

Course Expectations for ***Biology 3010***

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<http://swcta.net/goode/>

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COURSE DESCRIPTION:

BIOLOGY – 3010

Course Scope:

This one-year course is designed to integrate science and engineering practices, crosscutting concepts, and core ideas related to biology. The topics covered in Biology include Structures and Function, Matter and Energy in Organisms and Ecosystems, Interdependent Relationships in Ecosystems, Inheritance and Variation of Traits, Natural Selection and Evolution, and Engineering Design. Demonstrations and lab experiences that employ proper safety techniques are essential to this course. Instructional practices incorporate integration of diversity awareness, including appreciation of all cultures and their important contributions to society. The appropriate use of technology is an integral part of this course. This course fulfills one of the science credits required for high school graduation and qualifies as a laboratory science for college entrance.

COURSE GOALS:

1. To demonstrate an understanding of the complex interactions within ecosystems using mathematical representations and argumentation. [HS-LS2-1, HS-LS2-2, HS-LS2-6]
2. To identify the impacts of human activity on the environment and to engineer solutions mitigating any adverse effects.
[HS-LS2-7, HS-LS4-6, HS-ETS1-1, HS-ETS1-2, HS-ETS1-3, HS-ETS1-4]
3. To develop models and use mathematical representations illustrating how matter and energy are cycled within an ecosystem through the processes of photosynthesis and respiration. [HS-LS1-5, HS-LS1-6, HS-LS1-7, HS-LS2-3, HS-LS2-4, HS-LS2-5]
4. To demonstrate an understanding of how DNA determines the essential functions of proteins and codes for traits that are passed on to offspring. [HS-LS1-1, HS-LS3-1]
5. To use a model to illustrate the roles of cellular division and differentiation in the growth and development of organisms. [HS-LS1-4]
6. To describe multiple sources of genetic variation and apply statistical methods to explain patterns of expressed traits in populations. [HS-LS3-2, HS-LS3-3]
7. To construct an explanation of how multiple lines of scientific evidence support common ancestry and the role of natural selection in biological evolution.
[HS-LS4-1, HS-LS4-2, HS-LS4-4]

Southwest Career and Technical Academy 2015-2016

8. To evaluate how natural selection and environmental conditions cause the numerical distribution of traits in a population to change over time and may result in the emergence and/or extinction of species. [HS-LS4-3, HS-LS4-5]
9. To use evidence to evaluate how group behavior influences the survival and reproductive success of individuals and species. [HS-LS2-8]
10. To develop an understanding of how the hierarchical organization of interacting systems perform specific functions which maintain homeostasis through feedback mechanisms. [HS-LS1-2, HS-LS1-3]

Approved November 2005, revised November 2011, November 2014.

IDPL-SCI-SG-6760/3010

COURSE REQUIREMENTS AND GRADING PROCEDURES:

GRADING POLICY

The purpose of grades is to provide effective feedback to students, parents, and the school administration about a student's progress towards mastery of the established standards for a particular course or subject. As such, other factors such as attendance, effort and behavior are not considered when calculating a student's grade. However, **excessive absences** (eight unexcused absences during a semester) will result in a loss of credit in accordance with CCSD Regulation 5113. Extra credit is **not** permitted unless the work is specifically designed to provide more evidence of a student's progress towards mastery of the established standards.

Students are graded on a 0-100 point scale, with the following grade equivalents:

90-100	= A	Consistently exceeds standards
80-89	= B	Consistently meets standards
70-79	= C	Approaching standards
60-69	= D	Emergent
0-59	= F	Does not meet standards/Evidence not provided

Throughout the semester, students are expected to complete formative and summative assessments. The Southwest Career and Technical Academy incorporates Project-Based Learning across the curriculum. Further assessments include, but are not limited to, homework, class activities, participation, lab activities, class projects, quizzes, and exams.

Project-Based Learning and the Six Tenets

The Southwest Career and Technical Academy is dedicated to assessing student learning and achievement through Project-Based Learning (PBL). The Southwest CTA uses six tenets, or beliefs, to assess student performance during each PBL assessment. These tenets are the basis of grading during each PBL project.

These tenets will also be used in the classroom setting at the teacher's discretion.

Category	Assessment Weight
Content Knowledge	40
Work Ethic	20
Use of Resources	10
Teamwork and Collaboration	10
Professional Presentations	10
Writing Skills	10

Southwest Career and Technical Academy 2015-2016

METHODS USED TO ASSESS STUDENT PERFORMANCE AND LEARNING:

- *Formative Assessments* include informal checks for student involvement and completion of assigned learning tasks. Examples: Checks of student *InterActive Notebooks* (INB), concept maps, artifacts, logs, PBL worksheets, readings, homework, and quizzes. These measures are often done and often guide, teacher instructional practices, however, these can give students feedback on comparative performance.
- *Summative Assessments* include formal checks for learning and become in large part the measure of student performance and learning. Examples: Tests, weekly **QUIA Tests** online tests, papers, reports, presentations, semester, and final exams, etc.
- *Activities/Labs Assessments* include formal/informal checks for learning in all activities and lab work in pursuit of scientific knowledge, understanding, analysis, skills, etc. Examples: Lab reports, posting of lab reports in the student's portfolio.
- *PBL/POL Assessments* check, formally and informally, for evidence suggesting individual student and team involvement, learning, and productivity toward tackling assigned driving science questions, with emphasis placed upon student choice and initiative, in an atmosphere of very high expectations for success, productivity, and performance. "POL" presentations (**Presentation of Learning**) are conducted by each cooperative group team at the conclusion of each project unit. POL is an exposition of team learning, findings, and creations. POL will be scheduled on last class days of each month and the final dates will be announced and published. Parents, family, and community are welcome to attend POL.
- *Safety Assessments* include formal and informal checks for student safety. Safety is of the highest importance in the Science classroom, in the lab, outside the class, and in the field. Students are required to sign a safety contract indicating that they have read and understand the safety rules of the course. Students are required to follow the course safety rules at all times.
- *Leadership And Effort Assessments* include teacher and peer assessments designed to encourage and reward students who take leadership initiatives during team and POL activities.

According to CCSD regulation 5121, "Semester exams shall be comprehensive of the material covered during the semester and may be worth up to, but not exceed, 20% of the student's final semester grade. Final semester grades reflect assignments and assessments completed throughout the semester with equal weight given to each quarter in the grading period.

REQUIRED MATERIALS

- *Interactive Notebook (INB)* is a daily used artifact of study and learning-a must for every student wishing to learn. This INB may be digital or traditional. This INB is a requirement of this course and will be assessed as a measure of student involvement in learning. Its use is a good measure of quality learning.
- Personal items, including writing tools, #2 pencils for exams, rulers, scientific calculator, etc. will be needed.
- Access to digital technology items (computers, tablets, iPads, iPods, etc.) will prove very helpful. Laptop computers may be used in class for notes, research, PBL, and lab inquiry. Weekly QUIA Tests require web access.
- Materials needed for team PBL activities-may need to be purchased as per team choices of projects.
- Materials needed for POL demonstration activities-may need to be purchased.
- Some materials for lab investigations may need to be purchased, personal **Kleenex** tissues, lab gloves for dissection, etc.
- Other learning materials, and supplies, including attire and safety needs may be necessary.
- Also, travel to access to community, human, and natural resources for learning and projects may be necessary.

MAKEUP WORK POLICY

The following language is from CCSD Regulation 5113:

Teachers provide opportunities for students to make up missed work due to absence. Students are held accountable for the work. When a student is absent, however, the educational experiences lost during that absence may be irretrievable because the instruction and interaction in the instructional setting cannot be duplicated through makeup work.

Within **three (3) school days immediately following any absence**, secondary students are required to initiate contact with the teacher(s) to obtain appropriate makeup work. Once contact has been made with the teacher(s), specific makeup work must be completed and returned to the teacher(s) within a reasonable length of time, to be determined by the teacher and communicated to the student/parent or legal guardian. The makeup work must be returned to the teacher(s) by the specified due date if it is to be acknowledged. Students shall be allowed a minimum of three (3) days to complete makeup work.

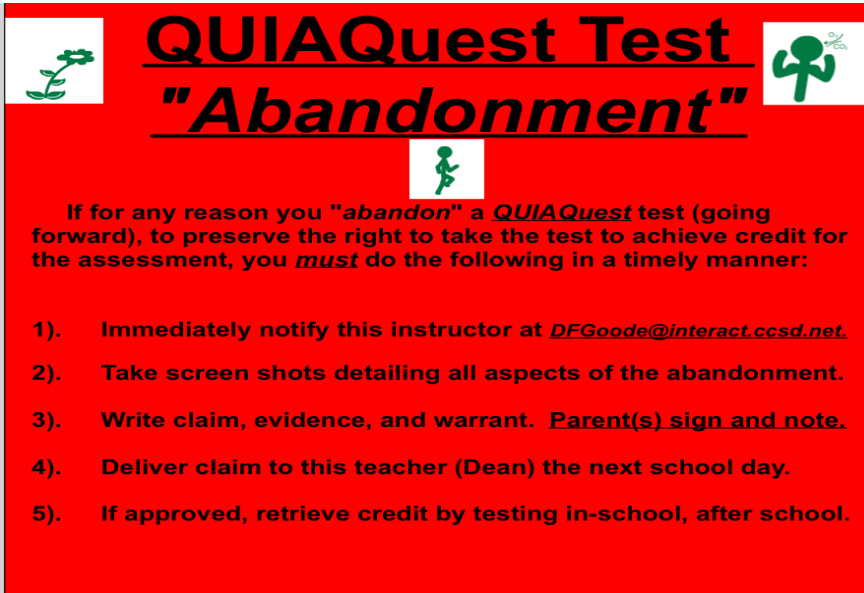
LATE WORK POLICY

Southwest Career and Technical Academy 2015-2016

All learning experiences and evidence thereof is due completed and or submitted as assigned.

Late work that is considered practice (homework, class work, etc.) is accepted and graded for credit at the teacher's discretion.

Failure to complete, or abandonment of a weekly QUIA Test on time will result in a zero score unless the student closely follows the procedure below:



The graphic has a red background. At the top, it says "QUIAQuest Test" in large white letters, with "Abandonment" below it in even larger, bold white letters. There are three small green icons: a plant on the left, a person on the right, and a person in the center. Below the title, there is a paragraph of text and a numbered list of five steps.

QUIAQuest Test
"Abandonment"

If for any reason you "abandon" a **QUIAQuest** test (going forward), to preserve the right to take the test to achieve credit for the assessment, you **must** do the following in a timely manner:

- 1). Immediately notify this instructor at DFGoode@interact.ccsd.net.
- 2). Take screen shots detailing all aspects of the abandonment.
- 3). Write claim, evidence, and warrant. **Parent(s) sign and note.**
- 4). Deliver claim to this teacher (Dean) the next school day.
- 5). If approved, retrieve credit by testing in-school, after school.

DISCIPLINE PROCEDURES AND CITIZENSHIP GRADING:

A. Classroom Discipline Plan

1. In all Sciences, at all times, **SAFETY** is the first priority. Any contrary attitudes, carelessness, or fooling is unacceptable. Students must report any and every safety concern or matter.
2. Students are required to follow all teacher, classroom, and lab rules. The prime rule is to **LISTEN**-never talk during teacher instruction. To speak, a student must raise one's hand.
3. Students must always demonstrate respect for their peers and team members. Report any issues concerning abuse, threatening, safety, or violence to your teacher immediately. **No solicitations (selling candy, tickets, sale items, etc.) of teacher or students in class.**
4. Students must always be prepared and timely in all of their personal dealings.
5. Passes will be issued only in emergencies. Tend to personal needs during personal time-before school, after class, during lunch, etc. Always plan ahead-be prepared.
6. Health passes are issued as needed, preferably before class, and in emergencies.
7. Contraband, personal entertainment devices, phones, food, etc., must be confiscated.
8. Students must demonstrate respect for facilities, property, and equipment.
9. Science demands cleanup after all activities. Put all things away in proper places.
10. The teacher will dismiss class only when conditions dictate. Students must remain in place and seated until dismissed. The teacher dismissed the class-not the bell.

The following steps in the Southwest Career and Technical Academy Progressive Discipline Plan are taken when students do not follow established rules and behave inappropriately:

STEP ONE:	Teacher-Student Conference (Warning)
STEP TWO:	Parent Contact by Teacher (Phone or Email)
STEP THREE:	Counselor Referral
STEP FOUR:	Dean's Referral

Please note: Some offenses are serious enough to warrant a referral to the Dean for the initial infraction (e.g.: physical violence, gross insubordination, truancy, etc.)

Southwest Career and Technical Academy 2015-2016

B. Citizenship Policy

Student citizenship grades are reported as follows: *(This part cannot be changed)*

O = Outstanding

S = Satisfactory citizenship

N = Needs Improvement

U = Unsatisfactory citizenship

CATEGORY	Outstanding (4)	Satisfactory (3)	Needs Improvement (2)	Unsatisfactory (1)
Engagement	Consistently involved in class activities; contributes to overall learning process; collaborates with others and/or the teacher.	Engages in class activities, but may have to be encouraged; works with others or groups, but may not initiate collaboration.	Does not engage in class activities; rarely demonstrates initiative and may occasionally disengage from class.	Consistently uninvolved in class activities. Adamant refusal to work.
Preparation	Consistently prepared with materials; work is on time and may go beyond expectations.	Student has materials and submits work in a timely fashion and as expected.	Student may have had multiple instances of being unprepared, late work, or not completed as requested.	Consistently unprepared for class. Does not submit work on time or at all.
Behavior	Consistently respectful of both classmates and adults; Takes responsibility for individual actions; Consistently complies with school and classroom rules.	Respectful to both peers and adults. Occasionally accepts personal responsibility. Mostly complies with school and classroom rules.	Disruptive to others. Argumentative and defensive when disciplined. Disregard for school or class rules.	Consistent disrespect to classmates or adults. Regularly disruptive to learning process and violation of school or class rules. Plagiarism.

Southwest Career and Technical Academy 2015-2016

Please **sign** and **detach** this page. Your student must **return the signed page** to the teacher listed below. Retain the remainder of this document for future reference.

Please contact (*teacher*) at 799-5766 x(*your extension here*), if you have any questions regarding the information included in these course expectations.

Thank you

Teacher Signature *Dennis F. Goode*

Teacher Name **Dennis F. Goode** Date:

Please indicate your preference.

I give my child permission to view "PG" rated films.

I do not give my child permission to view "PG" rated films with the understanding that an alternative assignment will be given.

I HAVE READ THIS DOCUMENT AND UNDERSTAND THE EXPECTATIONS FOR MY CHILD THIS YEAR.

Parent/Guardian Signature: _____ Date: _____

I HAVE READ THIS DOCUMENT AND UNDERSTAND THE EXPECTATIONS FOR MYSELF DURING THIS SCHOOL YEAR.

Student Signature: _____ Date: _____

Student Laboratory Safety Contract

PURPOSE

Science is a hands-on laboratory class. You will be doing many laboratory activities which require the use of hazardous chemicals. Safety in the science classroom is the #1 priority for students, teachers, and parents. To ensure a safe science classroom, a list of rules has been developed and provided to you in this student safety contract. These rules must be followed at all times. You and your parent or guardian must sign the student safety contract portion of your course expectations before you can participate in the laboratory.

GENERAL RULES

1. Conduct yourself in a responsible manner at all times in the laboratory.
2. Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ask the instructor before proceeding.
3. Never work alone. No student may work in the laboratory without an instructor present.
4. When first entering a science room, do not touch any equipment, chemicals, or other materials in the laboratory area until you are instructed to do so.
5. Do not eat food, drink beverages, or chew gum in the laboratory. Do not use laboratory glassware as containers for food or beverages.
6. Perform only those experiments authorized by the instructor. Never do anything in the laboratory that is not called for in the laboratory procedures or by your instructor. Carefully follow all instructions, both written and oral. Unauthorized experiments are prohibited.
7. Be prepared for your work in the laboratory. Read all procedures thoroughly before entering the laboratory.
8. Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
9. Observe good housekeeping practices. Work areas should be kept clean and tidy at all times. Bring only your laboratory instructions, worksheets, and/or reports to the work area. Other materials (books, purses, backpacks, etc.) should be stored in the classroom area.
10. Keep aisles clear. Push your chair under the desk when not in use.
11. Know the locations and operating procedures of all safety equipment including the first aid kit, eyewash station, safety shower, fire extinguisher, and fire blanket. Know where the fire alarm and the exits are located.
12. Always work in a well-ventilated area. Use the fume hood when working with volatile substances or poisonous vapors. Never place your head into the fume hood.
13. Be alert and proceed with caution at all times in the laboratory. Notify the instructor immediately of any unsafe conditions you observe.
14. Dispose of all chemical waste properly. Never mix chemicals in sink drains. Sinks are to be used only for water and those solutions designated by the instructor. Solid chemicals, metals, matches, filter paper, and all other insoluble materials are to be disposed of in the proper waste containers, not in the sink. Check the label of all waste containers twice before adding your chemical waste to the container.
15. Labels and equipment instructions must be read carefully before use. Set up and use the prescribed apparatus as directed in the laboratory instructions or by your instructor.
16. Keep hands away from face, eyes, mouth and body while using chemicals or preserved specimens. Wash your hands with soap and water after performing all experiments. Clean all work surfaces and apparatus at the end of the experiment. Return all equipment clean and in working order to the proper storage area.
17. Experiments must be personally monitored at all times. You will be assigned a laboratory station at which to work. Do not wander around the room, distract other students, or

interfere with the laboratory experiments of others.

18. Students are never permitted in the science storage rooms or preparation areas unless given specific permission by their instructor.
19. Know what to do if there is a fire drill during a laboratory period; containers must be closed, gas valves turned off, fume hoods turned off, and any electrical equipment turned off.
20. Handle all living organisms used in a laboratory activity in a humane manner. Preserved biological materials are to be treated with respect and disposed of properly.
21. When using knives and other sharp instruments, always carry with tips and points pointing down and away. Always cut away from your body. Never try to catch falling sharp instruments. Grasp sharp instruments only by the handles.
22. If you have a medical condition (e.g., allergies, pregnancy, etc.), check with your physician prior to working in lab.

CLOTHING

23. Any time chemicals, heat, or glassware are used, students will wear laboratory goggles. There will be no exceptions to this rule!
24. Contact lenses should not be worn in the laboratory unless you have permission from your instructor.
25. Dress properly during a laboratory activity. Long hair, dangling jewelry, and loose or baggy clothing are a hazard in the laboratory. Long hair must be tied back and dangling jewelry and loose or baggy clothing must be secured. Shoes must completely cover the foot. No sandals allowed.
26. Lab aprons have been provided for your use and should be worn during laboratory activities.

ACCIDENTS AND INJURIES

27. Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the instructor immediately, no matter how trivial it may appear.
28. If you or your lab partner is hurt, immediately yell out "Code one, Code one" to get the instructor's attention.
29. If a chemical splashes in your eye(s) or on your skin, immediately flush with running water from the eyewash station or safety shower for at least 20 minutes. Notify the instructor immediately.
30. When mercury thermometers are broken, mercury must not be touched. Notify the instructor immediately.

HANDLING CHEMICALS

31. All chemicals in the laboratory are to be considered dangerous. Do not touch, taste, or smell any chemicals unless specifically instructed to do so. The proper technique for smelling chemical fumes will be demonstrated to you.
32. Check the label on chemical bottles twice before removing any of the contents. Take only as much chemical as you need.
33. Never return unused chemicals to their original containers.
34. Never use mouth suction to fill a pipet. Use a rubber bulb or pipet pump.
35. When transferring reagents from one container to another, hold the containers away from your body.
36. Acids must be handled with extreme care. You will be shown the proper method for diluting strong acids. Always add acid to water, swirl or stir the solution and be careful of the heat

produced, particularly with sulfuric acid.

37. Handle flammable hazardous liquids over a pan to contain spills. Never dispense flammable liquids anywhere near an open flame or source of heat.
38. Never remove chemicals or other materials from the laboratory area.
39. Take great care when transporting acids and other chemicals from one part of the laboratory to another. Hold them securely and walk carefully.

HANDLING GLASSWARE AND EQUIPMENT

40. Carry glass tubing, especially long pieces, in a vertical position to minimize the likelihood of breakage and injury.
41. Never handle broken glass with your bare hands. Use a brush and dustpan to clean up broken glass. Place broken or waste glassware in the designated glass disposal container.
42. Inserting and removing glass tubing from rubber stoppers can be dangerous. Always lubricate glassware (tubing, thistle tubes, thermometers, etc.) before attempting to insert it in a stopper. Always protect your hands with towels or cotton gloves when inserting glass tubing into, or removing it from, a rubber stopper. If a piece of glassware becomes "frozen" in a stopper, take it to your instructor for removal.
43. Fill wash bottles only with distilled water and use only as intended, e.g., rinsing glassware and equipment, or adding water to a container.
44. When removing an electrical plug from its socket, grasp the plug, not the electrical cord. Hands must be completely dry before touching an electrical switch, plug, or outlet.
45. Examine glassware before each use. Never use chipped or cracked glassware. Never use dirty glassware.
46. Report damaged electrical equipment immediately. Look for things such as frayed cords, exposed wires, and loose connections. Do not use damaged electrical equipment.
47. If you do not understand how to use a piece of equipment, ask the instructor for help.
48. Do not immerse hot glassware in cold water; it may shatter.

HEATING SUBSTANCES

49. Exercise extreme caution when using a gas burner. Take care that hair, clothing, and hands are a safe distance from the flame at all times. Do not put any substance into the flame unless specifically instructed to do so. Never reach over an exposed flame. Light gas (or alcohol) burners only as instructed by the teacher.
50. Never leave a lit burner unattended. Never leave anything that is being heated or is visibly reacting unattended. Always turn the burner or hot plate off when not in use.
51. You will be instructed in the proper method of heating and boiling liquids in test tubes. Do not point the open end of a test tube being heated at yourself or anyone else.
52. Heated metals and glass remain very hot for a long time. They should be set aside to cool and picked up with caution. Use tongs or heat-protective gloves if necessary.
53. Never look into a container that is being heated.
54. Do not place hot apparatus directly on the laboratory desk. Always use an insulating pad. Allow plenty of time for hot apparatus to cool before touching it.
55. When bending glass, allow time for the glass to cool before further handling. Hot and cold glass have the same visual appearance. Determine if an object is hot by bringing the back of your hand close to it prior to grasping it.

Student Name (Please Print): _____