Syllabus for PHYS 301
Classical Mechanics – Spring 2014

Class Times: MWF 9:00-9:50 AM, RHSC 126
Instructor Information: Dr. Mike Larsen
Office Phone: 843-953-2128
Office Hours: Mondays, 8:00 - 9:00 AM; Mondays 2:00-3:00 PM; Tuesdays 10:30-11:30 AM; and Tuesdays 12:30-1:30 PM. Also available by appointment.
Office Locations: RHSC 310 (I also am sometimes elsewhere during my office hours, but I am fastidious about making sure my office door accurately describes where I am during my office hours; check the door of room 310 for my current location.)
Email address: LarsenML@cofc.edu (please use sparingly; I'd rather talk to you in person if you have a question or a concern.)
Prerequisite or Corequisite: PHYS 112 or HONS 158 and MATH 323 or Permission of Instructor
Course Webpage: http://larsenml.people.cofc.edu/phys301_spr14.html
(Please see course page for supplementary information).

Textbook: Taylor, John R. (2005). *Classical Mechanics*. University Science Books. ISBN: 978-1891389221.

Final Exam Time Period: Friday, May 2nd, 8-11 AM.

Tentative Midterm Test Dates (Subject to Change) Following your doodle poll results, it appears that everyone has a contiguous window of at least 1.5 hours available between noon and 10 PM on Thursdays. Thus, we will schedule the exams to be in that window. The rules are that you can show up anytime after noon. You can stay as long as you want, as long as you complete the exam by 10 PM. If you leave, however, you may not come back. The exams are written to be complete-able within an hour and a half, but you are given a longer time window to enable you time to fix mistakes and check your work. The tentative dates for the exams are:

Thursday, February 13th.
Thursday, March 27th.
Thursday, April 24th. (This is reading day. If there are objections to this, we could move the test up to Tuesday, April 22nd. Let me know of any objections via email prior to the first exam in early February)

Attendance Policy
It is expected that you will attend class. I will. You are responsible for any material missed in class, including announcements about homework/test date changes, etc.

Classroom Policies
Please treat your classmates and professor with the respect due to them as fellow adults and human beings. Your professor always reserves the right to dismiss you from the room.
Please do not text message, browse the internet, check email, or engage in other non-class-related communications during class.
Cell phones – Few things irritate your professor as much as having his lecture interrupted by a cell phone ring. It totally makes him lose his train of thought. Please be considerate and turn it on vibrate during lectures. Also, all cell phones must be turned off (NOT JUST TO VIBRATE) during all exams.

Honor Code / Code of Conduct
It is expected that you will adhere to the university's honor code and student code of conduct, as can be found in your student handbook.

Students with Disabilities
The College will make reasonable accommodations for persons with documented disabilities. Students should apply at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying your professor as soon as possible and subsequently contacting your professor again at least one week before any specific accommodation is needed.

Grading

Grades will be based on three components:

- Performance on exams (15% each) (combines for 45% of the class grade)
- Performance on regularly assigned homework (40%)
- Performance on the comprehensive final examination (15%) (can count for up to 30%; see below).

Your instructor makes every effort to return homework and exams as soon as possible after receiving them. Because of this, you will often receive homework back the class after it was due and you will often go through some of the problems in class. Since it would be unfair to accept work from students who had the advantage of hearing the correct answers in class, late work will be docked 50% if turned in between the original due date and the next class, and will not be accepted for credit more than one class after it was originally due. Your lowest homework grade will be dropped.

There will be no makeup exams for any reason. If you have a conflict with a scheduled exam, you may work with your professor to try to schedule to take the exam **before** *the scheduled exam time (but not after).* If you have a known conflict – due to a sporting event, religious observance, interview, or other important event – it is your responsibility to use office hours to discuss options with the instructor *well in advance of the exam date* to try to work out a mutually acceptable solution.

Following policy, the final exam is required. There is a little extra wrinkle regarding the final, however; the (comprehensive) final will count for at least 15% of your grade, but may count for up to 30%. I will allow you to replace your lowest exam score with your final exam grade, if your final exam grade is better than your lowest exam score. Because you have the ability to drop this lowest exam score, *no makeups for missed exams will be given!!!* The "0" score you record on the missed exam will be replaced by your final exam score. That does mean, however, that your "safety net" is gone; if you do poorly on one of the other exams, unfortunately you will not be able to erase that score. Grading Scale: The formal numerical scale might move around a little bit depending on the class' performance, but the final grading scale will be *no more stringent* than:

A	>90	C+	79
A-	90	C	71-78
B+	89	C-	70
B	81-88	D	60-69
B-	80	F	<60

Course Goal
This course is designed to aid students in problem solving associated with Newtonian, Lagrangian, and Hamiltonian mechanics of particles and rigid bodies.

Learning Objectives
This course endeavors to aid the motivated student in the following tasks:

- Using the concepts of momentum, angular momentum and energy in order to infer the equations of motion of classical systems.
- Develop a working understanding of Newtonian, Lagrangian, and Hamiltonian mechanics.
- Learn how to describe the statics, dynamics, and kinematics of non-relativistic systems.

Learning Outcomes
At the end of this course, successful students will be able to:

- Write down the equations of motion for various classical systems.
- Use Lagrange's and/or Hamilton's equations to describe classical systems.
- Successfully solve standard problems that fall within the realm of non-relativistic classical mechanics.