

**PHYS121**  
Spring 2012

**David Buehrle**  
301.767.2313  
[dbuehrle@umd.edu](mailto:dbuehrle@umd.edu)

**Title:** Fundamentals of Physics I

**Lecture:** Tuesday 7:00 PM – 8:50 PM Thursday 6:30 PM – 7:20 PM, Rm 1412

Course	Section	TA Fraction	Type	Instructor	Time	Room	Name	Office - Phone	Email
Phys121	0401	0.33	lab	D. Buehrle	M 2000-2150	PHY3306	Severson, Matthew	4110 John S. Toll Physics Building - x5 6019	mseverso@umd.edu
Phys121	0401	0.17	dis	D. Buehrle	W 1830-1920	PHY3301	Severson, Matthew	4110 John S. Toll Physics Building - x5 6019	mseverso@umd.edu
Phys121	0402	0.33	lab	D. Buehrle	W 1930-2120	PHY3306	Setiawan, FNU	0104 John S. Toll Physics Building - x5 8577	setiawan@umd.edu
Phys121	0402	0.17	dis	D. Buehrle	M 1830-1920	PHY3301	Setiawan, FNU	0104 John S. Toll Physics Building - x5 8577	setiawan@umd.edu
Phys121	0403	0.33	lab	D. Buehrle	Tu 1700-1850	PHY3306	Murray, Joseph	1322 John S. Toll Physics Building - x5 6185	jemurray@umd.edu
Phys121	0403	0.17	dis	D. Buehrle	Th 1930-2020	PHY3301	Murray, Joseph	1322 John S. Toll Physics Building - x5 6185	jemurray@umd.edu
Phys121	0404	0.33	lab	D. Buehrle	M 1800-1950	PHY3306	Murray, Joseph	1322 John S. Toll Physics Building - x5 6185	jemurray@umd.edu
Phys121	0404	0.17	dis	D. Buehrle	M 1700-1750	PHY3301	Murray, Joseph	1322 John S. Toll Physics Building - x5 6185	jemurray@umd.edu
Phys121	0405	0.33	lab	D. Buehrle	Th 1930-2120	PHY3306	Setiawan, FNU	0104 John S. Toll Physics Building - x5 8577	setiawan@umd.edu
Phys121	0405	0.17	dis	D. Buehrle	Tu 1800-1850	PHY3301	Setiawan, FNU	0104 John S. Toll Physics Building - x5 8577	setiawan@umd.edu

The SEF section is paired with 0405

**Textbook:** Knight, Jones, Field: *College Physics, 2e*

Physics is a science which attempts to unify elements of the natural world by means of observation, mathematics, and the use of precise language. Using methods developed by physicists, we can describe many events that occur in our everyday lives. The principles of physics provided a basis for most of the technologies that are an essential part of modern life. In this sense, physics is *practical*. Many laws developed by physicists, such as the law of conservation of energy, are of tremendous practical importance. These same laws also help physicists understand the very tiny constituents of matter as well as the motions of giant clusters of galaxies. Thus the study of physics helps us understand some fundamental relationships between the matter in our surroundings and the evolution of the universe. In this sense physics is *profound*. In PHYS 121, you begin your own exploration of the natural world using some of the concepts, tools, and methods commonly employed by physical scientists. PHYS 121 deals with motion of particles and rigid bodies with in small and large systems.

### Math Background

The use of algebra and trigonometry are essential in this class. In addition, you need to recall the essentials of vector algebra and interpreting graphs. Your first assignment will be to help assess your competency with the math.

## **Homework**

Weekly homework problems are listed below. These online exercises are accessed through MasteringPhysics. I have observed in the past that there is a strong correlation between the steady effort needed to successfully complete homework and performance on examinations. Although we will not collect and grade homework, there will be several quizzes using homework problems directly. The hourly examinations will have similar problems as well. Solutions to all homework assignments will be available on ELMS.

## **Assessments**

1. There will be three examinations, each lasting a full period. Dates are in the schedule below. Each exam is worth 100 points
2. You will have ten (more or less) 10-minute quizzes during your discussion period. They will be on material that was presented in lecture or from a homework problem. Assume that there will be a quiz every week in discussion except for during exam weeks. Each quiz is worth 20 points
3. A final exam will take place at the end of the course. The final will be worth 200 points
4. Ten laboratory experiments are scheduled. All must be done. You must complete and submit a report for every experiment. Your TA will discuss the point value for labs
5. You will receive 10 points for each completed homework assignment. Those points are not based on the correctness of your homework but rather that they were completed by the deadlines.
6. Your grade will be based the total number of points you have accrued during the semester. While the actual number of points will vary depending on the number of quizzes and labs, the typical number of points for an "A" was above 800, "B" 650-800, "C" 500-650 and "D" 350-500

## **Extra Help**

Feel free to call my office phone anytime. The best way to communicate is via email.

Your TA will post his office hours

The Slawsky Clinic offers free tutoring for those who may need additional help improving their problem solving skills