

**COURSE SYLLABUS**  
**PHY135, SECTION 01**  
Fundamentals of Physics  
3 CREDIT HOURS  
Summer 1 2008

**1. LOCATION OF CLASS MEETING**

Room 105 of the Farrington Building

**2. CLASS MEETING TIMES**

Tuesday and Thursday between the hours of 8<sup>00</sup> and 9<sup>50</sup>. Due to the length of the class I would like to break it into two pieces: 8<sup>00</sup>-8<sup>50</sup> and 9<sup>00</sup>-9<sup>50</sup>.

**3. INSTRUCTOR**

The instructor for this class is Dr. Charles R. Meitzler

**4. OFFICE LOCATION**

313 Farrington Bldg.

**5. INSTRUCTOR CONTACT INFORMATION**

The instructor may be contacted in one of several ways:

- 1) Phone 936.294.1606 – VOICE MAIL UNAVAILABLE
- 2) E-mail: crmeitzler@shsu.edu

**6. OFFICE HOURS**

Office hours for this course are at the following times:

<b>Day</b>	<b>Time</b>
Monday	13 <sup>00</sup> – 15 <sup>00</sup>
Tuesday	13 <sup>00</sup> – 15 <sup>00</sup>
Wednesday	13 <sup>00</sup> – 15 <sup>00</sup>
Thursday	13 <sup>00</sup> – 15 <sup>00</sup>
Friday	13 <sup>00</sup> – 15 <sup>00</sup>

**As per University policy, other times are available by appointment only.** These office hours are subject to change and revision without prior notification during the semester for a variety of university related functions or instructor illness.

## 7. COURSE DESCRIPTION

This course is described in the Catalog as:

“These courses are for liberal arts students. They are NOT open to students majoring in programs offered by Chemistry, Physics, Biological Sciences, Geology, or Mathematics. Concepts and principles are stressed. No Mathematics or Physics prerequisites. “

and

“This is an elementary course covering the fundamentals of motion, forces and heat. “

Since there are no math or physics prerequisites, the overall tenor of the course will be a relatively non-mathematical introduction to physics. It is generally assumed that the student has completed high school and has mastered the material described in the K-12 TEKS. (Basic algebra and arithmetic, a working knowledge of units such as “hours,” “miles,” “yards,” etc.)

## 8. COURSE OBJECTIVES

The objectives of this course are set to meet the requirements imposed by the Texas Higher Education Coordinating Board's *Lower Division Academic Course Guide Manual* through the common course numbering system. The common course number for this class is PHYS 1305 Elementary Physics I (*lecture*), and described as “Conceptual level survey of topics in physics intended for liberal arts and other non-science majors. May or may not include a laboratory.” To successfully complete this course, the student should be able to perform the Following tasks:

- 1) State and understand the basic laws of classical mechanics including, but not limited to, Newton's laws of Motion, conservation of energy and momentum..
- 2) Use the laws of physics to conceptually analyze common physical situations
- 3) Understand the basic procedures of vector analysis and apply them to forces; momenta, and angular momentum.
- 4) State and Understand the basic concepts of thermodynamics.
- 5) Use the Laws of Thermodynamics to understand the energy flow through a complex system.

## 9. REQUIRED TEXTBOOKS

The required book for this class is W. Thomas Griffith, *Physics of Everyday Phenomena* 5<sup>th</sup> ed. (McGraw Hill, Boston, ISBN: 0073253154). Students are required to acquire a copy of the textbook prior to the third class meeting.

## 10. REQUIRED SUPPLIES

The following supplies are required for this course:

- 1) Writing instrument
- 2) Scientific calculator with the following higher-order functions: sine, cosine, square root, exponentiation, scientific notation.
- 3) Notebook or ring binder with appropriate paper

- 4) Scantron forms
- 5) Textbook

## 11. OPTIONAL TEXTS, REFERENCES, AND SUPPLIES

No optional texts, references or supplies are required for this course.

## 12. ATTENDANCE POLICY

As per Federal regulations, attendance will be taken at every class by means of a sign-in sheet. The student will be required to sign the sheet. Failure to do so will result in the student being considered absent for the class. Federal regulations, and University policy, require that the instructor reports the last day of attendance any time that a student drops or withdraws from a class.

**Attendance is not used to calculate the final course grade.**

## 13. ASSIGNMENTS

Homework and reading assignments are assigned for each class. It is up to the student to complete these assignments, however, they **will not be turned in for grading**. Solutions will be provided on Blackboard.

## 14. HOMEWORK GRADES

Since homework problems will not be collected, there are no homework grading procedures for this class.

## 15. EXAMS

There will be four exams for this course. All exams will be in multiple choice format and consist of a mixture of conceptual questions and short numerical problems. Because of the nature of the subject, all exams are cumulative, although recent material will be emphasized. The final exam will be held at the time scheduled by the University. The scheduled dates for the midterm exams is given in the tentative schedule at the end of the syllabus.

The following additional rules and conditions apply:

- 1) **Attendance at exams is mandatory.** Failure to attend will result in the grade of zero.
- 2) Midterm grades will be provided on "Blackboard" as a courtesy only - the official grades are maintained off-line.
- 3) **Exam dates will not be changed due to conflicts with other courses.** Failure to attend will result in a grade of zero being given to the student.
- 4) **Make-up exams** will not be given without a valid medical excuse signed by a licensed physician or the student is in compliance with the Religious Holy Days policy given below.

## 16. GRADING PLAN

The official grades and calculations are maintained off-line. Only the official grades are used to calculate the final course grade. The average course grade is calculated as a simple unweighted average of the exam grades.

After obtaining the average, letter grades will be assigned according to the following scale:

A  $90 \leq \text{Avg} \leq 100$

B  $80 \leq \text{Avg} < 90$

C  $70 \leq \text{Avg} < 80$

D  $60 \leq \text{Avg} < 70$

F  $\text{Avg} < 60$

**Be aware: an average of 79.999999999999999999 is a "C."**

### **University mandated parts of syllabi:**

**Student Syllabus Guidelines:** You may find on-line a more detailed description of the following policies. These guidelines will also provide you with a link to the specific university policy or procedure:

<http://www.shsu.edu/syllabus/>

**Academic Dishonesty:** Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. *See Student Syllabus Guidelines.*

**Classroom Rules of Conduct:** Students are expected to assist in maintaining a classroom environment that is conducive to learning. Students are to treat faculty and students with respect. Students are to turn off all cell phones while in the classroom. Under no circumstances are cell phones or any electronic devices to be used or seen during times of examination. Students may tape record lectures provided they do not disturb other students in the process.

**Student Absences on Religious Holy Days:** Students are allowed to miss class and other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Students remain responsible for all work. *See Student Syllabus Guidelines.*

**Students with Disabilities Policy:** It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with

disabilities that might affect their academic performance should visit with the Office of Services for Students with Disabilities located in the Counseling Center. *See Student Syllabus Guidelines.*

Visitors in the Classroom: Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.

# Schedule

Wednesday, May 28, 2008  
1:17 PM

## June 2008

Sun	Monday	Tuesday	Wednesday	Thursday	Friday	Sat
<b>1</b>	<b>2</b>	<b>3</b> H1: Syllabus and Introduction H2: Scientific Method, Galileo (Ch. 1)	<b>4</b> H1: Newtonian Revolution (Ch 1) H2: Motion - Definitions (Ch 2)	<b>5</b> H1: 1D Motion (Ch 2) H2: 2D Motion (Ch 2)	<b>6</b> H1: Freefall (Ch 3) H2: Projectile Motion (Ch 3)	<b>7</b>
<b>8</b>	<b>9</b> H1: H2: <b>Review</b>	<b>10</b> <b>Midterm 1</b>	<b>11</b> H1: Inertia H2: Newton's First Law	<b>12</b> H1: Newton's Second Law (NSL) H2: Application of NSL	<b>13</b> H1: Application of NSL II H2: Newton's Third Law	<b>14</b>
<b>15</b>	<b>16</b> H1: Application of Newton's Third Law H2: <b>Review</b>	<b>17</b> <b>Midterm 2</b>	<b>18</b> H1: Circular Motion H2: Work and Energy	<b>19</b> H1: Work-Energy Theorem H2: Other forms of Energy	<b>20</b> H1: Conservation of Energy H2: Momentum & Impulse	<b>21</b>
<b>22</b>	<b>23</b> H1: Collisions H2: <b>Review</b>	<b>24</b> <b>Midterm 3</b>	<b>25</b> H1: Rotational Motion H2: Angular Momentum & Torque	<b>26</b> H1: Fluid Motion H2: First Law of Thermodynamics	<b>27</b> H1: Thermal Transport H2: Second Law of Thermodynamics	<b>28</b>
<b>29</b>	<b>30</b> H1: Entropy H2: <b>Review</b>					

## July 2008

Sun	Monday	Tuesday	Wednesday	Thursday	Friday	Sat
		<b>1</b> <b>Final Exam</b>				

### Chapters in Textbook That We Will Cover

- 1 Physics, the Fundamental Science
- The Newtonian Revolution
- 2 Describing Motion
- 3 Falling Objects and Projectile Motion
- 4 Newton's Laws: Explaining Motion
- 5 Circular Motion, the Planets, and Gravity
- 6 Energy and Oscillations
- 7 Momentum and Impulse
- 8 Rotational Motion of Solid Objects
- 9 The Behavior of Fluids
- 10 Temperature and Heat
- 11 Heat Engines and the Second Law of Thermodynamics