

Department of Chemistry and Physics, Augusta University

**PHYS1111-A: Introductory Physics, Fall-2017**  
**Course Syllabus (updated 08/10/17)**

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<b>Office hours:</b>	MWF (10:00am – 11.00am)
<b>Supplementary Session:</b>	Time to be determined based on majority's request.

**Required Texts:**

College Physics: A Strategic Approach, by Knight, Jones, and Field, 3<sup>rd</sup> edition.  
(Publisher: Pearson-Addison-Wesley)

**Required Ancillaries:**

Mastering Physics: A Web-Based Homework System

**Course Format:**

50 minutes Lectures are on Monday, Wednesday and Friday from 12.00AM – 12:50PM in room 1002 (Science Hall).

**Background:**

Working knowledge of Algebra and Trigonometry is required.

**General Learning Outcomes**

- Learn to employ high scientific standards in written work (homework, quizzes, and exams).
- Demonstrate appropriate academic engagement (preparation for class, attendance, timeliness, etc.)
- Learn to demonstrate the ability to work affectively as part of a team in study groups.
- Practice clearly and concisely articulate scientific ideas and arguments through written works.
- Construct logical arguments based on the interpretation of scientific data.
- Demonstrate knowledge of physics related to mechanics.

**Specific Course Objectives**

- To develop an understanding and appreciation of the principles of physics related to Mechanics and waves.
- To understand how the applications of these physics principles have led to the development of our modern technology-based society.
- To develop analytical thinking skills through extensive problem-solving.

## Text Coverage:

Chapter 1: Introduction.

Chapter 2: Motion in 1D.

Chapter 3: Vectors and Motion in 2D.

Chapter 4, Chapter 5, and chapter 7 [all together, but very little from chapter 7 (torque and Newton's law for rotation)]: Force and Newton's Laws.

Chapter 6: Gravity and Circular Motion.

Chapter 9: Linear Momentum (plus Angular Momentum).

Chapter 10: Energy Approach to Motion.

Chapter 14: (some selected topics) Oscillations

Chapter 13: (some selected topics): Fluid.

Chapter 11&12: (Some selected topics if time permits): Thermodynamics.

## Grading:

Examinations: There will be three exams during the semester and a final exam at the end of the semester.

Exam I:	Chapters 1 - 3	(tentative)	Sep 13
Exam II:	Chapters 4, 5, 7	(tentative)	Oct 11
Exam III:	Chapters 6, 9, 10	(tentative)	Nov 17
FINAL EXAM:	Cumulative		Dec 08.

This is a *tentative* schedule; I will let you know during the regular class if I have any changes.

No cell phones are allowed in the exam rooms. A scientific calculator will be allowed (no programmable calculators).

There will be **NO** make-up examinations without a reasonable excuse (If you have a reasonable excuse, you **MUST** let me know before the exam. Otherwise, a make-up exam will not be accommodated. You **MUST** provide a written explanation, if you request a make-up exam and get a written approval from me). The lowest exam grade during the semester (I, II, or III) will be dropped. If you miss two midterm exams, you will have to retain one of the grades of zero.

Lecture: A tentative schedule for lectures is provided in this syllabus with an expectation that you will read those sections of the text before coming to the lecture. The pre-class reading provides an introduction to the material whether you understand it completely or not; the lecture elaborates on the reading and addresses potential difficulties. Finally, the text serves as a reference and a study guide. You should be aware that there might be some material in the text that I may not discuss in the lecture but will ask you to read on your own and hold you responsible for.

There will be in-class quizzes and take-home quizzes involving multiple-choice type and other questions. **In-class quizzes will not be announced in advance. Make-up quizzes will not be arranged. Take home quizzes must be handed-in at the beginning of the following lecture. Late quizzes will not be accepted.**

Homework Assignments: Approximately, there will be one homework assignment every week. Homework assignments will be submitted online using “Mastering Physics” website (<http://www.MasteringPhysics.com>). Students are encouraged to work together on these problems but submit their own solutions.

The textbook bought from the bookstore comes with an access code needed to register to the course in “MasteringPhysics”. If you bought a used textbook, you can purchase the access code from the Mastering Physics website. Once you have an access code, please go to website <http://www.MasteringPhysics.com> to register as a new student. In order to register to our course, you will need the course ID, student ID and login name. Please use the information below for MasteringPhysics homework system:

**Course Title is: PHYSICS 1111-A FALL 17**

**Course ID is: AUPHYS1111AF17**

**Student ID: LAST NAME, FIRST NAME**

**Your log in name:** AU campus email ID (the part before @augusta.edu).

For each of the problems, you will have **only six** attempts. Late submission will not be accepted, but you are allowed to rework/practice after the due date. For multiple choice questions, you will lose 25% for each of the tries. You will not lose credit by opening a hint.

Discussion: I will conduct some optional supplementary discussion regularly. I will decide the time based on majority’s availability and let you know the details during the class. I strongly encourage you to attend these supplementary discussions. In the supplemental instruction class concepts presented in the lecture and the text will be reviewed and approaches to problem-solving will be introduced. Hints for solving homework assignments may be given. Try to use these sessions to get your questions answered.

### **Final Grade Determination:**

Your final grade will be based on three midterm exams, final exam, take-home and classroom quiz grades, and HW grades as follows:

2 × 20%: Three midterm exams (lowest midterm will be dropped)

25%: Final exam

10%: Mastering Physics HW grade

10%: In-class Quizzes

15% Take-home quizzes

Final Grades will be as follows:

A ≥ 90%

B ≥ 80%

C ≥ 70%

D ≥ 60%

F < 60%

**NOTE:** Any additional work will be counted under one of the five categories above in an appropriate manner.

### **Graded Exam/HW/Quiz Return:**

As a result of the large number of students in the class, graded materials will not be returned during the class time. When graded materials are available to return, I will arrive 5 minutes early and wait few minutes after the class, just outside the classroom to return these materials. If you cannot show up few minutes early or cannot wait few minutes after, you *must* stop by my office to pick your graded materials. It is *your responsibility* to pick up and keep your graded materials in your Physics-1111 folder.

### **Physics Home Page:**

The website for our PHYS-1111A course is located at <https://lms.gru.edu> (Disire2learn). The PHYS-1111A home page includes items such as: (1) course syllabus (2) my hand written notes (3) homework and HW/exam solutions (4) quizzes, (5) discussion problems, and (7) announcements etc. Check course page on D2L regularly for announcements and new materials.

### **Office Hours:**

My office hours are on Mondays, Wednesdays, and Friday as follows.

MWF: 10:00-11:00AM

If you need to see me some other times, you can email me and make an appointment or simply stop by my office to see whether I am available to talk to you. When you have a question or feel confused, or need to discuss anything, please see me.

### **Use of Electronic Devices:**

You are not allowed to use any electronic devices during the lecture unless you use them for educational purposes. If I notice that you are surfing web or texting while I am engaging with you, I will ask you to *LEAVE* the classroom.

### **Students with disabilities:**

If you are a student entitled to an accommodation, you must see me before the accommodation can be made for you. You must bring an appropriate letter from the students with disabilities office along with you.

### **Students in Intercollegiate Sports:**

It is the responsibility of students participating in intercollegiate sports to make up any assigned work. You must make appropriate arrangements with me in advance.

### **Attendance Policy:**

You are expected to prepare for, arrive on time, and attend all scheduled classes. A student who misses more than 10% of class time may be subjected to withdrawal from the class. In the event of illness or emergency, you are expected to inform me the reason and valid documentations.

If you miss a scheduled class session without an excused absence is not entitled to any special consideration to make up missed work. These students will be treated in accordance with the Augusta University standard attendance policies. If you are late to the class, it is your *responsibility* to pick up any handouts distributed at the beginning of the class.

### **Academic Honesty and Integrity:**

Each student in this course is expected to abide by the Augusta University Code of Academic Honesty and Integrity. You are encourage work together and discuss concepts with other students. You can give “consulting” help or receive ‘consulting” help from such students. However, this permissible cooperation should never involve one student having possession of a copy of all or part of the work done by someone else.

### **Disorderly Conduct:**

Augusta University prohibits behavior that disrupts the academic, research or service mission or activities of the University, or disrupts any activity or event of the University community. Some examples of disorderly conduct include, but are not limited to, the following: conduct which causes a breach of the peace; lewd, obscene or indecent conduct; conduct which interferes with or disrupts activities or functions sponsored or participated in by the University or by members of the University community; conduct that is disruptive to a classroom lecture, lab, or other teaching or research entity of the University, interfering with or obstructing pedestrian or vehicular traffic; obstructing or interfering with ingress or egress of campus buildings or facilities; conduct which interferes with the rights of others; unauthorized use of electronic or other devices to make an audio or video record of any person without his or her expressed or implied consent when such recording is likely to cause injury or distress.

In addition to the above-mentioned policy, you are also obligated to follow the Student Manual guidelines which is available at [gru.edu/students/conduct/documents/fy15\\_student\\_manual.pdf](http://gru.edu/students/conduct/documents/fy15_student_manual.pdf).

### **Other Policies:**

Standard Augusta University policies will be followed for all others (such as attendance policy, grade change policy, etc.). These policies are available at <http://www.augusta.edu/compliance/policyinfo/>.

### **Disclaimer:**

I reserve the right to alter conditions and items found in this document at any time during the course of the semester through an announcement made in a scheduled lecture session.

### **Copyright Statement:**

All exams, lecture notes, and other materials related to this course are copyrighted and owned by me! Lecture notes and other materials are downloadable from the course web page on D2L. However, ***no other reproduction and/or distribution are allowed!***

## Guidelines for Presentation of Take-Home Quiz Solutions

(Unless asked you to write them on the given paper)

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*Theja De Silva, Department of Chemistry and Physics, Augusta University*

Grading homework is never an easy task, so please help me by making your solutions neat and clear. It is to your advantage to do so, as well, because the amount of feedback and credit that I can give to you will depend on whether I can follow your work. Here are some points to keep in mind while writing your solutions. I will take off points, or even not grade your work at all, if you do not follow reasonably well these guidelines. Full credit can be assured only if your solution is correct *and* your presentation is acceptable. For full credits, you *must* show all your work and provide reasoning when necessary.

1. Use standard *unfolded* 8½ by 11 inch paper.
2. Please staple together all of your pages and be sure to write your name on each page.
3. Print your name and the number of the assignment at the top of the first page.
4. Do not use red ink or red pencil.
5. Present your solutions in the order that the problems are assigned. Number them as in the assignment. I do not expect to hunt through your pages for randomly ordered or unlabeled problems.
6. Each solution to a problem or answer to a question should begin at the left margin of the paper. In other words, do not work in multiple columns. Your work should flow neatly from left to right and top to bottom.
7. Some notes explaining what you are doing, when not obvious, are always appreciated and often necessary in order to make sense of your work.

# Learning Tips for Introductory Physics

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*Theja De Silva, Department of Chemistry and Physics, Augusta University*

*Physics is unlike any other subject you will encounter. It requires a unique approach: concepts and practice (physics education experts say that you need to spend at least two hours outside the class for one hour lecture)*

## General Tips:

- Don't memorize.
- Never miss class (if you can't make it due to emergencies, let me know right away).
- Arrive on time, do not be late.

## Basic Math you need to know:

- Vectors.
- Trigonometry.
- Algebraic expressions.
- System of equations.

If you are weak in these skills, practice some before it's too late. You can attend my optional supplementary class to ask/learn some math.

## Problem solving Strategies (in order)

- Draw a cartoon pictures while gathering information.
- Understand the question, keep reading until you understand the questions completely.
- Use intuition.
- Decide which physics concepts to apply and then use the physics concepts.
- Math.
- Check whether your answer make sense.

## During the class

- Ask questions if you do not understand.
- Use me as a resource inside and outside the class to learn, but if you are not willing to make an effort, do not waste your time and mine.
- Do not surf the web during the class.
- When you have a question, be sure to get it answered - in class or outside the class. Compare and integrate the material you encounter in the text, the lecture, the discussion, the problems and the lab. Work with other students, share your knowledge with others, but do not copy if you do not understand, ask it!
- Keep up your work, do not plan to pick up the materials later, there is *no way* to get back on track.
- Make sure to use of our tutor/learning center on the third floor atrium of science hall, Academic success center, and supplementary discussion section throughout the week. Make sure your tutor's answers make sense to you, do not just copy tutor's work. If ask from a second person and make sure to understand the concept.

## Outside the class

- Redo all the example discuss in class.
- Redo all discussion problems provided/discussed in class.
- Complete all suggested problems. These problems can be in your in-class quizzes and exams.

## **Exam/Quiz re-grade Request Procedure**

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A copy of a solution to the exams will be posted on D2L soon after the exam. Most of the quiz problems will be discussed in class.

To be eligible for a re-grade, the original exam/Quiz must not be written on or altered in any way. To discourage anyone from altering their exam/Quiz, a selected set of exams/Quiz are photocopied prior to their return.

The re-grade request must be:

- 1) Written on a separate sheet of paper.
- 2) It must be dated and clearly signed. It must be clearly written and the specific questions for re-grades stated with respective rationales for reconsideration of the grading.
- 3) This separate sheet should then be stapled to the front of the exam/Quiz.
- 4) The request *must* be due within one week after the first return of exam/Quiz.

Policies:

In the past, in re-grading I have received a number of poorly considered requests for re-grades. There have been too many students not understanding a question and how to do it correctly, and what they did wrong, but still requesting a re-grade. The policy is that for each question asked for a re-grade, you may be subject to a penalty of 1 point if I feel that you are just on a “fishing trip”.

Of course, there is no surcharge in case of any addition mistake in totaling of the whole exam or with respect to the parts of a particular question.

# PHYSIC 1111- Spring 2017: Sections A Tentative Schedule

## AUGUST

<b>Mon</b>	<b>Tue</b>	<b>Wed</b>	<b>Thu</b>	<b>Fri</b>
		<b>16</b>	<b>17</b>	<b>18</b>
		Introduction		Chapter 1
<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>
Chapter 1		Chapter 1		Chapter 2
<b>28</b>	<b>29</b>	<b>30</b>	<b>31</b>	
Chapter 2		Chapter 2		Chapter 2

## SEPTEMBER

<b>Mon</b>	<b>Tue</b>	<b>Wed</b>	<b>Thu</b>	<b>Fri</b>
				<b>1</b>
				Chapter 3
<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Labor Day		Chapter 3		Chapter 3
<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
Chapter 3		Exam-I		Chapter 4
<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>
Chapter 4		Chapter 5		Chapter 5
<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>
Chapter 5		Chapter 5		Chapter 5

OCTOMBER

<b>Mon</b>	<b>Tue</b>	<b>Wed</b>	<b>Thu</b>	<b>Fri</b>
<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
		Chapter 5		Chapter 7
<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>
Chapter 7		Exam-II	Fall Pause	Fall Pause
<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
Chapter 6		Chapter 6		Chapter 6
<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>
Chapter 6		Chapter 9		Chapter 9
<b>30</b>				
Chapter 9		Chapter 9		Chapter 9

NOVEMBER

<b>Mon</b>	<b>Tue</b>	<b>Wed</b>	<b>Thu</b>	<b>Fri</b>
		<b>1</b>	<b>2</b>	<b>3</b>
Chapter 10		Chapter 10		Chapter 10
<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
Chapter 10		Chapter 10		Chapter 14
<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>
Chapter 14		Chapter 14		Exam-III
<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>

Chapter 13		Thanks Giving		Thanks Giving
<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>	
Chapter 13		Chapter 13		Chapter 13

DECEMBER

<b>Mon</b>	<b>Tue</b>	<b>Wed</b>	<b>Thu</b>	<b>Fri</b>
				<b>1</b>
Chapter 11-12		Chapter 11-12		Chapter 11-12
<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Chapter 11-12		Review		Final Exam