideas or computer information of someone else. These sources could be either published or unpublished. Cheating is supplying, receiving or using inappropriate devices to improve performance on a test or assessment. Students who engage in plagiarism or cheating will be disciplined according to the school discipline matrix.

Weekly Progress: Current grades are accessible through Infinite Campus. A link to Infinite Campus can be found on the Mountain Range website: http://www.mountainrange.adams12.org/

Time Frame for Assignments: The teacher will clearly delineate the due date and time frame for all assignments and students will record this information accordingly in their student planners. Students are encouraged to be engaged and motivated in the completion of their assignments.