Crook County School District

*where students dream, learn, & succeed*

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| School CCHS | | Instructor: Jessica Mumm |
| Course: Regular Biology | | Email: jessica.mumm@crookcountyschools.org |
| ☑ | *Trimester #1* | Phone: 541-416-6900 ext 3131 |
| ☑ | *Trimester #2* | Methods for Communicating with Families:<br>● Email<br>● Phone Call<br>● Google Classroom<br>● Class Website |
| ☑ | *Trimester #3* | |

**Course Description:**

This course includes laboratory work, the study of specimens, and projects, and a thorough understanding of scientific inquiry. Course content encompasses interrelationships of living things, levels of biological organization, cellular biology, biochemistry, genetics, and evolution. Students should be prepared to conduct projects and write a formal lab report. Instruction centers around inquiry-based learning that is incorporated into class activities. Learning activities include teacher-led instruction, group work, student seatwork, project-based learning, and lab exercises with both student-choice and teacher-choice grouping. Students can expect to start each day with a bell ringer assignment followed by learning activities and/or lectures. At times students will work independently from the teacher to achieve student autonomy expected of upper school students. Classes are structured to utilize every minute for learning and assessing understanding. Real-world application is a daily objective. Higher-level thinking will be incorporated into each lesson as well as the use of technology when applicable to increase student achievement. Students are expected to participate in all activities and actively engage and ask questions during teacher-led lectures. Students are also expected to review and study the content covered in class outside of school daily.

**Learning Standards/Targets:**

BIOLOGY A TERM

- **Unit 1: Study of Life (What is Biology?/Chemistry/Biomolecules)**
  - *Develop an understanding of what science is and how the process of science is done*
  - *Be able to describe the structure of and solve simple problems relating to atoms, molecules, and macromolecules*
  - *Develop an understanding of what science is and how empirical and historical science differ.*
  - *Develop a general appreciation for how the science of biology came to be what it is today.*
  - *Understand some of the major areas of study within the subject of biology.*
  - *Be able to describe simple atoms or molecules according to their chemical nomenclature.*
  - *Be able to classify each of the four macromolecules according to their monomer and polymer.*
  - *Give examples of each type of macromolecule in operation in a living system.*
- **Unit 2: The Cell (Cells and Membranes)**
  - *Develop an understanding of Cell theory and its implications for spontaneous generation.*
  - *Describe the function of the chloroplast, the mitochondria, ATP, CO2, and O2 in the cell.*
  - *Be able to describe in a general way how cells obtain, store, and use energy via glycolysis, aerobic respiration, fermentation, and photosynthesis*

- *Understand how the cell membrane contributes to and is responsible for maintaining the intracellular environment.*
- *Be able to describe why a cell would bulge, shrivel, or burst due to osmotic pressure.*
- *Understand the macromolecular organization of the cell, its structure, and the overall function of its major components*
- *Understand how the lipid bilayer contributes to and is responsible for maintaining the intracellular environment*
- *Understand cellular reproduction, both mitosis and meiosis, and have a conceptual understanding of the abnormality of this process associated with cancer*

<u>BIOLOGY B TERM</u>

- **Unit 3: Genetics (Division/Proteins/Genetics)**
  - *Understand cellular division, both mitosis and meiosis and have a conceptual understanding of the abnormality of this process associated with cancer*
  - *Understand that disruptions in the cell cycle can lead to the development of cancer.*
  - *Be able to describe and solve simple problems related to DNA replication.*
  - *Be able to describe, and solve simple problems related to, the flow of information at a molecular level in the cell, including the processes of transcription, and translation.*
  - *Understand the Mendelian principles of dominant/recessive relationships, and segregation, and, importantly, APPLY these principles to solving problems related to them*
  - *Solve more complex genetic problems including dihybrid crosses, polygenic traits, and sex-linked traits.*
  - *Understand the control of gene expression and how it differs between prokaryotes and eukaryotes*
- **Unit 4: Heredity**
  - Summarize Mendel's experiments, and the three laws of inheritance that make up the foundation of Mendelian genetics
  - Be able to perform crosses, using Punnett Squares, for codominance, incomplete dominance, multiple alleles, and sex-linked traits.
  - Use a pedigree to determine if the inheritance pattern for a disease/trait is dominant or recessive, and sex-linked or autosomal.
  - Describe the overall goal of genetic engineering and how we are able to accomplish it.
  - Describe two examples of genetic engineering. Include in your description examples of societal implications
- **Unit 5: Evolution**
  - *Apply an understanding of mutation and other genetic changes, as well as adaptation and selection, to discussing speciation and the rate of formation of new species*
  - *Understand and critically analyze Darwin's view of evolution by natural selection, and how more recent contributions, most notably an understanding of genetics, have altered, affected, or modified how we think of evolutionary processes*
  - *Be able to describe the process of natural selection and explain how it can lead to changes in a population's gene pool over time.*
  - *Be able to critically compare the tenets of our current understanding of evolution with the claims of literal creationists and determine which viewpoint is supported by the scientific evidence by discussing evidence, and ask whether creationism in any form is science*
  - *Have an aesthetic appreciation of the plant and invertebrate diversity on Earth*

## Instructional Materials:

- Texts: Inspire Biology – Copyright © 2020 McGraw-Hill Education
- Film, Videos/Other Electronic Media: The Royal Tainted Blood Documentary, Galapagos Darwin Documentary, Crash Course Biology Videos, Osmosis Jones (Cell Biology) Movie. Khan Academy and Bozeman Science Videos.
- Novels: NA
- Other (Articles, etc.): Current event articles as the year progresses and case studies possible if time allows.
- Guest Speakers: N/A

*All Instructional Materials must comply with CCSD School Board Policy IIA & Policy IIA-AR. A copy of the core and supplemental curriculum will be available in the curriculum office for review.*

*A classroom teacher receiving a complaint regarding instructional materials shall try to resolve the issue informally through the discussion of the original assignment or the opportunity for an alternative assignment.*

## Notification of the Right to Object to the Use of Material:

*Any resident of the district may raise objection to instructional materials used in the district's educational program despite the fact that the individuals selecting such materials were duly qualified to make the selection and followed the proper procedure and observed the criteria for selecting such material.*

*The first step in expressing objection to materials is consultation with the classroom teacher or library staff and providing a written complaint. The district official or staff member initially receiving a complaint shall explain to the complainant the district's selection procedure, criteria and qualifications of those persons selecting the material. A classroom teacher receiving a complaint regarding instructional materials shall try to resolve the issue informally through the discussion of the original assignment or the opportunity for an alternative assignment. The materials shall remain in use unless removed through the procedure in section 4. F. (2) of this regulation.*
*The teacher or library staff receiving the initial complaint shall advise the principal of the initial contact within 24 hours, whether or not the complainant has apparently been satisfied by the initial contact. A written record of the contract shall be maintained by the principal and sent to the superintendent's office.*

*In the event that the person making an objection to the material is not satisfied with the initial explanation or an alternative assignment, the person raising the questions will meet with a building administrator who will provide a Request for Reconsideration form.*

*For more details, see CCSD School Board Policy IIA-AR.*

## Citizenship, Classroom Rules, Behavior Expectations:

- *The Board expects student conduct to contribute to a productive learning climate. Students shall comply with the district's policies, administrative regulations, school and classroom written rules, pursue the prescribed course of study, submit to the lawful authority of teachers and school officials and conduct themselves in an orderly manner during the school day and during district-sponsored activities.*

  *Careful attention shall be given to procedures and methods whereby fairness and consistency without bias in discipline shall be assured to each student. The objectives of disciplining any student must be to help the student develop a positive attitude toward self-discipline, realize the responsibility of one's actions and maintain a productive learning environment.*

- *See CCSD Board Policy JFC for more details.*

***Class Expectations***

- *Students are expected to be present and active members of the classroom every day.*
- *Students are expected to come to class prepared with all necessary materials and completed assignments to learn and participate in all lectures and activities.*
- *Students are expected to be respectful of the teacher, the classroom, and their peers.*

***Class Discipline***

*Students who are not acting present, coming prepared, and being respectful will earn one of the following consequences:*

- *Warning in class*
- *Teacher/Student conference during or after class AND parent contact*
- *Lunch detention AND parent contact*
- *Written referral and sent to the office during activity/lab AND parent contact*

**Any student caught cheating on an assignment will receive a zero and be referred to the Principal. There will be a makeup assignment created in the case of cheating, that will need to be completed to make up for the assignment/assessment that the student was caught cheating on.**

*CCHS places a high value on the integrity of its student scholars. In addition, realize that all work you turn in MUST be your original work. All answers and writing must be your own. Any writing you include that was not yours from any source must be in quotations and attributed to the original author.* ***Do not plagiarize!***

Grading System:

- *The district's grading system shall be based on Board-adopted course content and is designed to enable the student and parent to clearly know how well the student is achieving course requirements at the student's current grade level or course content level and be based on the student's progress toward mastery of a continuum of knowledge and skills outlined in Oregon State Standards. Absenteeism or misconduct shall not be the sole criterion for the reduction of students' grades. Behavioral performance shall be reported separately. The district will use letter grades (A,B,C,D,F) that can be converted into a 4 to 0 reporting system in grades 6-12. All AP courses are graded on a 5.0 grading scale.*
- *Grades will be based on many factors, such as: basic instructional assignments, both oral and written; results from various assessment instruments, including critical content short cycle assessments as well as quizzes and exams; class participation; special assignments; research; activities of various types of kinds and special contributions.*
- *See CCSD School Board Policy IKA, Policy IK, & Policy IK-AR for more details.*

Grading Scale:

- A+: 100-98 A:97-93 A-: 92-90
- B+: 89-88 B: 87-83 B-82-80
- C+: 79-78 C: 77-73 C-: 72-70
- D+: 69-68 D: 67-63 D-: 60-62
- F: 59-0

Course Grading Criteria/Weighting

- Assessment, Projects, Quizzes, Assessments of Learning Standards: 80% → (50% Tests, 20% Labs, 10% Projects)
- Notebooks & Daily Assignments: 20%

**Grades will be derived from a combination of the following:**

- Daily Openers → These are graded daily, and a weekly total gets put into the gradebook. The openers can be corrected up until Friday each week. The openers will be deleted as the total scores are entered into the gradebook. AGAIN YOU HAVE UNTIL FRIDAY OF EACH WEEK TO FIX AND COMPLETE OPENERS.
- Daily Assignment/Homework
- Lab Work
- Projects
- Quizzes
- Exams

- Notebooks (INB)

**Policy IK-AR*: Achievement of learning standards will be assessed separately from behavior.*

**Make Up Policy:**

1) **Assessment Retakes**: *Policy IK-AR Teachers will provide students with multiple opportunities to demonstrate mastery of each standard. Students will be provided with at least two opportunities to retake assessments. A student who retakes an assessment will not be penalized. Teachers can modify assessments (more rigorous to account for greater time allowed for preparation.) Teachers will determine student requirements for assessment retakes that align with Policy IK-AR.*
2) **Homework/Daily Work**: *Achievement of learning standards will be assessed separately from behavior (i.e. attendance, disruption, late work, tardiness, preparation, effort, attitude, etc.).* Teachers may set guidelines around submission timelines, as this category is tied to learning progress, please refer to policy IK-AR. → ***Students will have 2 weeks from the due date of an assignment to turn in the assignment for credit.***

**For all courses that articulate with a college or university, it is required that the syllabi match the accrediting institution, rather than the CCSD syllabus model.*

*Student Name:* _____

*Student Signature:* _____

*Parent Signaure:* _____