

## Course Expectations for Physics I Honors

Mrs. Elisabeth Williams: Room H210

702.799.5766

eawilliams@interact.ccsd.net

### COURSE DESCRIPTION:

This one-year course is designed for those students who are concurrently enrolled in or have completed Algebra II/Trigonometry and who exhibit an interest in science. Topics included are the following: laboratory procedures, mathematics applications, safety, waves, optics, relativity, kinematics, dynamics, energy, heat, electricity and magnetism, and atomic structure. Physics is a course that uses mathematical relationships to guide students toward a greater conceptual understanding of physical concepts and processes. Demonstrations and/or lab experiences are to be an integral part of this course. This course is distinguished as honors level by the instructional pacing and the delivery of advanced content. Instructional practices will incorporate integration of diversity awareness including appreciation of all cultures and their important contributions to our society. The appropriate use of technology is an integral part of this course. This course will fulfill one science credit toward high school graduation and qualifies as a laboratory science for college entrance.

### COURSE GOALS:

1. To develop skill in using symbols, terms, equations, metric system measurement, and mathematical calculations to express physical processes. [NS: N.12.A]
2. To safely conduct scientific investigations and inquiry using appropriate tools, technology and mathematical concepts. [NS: N.12.A]
3. To incorporate charts, tables and graphs to communicate scientific understandings. [NS: N.12.A]
4. To use principles of physics to analyze the motion of objects. [NS: P.12.B]
5. To explore the dynamics of moving objects. [NS: P.12.B]
6. To examine how energy is transformed from one form to another. [NS: P.12.C]
7. To analyze applications of heat, thermodynamics, and kinetic molecular theory. [NS: P.12.C]
8. To analyze the attributes of fluids. [NS: P.12.C]
9. To recognize that energy may be transferred through wave motion. [NS: P.12.C]
10. To evaluate the behavior of light. [NS: P.12.C]
11. To explore that the conditions of matter can be described in terms of electrical and/or magnetic fields. [NS: P.12.B]
12. To develop an understanding of the nature of the atom. [NS: P.12.A]
13. To analyze fundamental differences between classical and modern physics. [NS: N.12.B]

- 14. To explore how models and modeling are used to explain concepts in physics.
- 15. To develop an awareness of the vocational opportunities in areas related to physics.  
[NS: N.12.B]
- 16. To develop an understanding of character, ethics, and manners as appropriate for this course.  
[NS: N.12.B]

**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 will not be considered when calculating a student’s grade. However, **excessive absences** (Seven unexcused absences during a semester) may result in a loss of credit in accordance with CCSD Regulation 5113. Extra credit will **not** be permitted unless the work is specifically designed to provide more evidence of a student’s progress towards mastery of the established standards.

Teachers will provide students with unit overviews that outline the performance expectations for that unit. These outlines will be accompanied by rubrics that define the levels of proficiency students are expected to demonstrate. The goal is for students to become more involved in monitoring their level of proficiency and participating in Assessment for Learning in order to improve their performance.

Students will be 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

In order to demonstrate sufficient evidence of proficiency, a student will be required to make arrangements with the teacher to make-up any assessments missed due to an absence. Failure to complete required assessments may result in a lower grade or a failing grade due to a lack of evidence.

Throughout the semester, students will be expected to complete formative and summative assessments. The Southwest Career and Technical Academy will be incorporating Project-Based Learning across the curriculum. The project-driven assessments will be

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implemented and assessed according to a standard rubric for all students, based on our beliefs in the attributes of Academic Knowledge, Character, Skills, Work Ethic, and Preparation. Further assessments include, but are not limited to, homework, class activities, participation, lab activities, class projects, quizzes, and exams. For this subject, assessments will be weighted as follows:

## 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 will be the basis of grading during each PBL project. The six tenets are as follows:

- Content Knowledge
- Work Ethic
- Use of Resources
- Teamwork and Collaboration
- Professional Presentations
- Writing Skills

These tenets may also be used in the classroom setting at the teacher’s discretion.

Content Knowledge	30%
Writing Skills	20%
Professional Presentation	20%
Use of Resources	20%
Teamwork and Collaboration	10%
Work Ethic	10%

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 shall reflect assignments and assessments completed throughout the semester and the final exam grade”. Semester grades are not to account for more than 10% of the final grade. Semester grades will be calculated as follows:

Quarter 1 Grade	=	45%
Quarter 2 Grade	=	45%
Semester Exam	=	10%
Semester Grade	=	100%

## REQUIRED MATERIALS

- Spiral notebook designated for Physics work only. Recommend graph paper spiral notebook.
- Scientific calculator. TI-30 or equivalent is adequate (approximately \$10). Use of the calculator app installed on iPods, iPads, cell phones, etc. will not be allowed in class.
- Pencils.

## MAKEUP WORK POLICY

### **The following language is from CCSD Regulation 5113:**

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

After any absence, a secondary student is required to initiate contact with the teacher(s) to obtain appropriate makeup work **within** three school days immediately following the absence. 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

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

Work that is not turned in the class period that it is due is considered late. Assignments will be accepted one day late and will receive just 50% credit. If a student is absent (excused), any work due on the date of the absence is due on the day of his/her return.

## ***DISCIPLINE PROCEDURES AND CITIZENSHIP GRADING:***

### **A. Classroom Discipline Plan**

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

<b>STEP ONE:</b>	<b>Teacher-Student Conference (Warning)</b>
<b>STEP TWO:</b>	<b>Parent Contact by Teacher (Phone or Letter)</b>
<b>STEP THREE:</b>	<b>Counselor Referral</b>
<b>STEP FOUR:</b>	<b>Dean's Referral</b>

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

### **B. Tardy Policy**

Timeliness Is Expected (T.I.E.) program promotes being on time as a basic skill for success that every person needs to possess. Through this program, it is our expectation that SWCTA students arrive on time to every class. Not only are students developing skills for success in high school but for the rest of their lives. Being on time before school may require special attention from the student's parent or guardian.

When a student is tardy during the 2011-2012 school year, the student will bring home a tardy slip. Any tardy during 1st block will result in a deans' detention to be served after school the following day. Detention will be served from 1:30-2:00 in a room designated by the dean's office. In addition to dean's detention, the third tardy in 1st block will also result in a Required Parent Conference, and a sixth tardy will result in one day of suspension. A day of suspension will be given for every tardy thereafter. Tardies received for any other periods of the day will require a parent or guardian to bring the student to school the next day and sign them in at the dean's office. Students who attempt to attend classes before being reinstated will be required to call home and get a parent to come sign them in or get permission to leave campus. Students not signed in will be placed on RPC (Required Parent Conference) pending a parent conference.

It is our goal that all students achieve to the best of their ability. By being on time to each class, students have a better opportunity to be successful. Parents or guardians may contact the Dean's Office at 799-5766 (X4500) in the event that there are questions regarding our Timeliness Is Expected program.

### **C. Cell Phone/Nuisance Item Policy**

The Southwest Career and Technical Academy cell phone/nuisance item policy is in accordance with CCSD Regulation 5136 and the specific needs of the Southwest Career and Technical Academy.

**FIRST OFFENSE:** Warning/Copy of Policy/Confiscation  
**SECOND OFFENSE:** RPC-B/Parent Pick-Up/Confiscation  
**THIRD OFFENSE:** RPC-T/Behavior Contract/Parent PickUp/Confiscation  
**FOURTH OFFENSE:** 1 Day Suspension/Parent Pick-Up/Confiscation  
**FIFTH OFFENSE:** 3 Day Suspension/Parent Pick-Up/Confiscation  
**SIXTH OFFENSE:** 5 Day Suspension/Parent Pick-Up/Confiscation

**C. Citizenship Policy**

CATEGORY	<b>Outstanding (4)</b>	<b>Satisfactory (3)</b>	<b>Needs Improvement (2)</b>	<b>Unsatisfactory (1)</b>
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. <b>Plagiarism</b>

**Student citizenship grades are reported as follows:**

<b>O</b>	=	<b>Outstanding</b>
<b>S</b>	=	<b>Satisfactory citizenship</b>
<b>N</b>	=	<b>Needs Improvement</b>
<b>U</b>	=	<b>Unsatisfactory citizenship</b>

## **CODE OF HONOR**

### **Nevada Department of Education**

There is a clear expectation that all students will perform academic tasks with honor and integrity, with the support of parents, staff, faculty, administration, and the community. The learning process requires students to think, process, organize and create their own ideas. Throughout this process, students gain knowledge, self-respect, and ownership in the work that they do. These qualities provide a solid foundation for life skills, impacting people positively throughout their lives. Cheating and plagiarism violate the fundamental learning process and compromise personal integrity and one's honor. Students demonstrate academic honesty and integrity by not cheating, plagiarizing or using information unethically in any way.

#### **What is cheating?**

Cheating or academic dishonesty can take many forms, but always involves the improper taking of information from and/or giving of information to another student, individual, or other source. Examples of cheating can include, but are not limited to:

- ➡ Taking or copying answers on an examination or any other assignment from another student or other source
- ➡ Giving answers on an examination or any other assignment to another student
- ➡ Copying assignments that are turned in as original work\*
- ➡ Collaborating on exams, assignments, papers, and/or projects without specific teacher permission
- ➡ Allowing others to do the research or writing for an assigned paper
- ➡ Using unauthorized electronic devices
- ➡ Falsifying data or lab results, including changing grades electronically

*\*This includes submitting the same assignment to two separate teachers without prior permission.*

#### **What is plagiarism?**

Plagiarism is a common form of cheating or academic dishonesty in the school setting. It is representing another person's works or ideas as your own without giving credit to the proper

source and submitting it for any purpose. Examples of plagiarism can include, but are not limited to:

- ➡ Submitting someone else's work, such as published sources in part or whole, as your own without giving credit to the source
- ➡ Turning in purchased papers or papers from the Internet written by someone else
- ➡ Representing another person's artistic or scholarly works such as musical compositions, computer programs, photographs, drawings, or paintings as your own
- ➡ Helping others plagiarize by giving them your work

All stakeholders have a responsibility in maintaining academic honesty. Educators must provide the tools and teach the concepts that afford students the knowledge to understand the characteristics of cheating and plagiarism. Parents must support their students in making good decisions relative to completing coursework assignments and taking exams. Students must produce work that is theirs alone, recognizing the importance of thinking for themselves and learning independently, when that is the nature of the assignment. Adhering to the Code of Honor for the purposes of academic honesty promotes an essential skill that goes beyond the school environment. Honesty and integrity are useful and valuable traits impacting one's life.

*\*This includes submitting the same assignment to two separate teachers without prior permission.*

*Questions or concerns regarding the consequences associated with a violation of the Code of Honor may be directed towards your child's school administration and/or the school district.*

# 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.

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**Student Name:** \_\_\_\_\_ **Period:** \_\_\_\_\_

**Dear Families,**

Please sign and detach this portion along the line above and have your child return it to the teacher listed below, so that you may keep this copy of the course expectations for future reference. Please call Elisabeth Williams at 799-5766, if you have any questions regarding the information included in this document. I look forward to meeting you and becoming a partner in your child’s educational experience at Southwest Career and Technical Academy.

**Teacher Signature:** Elisabeth Williams **Date:** August 30, 2011

**I HAVE READ THESE COURSE EXPECTATIONS AND UNDERSTAND THE EXPECTATIONS FOR MY CHILD THIS YEAR.**

**Parent/Guardian Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**I HAVE READ THESE COURSE EXPECTATIONS AND UNDERSTAND THE EXPECTATIONS FOR ME DURING THIS SCHOOL YEAR.**

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

*Please indicate your preference, sign and date this form below.*

- 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.

**Parent/Guardian Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Laboratory Safety Contract**

I have read and agree to follow all of the safety rules set forth in this contract. I realize that I must obey these rules to ensure my own safety, and that of my fellow students and instructors. I will cooperate to the fullest extent with my instructor and fellow students to maintain a safe lab environment. I will also closely follow the oral and written instructions provided by the instructor. I am aware that any violation of this safety contract that results in unsafe conduct in the laboratory or misbehavior on my part, may result in being removed from the laboratory, detention, receiving a failing grade, and/or dismissal from the course.

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Your signature on this contract indicates that you have read this Student Safety Contract, are aware of the measures taken to ensure the safety of your son/daughter in the science laboratory, and will instruct your son/ daughter to uphold his/her agreement to follow these rules and procedures in the laboratory.

**Parent/Guardian Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_