

Physics 103 FALL 2017 Course Syllabus

103-101

R 6-9pm (FMH 213)

Instructor:

- Dr. George Georgiou,
- georgiou@njit.edu (preferred contact method)
- (973) 596-5690,
- 207 Microelectronics (in 2nd floor bridge connecting ECE and FMH)
Office hours: T 4-5:30. Or after class or by appointment (send e-mail).

Pre-requisites and Co-requisites:

- Pre-requisites: Physics 102 with grade C or better.
- Co-requisites: Physics 103A (the lab course) unless previously taken (see below).
- Withdrawal from Phys 103 or Phys 103A causes a withdrawal from the other part of Physics 103.

Physics 103A Laboratory must be taken along with Physics 103 unless you took it and passed it previously. **If you drop Physics 103 you automatically drop the lab Physics 103A (no exceptions).** The lab is totally separate course from the lecture. **Lab instructors set the requirements and grades.**

Course Materials for Physics 103:

- **Primary text :**
"Physics: Principles with Applications, 7th edition" by Douglas C. Giancoli, Prentice Hall,
ISBN-13: 978-0-321-62592-2
Paper copy is available. An electronic copy can also be purchased or rented.
A key code for Mastering Physics MUST be bought with the book. Purchasing key codes from other sources like Amazon is risky since these codes may be expired.

This textbook contains both Physics 102 and Physics 103.

Lecture notes and other communications will be sent by email.

- **Homework will be assigned on the "Mastering Physics" website. Late work will not be accepted.** Detailed solutions are available after the due date.
- More "Mastering Physics" information during first recitation section

Examinations: 3 common exams during a common hour and a comprehensive Final Exam.

Wednesday 4:15 – 5:45 pm – 10/4, 11/1, 12/6

Final Exam To Be Announced

In-class quizzes covering the preceding or current work may be given during lectures. The grades count toward your final course grade. There will be no make-up quizzes and normally no make-up common exams.

I will NOT use "i-Clickers".

Final Grades will be based on a **composite score** for the term's work that includes each common exam score, the final exam, in-class quizzes, and the term's homework score. Here are the approximate weights to be used for calculating the composite score:

- **48% -- Exam 1+2+3 (16% each)**
- **32% -- final exam**
- **12% -- homework**
- **8% -- lecture quiz**

Composite score: $0.16(\text{Exam 1}) + 0.16(\text{Exam 2}) + 0.16(\text{Exam 3}) + 0.32(\text{Final}) + 0.12(\text{Hwk av}) + 0.08(\text{lecture quiz av})$

Letter grade is assigned as follows:

A >80 B+ 75-79 B 70-74 C+ 65-69 C 50-64 D 45-49 F < 45

Homework: It is impossible to succeed in science and engineering courses without working a lot of problems. Do the homework. **Remember that homework is 12% of your final grade.**

- We cover approximately one major topic with problems each week in lecture class. The related homework assignment is typically due the following week. We can spend some time going over homework questions in class.
- Read the assigned sections of the text before the lecture covering that material.
- **“Mastering Physics” is used for homework.** Each student must enroll in the course specified by his/her instructor. Homework assignments will be posted on-line. Students login, download and solve the assigned problems, and submit answers to the automated grading system. **Late work will not be accepted.** Mastering Physics has additional help tools.

▪ **Section 101 register for MPGEORGIU103101f17**

The first two assignments are due on 9/19. This is enough time to register and become familiar with the tools in Mastering Physics,

- **Remember that doing as many problems from the end of the chapter is important to using the material and doing well on exams!!!**

Attendance will be taken periodically (in-class quiz) and for all exams. More than 3 unexcused absences is excessive and may result in a notification to the Dean. If you have excusable absences contact your instructor or the Dean of First year Students. If you withdraw from the course, do it officially through the Registrar. **Remember that attendance shown by your in-class quiz grade, is 8% of your final grade.**

Help: Visit or email your instructor if you are having trouble with understanding the course material. Do not simply hope for a miracle and fall further behind. Arrange for additional help. The Physics department also offers tutoring. I will send the schedule when it becomes available.

Honor Code Violations or Disruptive Behavior: NJIT has a zero-tolerance policy for cheating of any kind and for student behavior that disrupts learning by others. Violations will be reported to the Dean of Students. The penalties range from a minimum of failure in the course plus disciplinary probation up to expulsion from NJIT. Avoid situations where your own behavior could be misinterpreted as dishonorable. **Students are required to agree to the NJIT Honor Code on each exam.**

Turn off all cellular phones, wireless devices, computers, and messaging devices of all kinds during classes and exams. Please do not eat, drink, or create noise in class that interferes with the work of other students or instructors.

Next Page: List of Topics and schedule

NOTE: Homework Grading is on Mastering Physics

Assignments for FALL 2017 - Physics 103

Weeks and Lecture Topics	Text Readings	MASTERING PHYSICS	Recommended Text Problems
Week 00: September 5 Introduction, Solids, Density and Pressure, Buoyancy	Ch. 9, Sec. 5-6 Ch. 10, Sec. 1-7	Begin HW 01	Page 285 2, 12, 14, 19, 23, 27, 34
Week 01: September 12 Fluids in Motion	Ch. 10, Sec. 8-10	Begin HW 02	Page 285 47 -50, 53, 80
Week 02: September 19 Temperature, Expansion, Ideal Gas Law	Ch. 13, Sec. 1-8	HW 01 and HW 02 due. Begin HW 03	Page 385 5,12, 15, 19, 24, 31 39, 78
Week 03: September 26 Specific Heat, Latent Heat, Calorimetry	Ch. 14, Sec. 1-5	HW 03 due. Begin HW 04	Page 408 2,13,14,25,27,34
Week 04: October 3 Heat Transfer (conduction & radiation) Exam 1 Wednesday 10/4	Ch. 14, Sec 6-8 Review for Exam 1	HW 04 due. Begin HW 05 Covers weeks 00-03	Page 408 38, 42, 43, 54
Week 05: October 10 Thermodynamics	Ch. 15, Sec. 1-7	HW 05 due. Begin HW 06	Page 438 1, 18, 19, 24, 32
Week 06: October 17 Simple Harmonic Motion	Ch. 11, Sec. 1-6	HW 06 due. Begin HW 07	Page 322 3,7,8,14,18,27 36,37,40,49,52
Week 07: October 24 Waves and Sound	Ch. 11, Sec. 7-12	HW 07 due. Begin HW 08	Page 354 3,4,9,14,27,28, 56,63
Week 08: October 31 Sound Exam 2 – Wednesday 11/6	Ch. 12, Sec. 1-7 Review for Exam 2	Hw 08 due. Begin HW 09. Covers weeks 04-07	
Week 09: November 7 Electric Charge, Electric Field	Ch. 16, Sec. 1-9	Hw 09 due, Begin HW 10	Page 468 2, 3, 19, 21
Week 10: November 14 Electric Energy and Capacitance	Ch. 17, Sec 1-9	HW 10 due. Begin HW 11	Page 496 3, 4, 6, 9
Tuesday 11/21– Thursday Schedule Wednesday 11/22– Friday Schedule			
Week 11: November 28 Resistance and Electric Current, Electric Circuits	Ch. 18, Sec. 1-8 Ch. 19, Sec. 1-6	HW 11 due. Begin HW 12	Page 521 1,9,13, 17,28,37,47,54 Page 552 1,4,12,15,16,77
Week 12: December 5 Light: Reflection and Refraction, Mirrors Exam 3 – Wednesday 12/6	Ch. 22, Sec 1-4 Ch. 23, Sec 1-3 Review for Exam 3	HW 12 due. Begin HW 13 Covers weeks 08-11	Page 673 4,9,12, 25,26, 28,29,73
Week 13: December 12 Light: Lenses, Interference, Diffraction	Ch. 23, Sec. 4-8 Ch. 24, Sec 1-5	HW 13 due. Begin HW 14	Page 673 35,36,41,43,47 Page 707 1,4,7,33,38
December 13 – Last Day of Classes			
December 14 --Reading Day	No classes		
Final Exam – TBA December 15-21		Covers Weeks 1-13	

Fall 2017 Calendar

September 5	Tuesday	First Day of Class
September 11	Monday	Last Day to Add/Drop a Class
September 18	Monday	Last Day for 90% Refund, Full or Partial Withdrawal – NO refund for partial withdrawal after this date
October 2	Monday	Last Day for 50% Refund, Full Withdrawal
October 23	Monday	Last Day for 25% Refund, Full Withdrawal
November 6	Monday	Last Day to Withdraw
November 21	Tuesday	Thursday Classes Meet
November 22	Wednesday	Friday Classes Meet
November 23-26		Thanksgiving Recess (Thursday – Sunday)
December 13	Wednesday	Last Day of Classes
December 14	Thursday	Reading Day
December 15-21		Final Exam Period (Friday - Thursday)
December 23	Saturday	Final Grades Due

COMMON EXAM SCHEDULE – Phys 102 / 103
Wednesday 4:15 – 5:45 – 10/4/17, 11/1/17, 12/6 /17