

# Physics 103: General Physics

Fall Term 2006

MWF 9:00-9:50

Human Ecology 216

## **Instructor**

Prof. Michael Faux  
131 Physical Sciences  
(607) 436-3145  
fauxmg@oneonta.edu  
<http://www.oneonta.edu/faculty/fauxmg>

## **Textbook**

*Physics: Principles with Applications*  
Douglas C. Giancoli  
Pearson Prentice Hall, sixth edition, 2005  
ISBN: 013060620

## **Course Overview**

This course provides an introduction to elementary classical physics, including the concepts of energy and momentum, the kinematics and dynamics of physical bodies, statics, gravitation, and other forces of nature. An emphasis is given on practical applications in diverse areas of science. This course involves mathematics in a minimalist fashion; calculus is not used, any needed mathematics beyond elementary algebra is developed and used in a self-contained manner.

## **Office Hours**

I hold office hours from 3:00pm until 4:30pm Tuesdays and Wednesdays. During these times I'll be in my office, and will be happy to meet with any student. Alternatively, students are encouraged to email or phone me to schedule an appointment. Please leave a voice message if I'm not in the office. I'll make every effort to accommodate you.

## **Homework**

I will assign a set of homework problems approximately once per week. These will consist of a mixture of problems from the textbook and also extra problems invented by me. I will supply an answer sheet on the day that the homework assignment is due. Each student should grade his or her own homework assignment using the answer sheet provided, and then email me their score for that assignment. Proper comprehension will be gauged by "pop quizzes" which I will give in-class on several occasions during the semester.

## Quizzes

Since I will allow students to grade their own homework assignments, on several occasions during the semester I will give “pop quizzes” which will be very very similar to the homework assignment recently completed. Students who properly comprehended the homework problems should have no trouble with these quizzes. The quizzes will be collected and graded by the instructor.

## Exams

There will be two in-class midterm exams, and one final exam. See below for the respective dates. Each exam will be cumulative, meaning that all material covered up to that point will be tested. Only serious, utterly unavoidable, fully-verifiable excuses will be accepted to explain absence from any of the three examinations. In almost all circumstances, a missed exam will result in an exam grade of zero.

## Laboratory

There is a weekly laboratory session associated with this course. Those students enrolled in “section 01” will meet on Thursdays from 9am until 11:30am, and those students enrolled in “section 02” will meet on Thursdays from 1pm until 3:30pm. The laboratory sessions will meet in the Physical Sciences Building, in room 105. The first laboratory meetings will be on Thursday 31 August. A separate laboratory syllabus will be distributed prior to the first meeting.

## Grading

You will receive a numerical grade for this course, computed using the following scheme:

Homework	10%
Quizzes	10%
Laboratory	15%
Midterm Exam #1	20%
Midterm Exam #2	20%
Final Exam	25%
<hr/>	
Total	100%

The numerical course grade will be converted to a letter grade using a fair and generous grading curve.

Date	Lecture Topic	Reading
Aug 23	Introduction	Chapter 1
25	Motion in One Dimension	Chapter 2
28	Velocity and Acceleration	
30	Motion at Constant Acceleration	
Sep 1	Introduction to Vectors	Chapter 3
4	Vector Addition	
6	Motion in Two Dimensions	
8	Projectile Motion	
11	Force	Chapter 4
13	Newton's First and Second Laws of Motion	
15	NO CLASS	
18	NO CLASS	
20	Newton's Third Law of Motion	
22	Friction	
25	<i>REVIEW</i>	
27	<i>MIDTERM EXAM #1</i>	

Table 1: Provisional schedule for the first third of Physics 103. This may be subject to modification. Up-to-date reading and homework assignments will be provided during the lectures.

Date	Lecture Topic	Reading
Sep 29	Uniform Circular Motion - Kinematics	Chapter 5
Oct 2	Uniform Circular Motion - Dynamics	
4	Newton's Law of Universal Gravitation	
6	The Forces of Nature	
9	NO CLASS	
11	Work	Chapter 6
13	Kinetic Energy	
16	The Work/Energy Theorem	
18	The Conservation of Energy	
20	Linear Momentum	Chapter 7
23	Elastic Collisions	
25	Inelastic Collisions	
27	Center of Mass	
30	REVIEW	
Nov 1	MIDTERM EXAM #2	

Table 2: Provisional schedule for the middle third of Physics 103. This may be subject to modification. Up-to-date reading and homework assignments will be provided during the lectures.

Date	Lecture Topic	Reading
Nov 3	Rotational Motion	Chapter 8
6	Angular Momentum	
8	The Conservation of Angular Momentum	
10	Torque	
13	Introduction to Statics	Chapter 9
15	Static Equilibrium	
17	Simple Harmonic Motion	Chapter 11
20	THANKSGIVING	
22	THANKSGIVING	
24	THANKSGIVING	
27	THANKSGIVING	
29	The Pendulum	
Dec 1	Transverse Waves	
4	Longitudinal Waves	
6	What is Light?	
8	REVIEW	
11	REVIEW	
15	Final Exam, 8:00am-10:30am	

Table 3: Provisional schedule for the final third of Physics 103. This may be subject to modification. Up-to-date reading and homework assignments will be provided during the lectures.