Eastfield College
STEM Division

Spring 2015
Elementary Physics II
Phys1407 – Sections 43360, 43361, 43362, 43363
4 Credit Hours

Lakeview Centennial High School Science Hall Room 2226
Mon-Fri 7:30-9:00 AM 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:
Scientific or Graphing (preferred) Calculator; College ruled notebook paper; ½” 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
<table>
<thead>
<tr>
<th>Week</th>
<th>Unit</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>8</td>
<td>Mechanical Waves – Slinky Lab</td>
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<tr>
<td>5</td>
<td>8</td>
<td>Mechanical Waves – Harmonics Lab</td>
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<tr>
<td>6</td>
<td>9</td>
<td>Electromagnetic Waves – EM lab</td>
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<tr>
<td>7</td>
<td>9</td>
<td>Electromagnetic Waves – Light lab</td>
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<tr>
<td>8</td>
<td>10</td>
<td>Electrostatic Forces – Charge lab – Midterm Project</td>
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<tr>
<td>9</td>
<td>10</td>
<td>Electrostatic Forces – Attraction lab</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>Current Electricity – Bulb Lab</td>
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<tr>
<td>11</td>
<td>11</td>
<td>Current Electricity – Circuits Lab</td>
</tr>
<tr>
<td>12</td>
<td>11</td>
<td>Current Electricity – Power Lab – Midterm Projects Due</td>
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<tr>
<td>13</td>
<td>11</td>
<td>Current Electricity – Resistors Lab – Semester Project</td>
</tr>
<tr>
<td>14</td>
<td>11</td>
<td>Current Electricity - Circuits</td>
</tr>
<tr>
<td>15</td>
<td>12</td>
<td>Magnetism – Magnets Lab</td>
</tr>
<tr>
<td>16</td>
<td>12</td>
<td>Magnetism – Magnetic Field Lab</td>
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<tr>
<td>17</td>
<td>13</td>
<td>Quantum and Nuclear – Semester Project Due</td>
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<tr>
<td>18</td>
<td></td>
<td>Semester exam on all units</td>
</tr>
</tbody>
</table>

**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.

ADA Statement
Students with a physical, mental or learning disability who require accommodations should contact the college Disability Services Office in C237. 972.860.8348 or email efcdso@dcccd.edu. For more information: http://www.eastfieldcollege.edu/SSI/DSO/index.html

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. Angel Rivera).

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