

# SYLLABUS

## PHY 3221, Classical Mechanics I, Spring Term 2019

Instructor: Sergey Klimenko, [Klimenko@phys.ufl.edu](mailto:Klimenko@phys.ufl.edu), 352-514-8225

Meeting time: Monday, Wednesday, Friday, period 6, 12:50-1:40 pm in NPB 1011

Office Hours: NPB 2019, Fridays 3-4pm

**Synopsis:** This course is the first part of two-semester sequence (PHY 3221-4222) in undergraduate level classical mechanics. The goal of the first semester is to develop a bridge from the elementary course (PHY2048) to the Lagrange and Hamilton formulation of mechanics to be studied in depth in the second semester of the course (PHY4222). Physics 3221 will cover chapters 1-7 of the textbook by John R. Taylor. Topics include matrices, vector calculus, Newtonian mechanics, frames of reference, conservation laws, harmonic oscillator and calculus of variations.

**Prerequisites:** Introductory physics with calculus PHY 2048 or equivalent. Fluency in algebra, trigonometry and calculus is necessary for your success in Mechanics I. Calculus III will be used extensively throughout the course. A course in differential equations is recommended.

**Required textbook:** The main text is John R. Taylor, "Classical Mechanics". The textbook is necessary - we shall work through most of the end-of-chapter problems in class and on the homework. The UF library the library has this book on PHY3221 course reserves for the spring term.

**References:** [Classical Dynamics of Particles and Systems](#) by S. T. Thornton and J. B. Marion [An Introduction to Mechanics](#) by D. Kleppner and R.J. Kolenkow (These books are on course reserve at the Smathers Library). These books are recommended for additional reading (non-examinable). The UF library the library has these books on PHY3221 course reserves for the spring term. For additional reading I also recommend a comprehensive book on [Mechanics, volume 1 by Landau and Lifshiz](#). Links to all references are shown here: <http://phys.ufl.edu/courses/phy3221/spring19/links.html>

**PHY 3221 web page** is <http://www.phys.ufl.edu/courses/phy3221/spring19/> The web page will contain information relevant for the class. There you will find the homework

assignments, the class diary and solutions to the exams. Please, check for updates regularly, especially if you miss a lecture.

**Homework:** Tentatively there will be eleven graded homework (HW) assignments during the semester. Homework assignments and due dates, subject to change, are posted on the [Homework](#) link of this website. Homework will be collected in class on the due date. ***HWs will not be accepted out of class and overdue HWs will not be graded.*** Make your solutions neat, concise, and intelligible. It is not sufficient just to state the answer. Points may be deducted, if it is difficult to find and/or understand the solutions. If you miss a homework deadline for any reason, there is virtually no possibility of a makeup or extension. Instead the lowest homework score will be dropped at the end of the semester. The graded HWs will be worth 30% of the total grade (see grading policy below).

**In-class exams:** There will be three in-class exams scheduled on February 11, March 22 and April 22. There is no final exam for this course. Each exam will contribute 20% towards the final grade. All three exams will be "closed book" and **NO** cell-phones or other hi-tech gadgets are allowed. Calculators are permitted. Relevant Principal Definitions and Equations from the textbook will be provided

**In-class quizzes:** There will be a certain number of quizzes throughout the semester. The quizzes will not be announced in advance. No quiz shall be given during the week of one of the exams, during the first or last week of classes or during the homework due date. Each quiz will last 10 min and will be administered at the beginning of the lecture. All quizzes will be "closed book" and **NO** cell-phones or other hi-tech gadgets are allowed. There will be no make-up quizzes, but the lowest quiz score will be dropped. The lowest score is 0 for missed quizzes and 1-4 for taken quizzes. The quizzes will contribute a total of 10% towards the final grade.

**Grading policy:** Grades will be based on your homework assignments (30%), three exams (60%) and quick quizzes in class (10%). Your final grades will be based on the percentage from the maximum possible total score:

|              |            |            |            |            |            |            |            |
|--------------|------------|------------|------------|------------|------------|------------|------------|
| <b>grade</b> | <b>A</b>   | <b>A-</b>  | <b>B+</b>  | <b>B</b>   | <b>B-</b>  | <b>C+</b>  | <b>C</b>   |
| <b>score</b> | <b>90%</b> | <b>85%</b> | <b>80%</b> | <b>75%</b> | <b>70%</b> | <b>60%</b> | <b>50%</b> |

The corresponding grades are assigned at or above the score threshold shown in the table. These thresholds may be lowered, depending upon numerous factors, but will not be raised. **C is the lowest passing grade for physics majors!**

**The grader for the course is Makaju, Rebika , NPB B174,** [rmakaju@ufl.edu](mailto:rmakaju@ufl.edu)

Office hours: Wednesdays, 2-3pm

For additional details regarding grading policies, please, see the university website:  
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

**Requirements for class attendance and make-up** exams, assignments and other work in this course are consistent with the university policies that can be found at:  
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

**Students with disabilities** requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/) ) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

**Students are expected to provide feedback** on the quality of instruction in this course by completing the online evaluations at <https://evaluations.ufl.edu> . Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>

**UF students are bound by The Honor Pledge** which states “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. The Honor Code can be found here: <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

### **Counseling and Wellness Center**

Contact information for the Counseling and Wellness Center:

<http://www.counseling.ufl.edu/cwc/Default.aspx> (392-1575),

and the UF Police Department: 392-1111 or 911 for emergencies.