PHYS1111-D&E: Introductory Physics, Spring-2017
Course Syllabus (updated 1/4/17)

Theja N. De Silva
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MON, WED, FRI: 10.00 – 10:50AM in University Hall 350

Contact Info:

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Required Texts:

College Physics: A Strategic Approach, by Knight, Jones, and Field, 2nd edition.
(Publisher: Pearson-Addison-Wesley)

Course Format:

50 minutes Lectures are on Monday, Wednesday and Friday from 10.00AM – 10:50AM in room 350 (University Hall). Laboratory sections are taught by different instructors and they are scheduled separately.

Background:

Working knowledge of Algebra and Trigonometry is required. In addition I do not assume that you have had high school physics or any previous physics course.

General 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.
- To perform laboratory experiments that illustrate important concepts, principles and laws of physics learnt in class.

Text Coverage:

Chapter **1**: Introduction and some Math.
Chapter **3** (sections 3.1 through 3.3): Vectors.
Chapter **2**: Motion in 1D.
Chapter **3** (sections 3.6 through 3.8): 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)	Feb 08
Exam II:	Chapters 4, 5, 7	(tentative)	Mar 15
Exam III:	Chapters 6-10	(tentative)	APR 17
FINAL EXAM:	Cumulative		To be anounced.

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). 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. Students are encouraged to work together on these problems but submit your own solutions. You can hand in your HW solutions in class or you can drop them in my office before the due date/time. **Late homework will not be accepted.** For full credits, you **must** follow the homework guidelines given at the end of this syllabus. If you do not follow these guidelines, I may return your solutions without grading and you will have to retain *zero* grade.

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.

Laboratory: The lab sections will be taught by a different instructor. Lab handout contains a detailed explanation of each week's lab activities. These lab activities consist of demonstrations and experiments to develop, amplify, and/or empirically introduce ideas presented in lecture and in the text. Unless otherwise notified, all lab sections meet in W3007, Science Hall.

Lab handouts, schedule, pre-lab worksheets, and video help are posted on D2L course page and my personal webpage.

Make sure to complete your pre-lab worksheet before you get to the lab. Also, make a copy of your lab hand before you get into the lab.

Final Grade Determination:

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

2 × 15%: Three midterm exams (lowest midterm will be dropped)
25%: Final exam
15%: HW grade
15%: Laboratory grade
15%: In-class and 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.

Physics Home Page:

The website for our PHYS111 course is located at https://lms.gru.edu (Disire2learn). The PHYS1111 home page includes items such as: (1) course syllabus (2) 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.

MON: 2:00-3:00PM, WED: 11:00AM-1:00PM, and FRI: 1:00-3:00PM.

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.

Attendance Policy:

You are expected to prepare for, arrive on time, and attend all scheduled classes and lab sessions. 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.

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 o 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.

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.

Guidelines for Presentation of Homework Solutions

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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.

8. Each of the homework problems will be graded using 1-5 scale.

Learning Tips for Introductory Physics

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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.

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 and discussion section throughout the week.

PHYSIC 1111- Spring 2017: Sections D&E
Tentative Schedule

JANUARY

Mon	Tue	Wed	Thu	Fri
			5	**6**
			Introduction	Chapter 1
9	**10**	**11**	**12**	**13**
Chapter 1		Chapter 1		Chapter 1
16	**17**	**18**	**19**	**20**
Chapter 3		Chapter 3		Chapter 2
23	**24**	**25**	**26**	**27**
Chapter 2		Chapter 2		Chapter 3
30	**31**			
Chapter 3				

FEBRUARY

Mon	Tue	Wed	Thu	Fri
		1 Chapter 4	2	3 Chapter 4
6 Chapter 5	7	8 Exam-1	9	10 Chapter 5
13 Chapter 5	14	15 Chapter 5	16	17 Chapter 7
20 Chapter 7	21	22 Chapter 7	23	24 Chapter 6
27 Chapter 6	28			

MARCH

Mon	Tue	Wed	Thu	Fri
		1 Chapter 6	2	3 Chapter 9
6 Chapter 9	7	8 Chapter 9	9 Spring Pause	10 Spring Pause
13 Chapter 9	14	15 Exam-II	16	17 Chapter 10
20 Chapter 10	21	22 Chapter 10	23	24 No Class
27 Chapter 10	28	29	30	31

APRIL

Mon	Tue	Wed	Thu	Fri
3	**4**	**5**	**6**	**7**
Chapter 14		Chapter 14		Chapter 14
10	**11**	**12**	**13**	**14**
Chapter 14		Chapter 14		Chapter 13
17	**18**	**19**	**20**	**21**
Exam-III		Chapter 13		Chapter 13
24	**25**	**26**	**27**	**28**
Chapter 13		Chapter 11-12		Chapter 11-12