



Eastfield College
STEM Division

Fall 2016
Elementary Physics I
Phys1405 – Sections 41304, 41305, 41306
4 Credit Hours

Lakeview Centennial High School Science Hall Room 2226
Mon-Fri A1, A2, B1, 7:30-9:00am alternating days and online

Instructor: David Downing, MSc

Contact Information:

Office:	Science 2226, Lakeview Centennial High School 3505 Hayman Dr Garland, TX 75043
Phone:	972-240-3740
Email address:	dldownin@garlandisd.net
Hours Available:	Mon-Fri 7:30 AM – 3:15 PM

Course Description (from Eastfield Catalog):

A survey of Physics for liberal arts and other non-science majors. Topics include wave motion, acoustics, electricity, magnetism, optics, relativity, atomic and nuclear physics. The history of scientific developments and their impact on daily life are discussed. Also included are laboratory experiments that emphasize a conceptual understanding of Physics. (3 Lec., 3 Lab.) **Coordinating Board Academic Approval Number 40.0801.51 03**

Textbooks and Other Course Materials to be used at Home or in Class:

Paul G. Hewitt Conceptual Physics 10th Ed Pearson Pub ISBN: 0-8054-9375-7
Scientific or Graphing (preferred) Calculator; College ruled notebook paper; $\frac{1}{2}$ " to 1" 3-ring binder, writing utensils

Developmental Courses

The Texas Success Initiative (TSI) is a statewide program designed to ensure that students enrolled in Texas public colleges and universities have the basic academic skills needed to be successful in college-level course work. The TSI requires assessment, remediation (if necessary), and advising of students who attend a public college or university in the state of Texas. The program assesses a student's basic academic skills in

reading, writing, and math. Passing the assessment is a prerequisite for enrollment in many college-level classes such as English 1301/1302, History 1301/1302, Math 1414, etc. Students who do not meet assessment standards may complete prerequisite requirements by taking developmental courses in the deficient area and passing them with a grade of C or higher. In some cases retesting will also be required. It is up to each student to be aware and informed about requirements that are subject to change.

Additional information is available from the TSI Office.

<https://www1.dcccd.edu/cat0910/admiss/tsi.cfm?loc=4>

Student Learning Outcomes:

Upon successful completion of this course, students will:

- 1 Describe and apply the concepts used in the process of doing Science, including the ability to restate a given problem and identify its essential aspects, determine solution strategies and apply them to develop a solution, verify the correctness of the solution, interpret the results and demonstrate how these results apply to everyday phenomena.
- 2 Apply appropriate physics and other physical science principles, mathematical techniques and equations, laboratory equipment and techniques as well as, computers and associated software, to analyze and solve a variety of physical problems involving macroscopic and microscopic systems.
- 3 Use written and visual communication techniques to analyze, interpret and express physics and other physical science principles as they apply to the real world.
- 4 Demonstrate the ability to work as part of a team by analyzing real-world physics and physical science problems to a) determine which physics principles apply, b) select and set-up appropriate laboratory equipment to collect, record and analyze data, and c) determine and apply appropriate data interpretation methods.

Core Objectives:

PHYS 1407 develops the following Core Objectives: **Critical Thinking** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information. **Empirical and Quantitative Skills** -to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Communication -to include effective development, interpretation and expression of ideas through written, oral and visual communication. **Teamwork** - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.

Core Objective Development Statements: PHYS 1407 develops **Critical Thinking** and **Empirical and Quantitative Skills** by requiring students to analyze, interpret and solve physics and other physical science problems in the real world and in a laboratory setting.

PHYS 1407 develops **Communication** by requiring students to use written and visual communication to express their understanding of core physics and physical science principles through a project presented to their peers and instructor.

PHYS 1407 develops **Teamwork** by requiring students to 1) solve a real-world physics or other physical science problem by applying appropriate physics and other physical

science principles as well as selecting appropriate equipment and methods of collecting, recording, analyzing and interpreting data, and 2) document the process by which they determine the appropriate physics and other physical science principles to apply as well as the appropriate equipment and methods of collecting, recording, analyzing and interpreting data.

Evaluation Procedures:

Examinations, laboratories, quizzes, essays and classwork will be assigned a point value. Examinations value will be weighted dependent on material, difficulty and number of questions. Most examinations will be worth 100 points. Most classwork will be worth 10 points. Most labs will be worth 20 points. Total grade can be calculated by adding up points earned and dividing by total points possible to be converted into a percentage.

Final Grade for course

First six weeks average	2/7 (~28.5%)	90-100	A
Second six weeks average	2/7 (~28.5%)	80-89	B
Third six weeks average	2/7 (~28.5%)	71- 79	C 70 D
Final Exam	1/7 (~14.25%)	below 70	F

Assignments within a grading section in a grading section may be worth a varying number of points. Assignments will not necessarily be worth 100 possible points. Any fractions can be converted to percentages for purpose of individual evaluation but may not be reflected in the gradebook as such.

Obtaining Final Course Grades Using *eConnect*

Final Grade Reports are no longer mailed. Convenient access is available online at www.econnect.dcccd.edu. Use your identification number when you log onto eConnect, an online system developed by the DCCCD to provide you with timely information regarding your college record. Your grades will also be printed on your **Student Advising Report**, which is available in the Admissions Office.

Eastfield College Email Policy

Faculty and students must have and use a DCCCD account for all correspondence relating to academic coursework. For information on setting up a DCCCD student email account go to: <http://www.dcccd.edu/netmail/home.html>

Late work and Retesting policy

Late work that is received after the posted due date according to the Student Calendar provided by the professor that is to be updated periodically in class will be considered late. It is the discretion of the professor to accept late work. Any late work accepted during the following class meeting will receive a penalty of 30% of the grade. Late work beyond that will receive no grade. Retesting for any assignment may or may not be available on a test by test basis to determine student mastery. If a re-test is offered by the professor, it will be of a different nature and may be of a different difficulty than the original test as determined by the professor due to the postponed date of the test. Any exceptions to this policy will be for extenuating circumstances only that are to be

determined at the sole discretion of the professor during an individual meeting. If a student is absent from class, they must e-mail the professor a copy of the assignment before the posted class time and bring a hard copy of the work to the following class. Absences do NOT convey extensions.

The following course outline is not intended to be a calendar of events. It is a rough outline to expect and WILL be changed to meet student's needs. Please see Student Calendar by contacting the professor throughout the semester.

Course Outline:

Week 1	Unit 7 - Thermodynamics
Week 2	Unit 7 – Thermodynamics – Heat Lab
Week 3	Unit 7 – Thermodynamics – Pressure Demonstration
Week 4	Unit 8 – Mechanical Waves – Slinky Lab
Week 5	Unit 8 – Mechanical Waves – Harmonics Lab
Week 6	Unit 9 – Electromagnetic Waves – EM lab
Week 7	Unit 9 – Electromagnetic Waves – Light lab
Week 8	Unit 10 – Electrostatic Forces – Charge lab – Midterm Project
Week 9	Unit 10 – Electrostatic Forces – Attraction lab
Week 10	Unit 11 – Current Electricity – Bulb Lab
Week 11	Unit 11 – Current Electricity – Circuits Lab
Week 12	Unit 11 – Current Electricity – Power Lab – Midterm Projects Due
Week 13	Unit 11 – Current Electricity – Resistors Lab – Semester Project
Week 14	Unit 11- Current Electricity - Circuits
Week 15	Unit 12 – Magnetism – Magnets Lab
Week 16	Unit 12 – Magnetism – Magnetic Field Lab
Week 17	Unit 13 – Quantum and Nuclear – Semester Project Due
Week 18	Semester exam on all units

1:1 iPad Requirements

1. Students are to charge their 1:1 device at home nightly, bringing it to school each day with a full charge (classrooms do not have the capacity for students to charge their devices during the day).
2. Use appropriate language in all communications avoiding profanity, obscenity and offensive or inflammatory speech. Cyber bullying, including personal attacks or threats toward anyone made while using either district owned or personally owned technology, is to be reported to responsible school personnel. Communication should be conducted in a responsible, ethical and polite manner.
3. Use technology for school-related purposes only during the instructional day while refraining from use related to commercial or political purposes.
4. Student will NOT attempt to override, bypass or otherwise change the Internet filtering software, device settings, or network configurations.
5. Student will NOT Attempt to locate, view, share, or store any materials that are unacceptable in a school setting. This includes but is not limited to pornographic, obscene, graphically violent, or vulgar images, sounds, music, language, video or other

materials. The criteria for acceptability is demonstrated in the types of material made available to students by administrators, teachers, and the school media center.

Attendance Policy:

Students are expected to attend all classes. Attendance is taken at the beginning of each class and reported to the office. Excessive absences will drastically affect your ability to succeed in this class. If a student is absent, due dates for work will NOT be extended. Student is expected to attend class online once per week.

Financial Aid Statement

Students who are receiving any form of financial aid should check with the Financial Aid Office prior to withdrawing from classes. Withdrawals may affect your eligibility to receive further aid and could cause you to be in a position of repayment for the current semester. Students who fail to attend or participate after the drop date are also subject to this policy.

Financial Aid Statement for Distance Learning Classes

If you are receiving Financial Aid grants or loans and are enrolled in a Distance Learning class, you must show participation in this class prior to the certification date by either e-mailing or contacting the instructor or logging on to eCampus. Do not drop or stop attending any class without consulting the Financial Aid Office. Changes in your enrollment level and failing grades may require that you repay financial aid funds.

Repeating This Course: (Third Attempt to Enroll in a Course)

Effective for Fall Semester 2005, the Dallas County Community Colleges will charge additional tuition to students registering the third or subsequent time for a course. All third and subsequent attempts of the majority of credit and Continuing Education/Workforce Training courses will result in additional tuition to be charged. Developmental Studies and some other courses will not be charged a higher tuition rate. Third attempts include courses taken at any of the Dallas County Community Colleges since the Fall 2002 Semester. *See Third Attempt to Enroll in a Course at:*
<http://www.dcccd.edu/thirdcourseattempt/>

Academic Honesty Statement

Scholastic dishonesty is a violation of the Code of Student Conduct. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion.

As a college student, you are considered a responsible adult. Your enrollment indicates acceptance of the DCCCD Code of Student Conduct *published in the DCCCD Catalog at*
<http://www1.dcccd.edu/cat0506/ss/code.cfm>

Academic dishonesty includes, but is not limited to, cheating on tests, plagiarism and collusion. **Cheating** includes copying from another student's test or homework paper, using materials not authorized, collaborating with or seeking aid from another student during a test, knowingly using, buying, selling, stealing, or soliciting the contents of an unadministered test, and substituting for another person to take a test. **Plagiarism** is the appropriating, buying, receiving as a gift, or obtaining by any means another's work and the unacknowledged submission or incorporation of it in one's own written work.

Collusion is the unauthorized collaboration with another person in preparing written work for fulfillment of course requirements. Academic dishonesty is a serious offense in college. Retesting may be done at any time to verify student's achievement. You may be asked to re-perform an assignment that is different in nature or difficulty but applicable to the content. You can be failed for the class if you cheated on a major exam or project or final exam, or you can even be suspended from college if you are found to have a prior history of academic dishonesty.

Food and Drink Policy

Food, drinks, and tobacco products are prohibited in Eastfield College classrooms.

Food and drink are not permitted in laboratories unless required for a documented medical reason.

The **Office of Institutional Equity**, in coordination with DCCCD colleges, has the primary responsibility for reviewing, updating and implementing compliance policies and procedures. The Institutional Equity and Compliance Officer and the Office of Institutional Equity will ensure compliance with College District policies, federal and state laws related to sexual assault, Title IX, Title II (Americans with Disabilities Act) and the Military Veterans Full Employment Act to support diversity and inclusion.

Students with Disabilities:

If you are a student with a disability and/or special needs, or if you think you may have a disability, please contact the college Disability Services Office (DSO). Please note that all communication with DSO is confidential. If you are eligible for accommodations, please provide or request that the DSO send your accommodation letter to me as soon as possible (students are encouraged to contact DSO at the beginning of the semester). For more information regarding the College Disability Services Office, please visit the Student Services website: dccc.edu/DSO Offices or contact DCCCD Office of Institutional Equity at (214) 378-1633.

College Disability Services Offices

Brookhaven	972-860-4673
Cedar Valley	972-860-8119
Eastfield	972-860-8348
El Centro	214-860-2411
Mountain View	214-860-8677
North Lake	972-273-3165
Richland	972-238-6180

A Note on Harassment, Discrimination and Sexual Misconduct

We are committed to assure all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX and DCCCD policy prohibit harassment, discrimination and sexual misconduct. If you encounter harassment, sexual misconduct (sexual harassment, sexual assault, stalking, relationship violence, stalking), retaliation or discrimination based on race, color, religion, age, national origin, disability, sex, sexual orientation, gender identity, and/or gender expression, please contact your College Title IX Coordinator or the Office of Institutional Equity. We treat this information with the greatest degree of confidentiality possible while also ensuring student welfare and college safety.

We are concerned about the well-being and development of our students, and are available to discuss any concerns. There are both confidential and non-confidential resources and reporting options available to you. If students wish to keep the information confidential, please contact the college Counseling or Student Health Services. As required by DCCCD policy, incidents of discrimination and/or sexual misconduct shared with faculty will be reported to the College Title IX Coordinator or District Title IX Coordinator. The Title IX Coordinator will contact the student and determine if further investigation is needed. For more information about policies, resources or reporting options, please contact your college Title IX Coordinator or visit www.dcccd.edu/titleIX.

College Title IX Coordinators

Brookhaven 972-860-4825	Terri Edrich TitleIX-BHC@dcccd.edu
Cedar Valley 972-860-8181	Grenna Rollings TitleIX-CVC@dcccd.edu
Eastfield 972-860-7358	Rachel Wolf TitleIX-EFC@dcccd.edu
El Centro ECC@dcccd.edu	Shanee' Moore 214-860-2138
Mountain View 214-860-8561	Regina Garner TitleIX-MVC@dcccd.edu
North Lake 972-860-3992	Rosemary Meredith(acting) TitleIX-NLC@dcccd.edu
Richland RLC@dcccd.edu	Bill Dial 972-238-6386
Dallas Colleges Online LEC@dcccd.edu	Le'Kendra Higgs 972-669-6672

District Title IX Coordinator

Office of Institutional Equity District@dcccd.edu	LaShawn Grant 214-378-1633	TitleIX-
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Religious Holidays

Absences for observance of a religious holy day are excused. A student whose absence is excused to observe a religious holy day is allowed to contract with the instructor to take a make-up examination or complete an assignment within a reasonable time after the absence.

Withdrawal Policy

If you are unable to complete this course, it is your responsibility to withdraw formally. The withdrawal request must be received in the Registrar's Office by **April 16th, 2015**. Failure to do so will result in your receiving a performance grade, usually an "F." If you drop a class or withdraw from the college before the official drop/withdrawal deadline, you will receive a "W" (Withdraw) in each class dropped. For more information about drop deadlines, refer to the current printed Credit Class Schedule, contact the Admissions/Registrar's Office at 972-860-7167 (Room C119), or contact the division office.

STOP BEFORE YOU DROP

For students who enrolled in college level courses for the first time in the fall of 2007, Texas Education Code 51.907 limits the number of courses a student may drop. You may drop no more than 6 courses during your entire undergraduate career unless the drop qualifies as an exception. Your campus counseling/advising center will give you more information on the allowable exceptions. Remember that once you have accumulated 6 non-exempt drops, you cannot drop any other courses with a "W". Therefore, please exercise caution when dropping courses in any Texas public institution of higher learning, including all seven of the Dallas County Community Colleges. For more information, you may access:
<https://www1.dcccd.edu/coursedrops>.

Family Educational Rights and Privacy Act of 1974 (FERPA)

In compliance with the Family Educational Rights and Privacy Act of 1974 (FERPA), the College may release information classified as "directory information" to the general public without the written consent of the student. Directory information includes: (1) student name, (2) student address, (3) telephone numbers, (4) date and place of birth, (5) weight and height of members of athletic teams, (6) participation in officially recognized activities and sports, (7) dates of attendance, (8) educational institution most recently attended, and (9) other similar information, including major field of student and degrees and awards received. Students may protect their directory information at any time during the academic year. If no request is filed, directory information is released upon written inquiry. No telephone inquiries are acknowledged. No transcript or academic record is released without written consent from the student, except as specified by law.

DCCCD Emergency Operating Procedures

http://video.dcccd.edu/rtv/DO/emergency_dcccd.wmv

Classroom Etiquette

Cell phones are asked to be used respectfully as an adult learner is expected to do. Infrequent checking of the time or reading a message is acceptable. No more than a single reply per class period. The allowance to use a cell phone is for planning purposes to allow you to navigate your schedule and NOT to facilitate your conversations. Students

are encouraged to use their cell phone calendars, alarms and reminders to help them organize their materials.

The teacher and the students will respect each other at all times.

Children on Campus

The institution strives to protect an environment most conducive to teaching and learning for all enrolled students. Children who are taking part in organized scheduled activities or who are enrolled in specific classes are welcomed. Minor children, however, should not be brought to the institution unless closely supervised by their parent. Minor children should not be brought into classrooms, laboratories or other facilities of the college. This practice is disruptive to the learning process. In the case of an emergency where the student-parent has no alternative but to bring the child to campus, classroom faculty or the administrative heads of other units have full discretion as to whether a child may be allowed to quietly stay in the location. These individuals may require that children be removed by the student-parent from the setting if, in their opinion, the presence of the child is deemed to be disruptive to the learning process. For reasons of security and child welfare the institution will not permit unattended children to be left anywhere on the premises. Parents who have problems with childcare should visit the Counseling and/or Advisement Center to receive referrals to childcare services in the area.

As a Dual Credit course, dual enrolled in Garland ISD and the Dallas County Community College District, you are expected to follow the Student Code of Conduct of each institution as well as their Grading & Grouping Procedures. Any discrepancies between the two tend to align with the Dallas County Community College District but are to be determined at the discretion of the professor. This syllabus has been approved by the professor (Mr. David Downing, MSc) and the campus principal (Mr. Maresa Bailey).

The instructor reserves the right to amend this syllabus as necessary at any time.