

PHYS122: General Physics II

Sections: #1(CRN 67678), #2(CRN 67679) & #3(CRN 68445)
New Mexico Tech, Spring 2016

Instructor: Saska Gjorgjievska

Office: Workman 343

Phone: 575-835-5039

E-mail: saska@nmt.edu

Class Location and Hours: Workman 101, MWF 11:00-11:50 am

Recitations for sec #1: Weir 202, Tue. 1:00 pm - 2:55 pm

Recitations for sec #2: Jones Anex 101, Wed. 1:00 pm - 2:55 pm

Recitations for sec #3: Weir 129, Wed. 3:30 pm - 5:25 pm

Office Hours: Mon. 1:30-3:00 pm & Wed. 1:30-3:00 pm (or by apt.)

Class webpage URL: kestrel.nmt.edu/~saska/phys122.html

Course Objectives and Prerequisites: The course provides an introduction to optics and electromagnetism. Pre-requisites for this course: PHYS 121 and Math 131; Co-requisites: PHYS 122L and MATH 132.

Reading Material and Resources: Required Textbook: “*Physics for Scientists and Engineers*” - 4th edition, by Douglas C. Giancoli, with Mastering Physics supplement. You are welcome to explore additional introductory physics texts. They are available in the study room in Workman 110, and at the library.

Mastering Physics (<http://www.masteringphysics.com/>) course ID: **GJ2016SPRING** (Please be sure to enter this exactly when you sign up, or there could be many problems to fix if you accidentally become enrolled in a different class!)

Homepage for *iClickers*: <http://www.iclicker.com/>

Grading:

Attendance & iClickers:	10%	GRADES	
Quizzes:	10%	92-100%	A
Written homework:	20%	90-91%	A ⁻
MP homework:	10%	88-89%	B ⁺
Exams:	50%	82-87%	B
		80-81%	B ⁻
		78-79%	C ⁺
		72-77%	C
		70-71%	C ⁻
		68-69%	D ⁺
		60-67%	D
		0-59%	F

Course Requirements:

Attendance & iClickers: At NMT attendance is **mandatory** in freshman classes, and you are expected to attend **all** lectures and recitations. (**10 % of your grade is based on attendance!**) Paying attention to lecture and active participation will help you understand the subject. Assignments and announcements will be given during class time. If you do miss a class you are responsible for all announcements and material covered in your absence. (**Note: Using cellphones, tablets, computers, mp3 players, and similar electronic devices during class is prohibited. Set your phone on 'vibrate' for in case of emergency notification and stow it away.**)

We will use *iClickers* for taking attendance and for interacting during class. Responding to a question during lecture will check you present, and responding correctly to a question will give you an extra point. You may use your iClicker, if you already have one, or you can purchase one (used or new) from www.amazon.com or from the NMT Bookstore. **Make sure you register your iClicker at www.iclicker.com**

Quizzes: The quizzes will consist of 5 multiple choice questions. You can have your notes from lecture open, so I encourage you to take good notes. If you read your textbook and pay attention in class, you will not have much problem with the quizzes. The quizzes will be given during recitations and may not be announced. There will be no make up for quizzes, so I strongly recommend you always attend recitations **(10 % of your grade is based on your quiz scores!)**.

Written Homework: Generally, homeworks are assigned weekly and you have one week to complete them. Written assignments will be due at the beginning of class on the due date. Late assignments will not be accepted, unless extension is approved in advance. **(Turning in the assignment after class will be considered late and therefore will not be accepted!)**. The written assignments will be discussed during the recitation periods, so it is in your best interest to attend recitation. Due dates for homeworks will be announced in class and posted on the course website. **(20 % of your grade is based on your written homework scores!)**

It is imperative that you do **all** of the assigned problems. This is how you learn the material and this is what will prepare you for the exams. Make sure you understand the concepts in the problems rather than memorizing the problem! If you memorize a problem—you will be able to do that one problem; if you know how to do a problem—you will be able to do 100 other problems involving the same concepts.

Academic Integrity: While, you are encouraged to study together and to discuss information and concepts covered in class with your classmates, you should also be aware of the Academic Honesty policy included in the NMT 2013-2014 Course Catalog - pages 59-70. Please share the workload and be fair about it. **The work that you turn in should be written by you, even if you have worked together on an assignment. Penalties for violations of this policy may lead to failure of the course and disciplinary actions.**

Online Homework (Mastering Physics): Weekly homeworks will be assigned—mostly conceptual questions. I have set up the online homework system to allow up to 5 tries for each question. There is 3 % penalty for each wrong answer given to a non-multiple choice question. The penalty for a wrong answer to a multiple choice questions depends on the # of answer options ($100\%/(\#options-1)$). The system offers hints (with 1 % penalty per hint) if needed. Late online homework is not accepted.

Exams: We will have 3 in-class exams during the semester, and a comprehensive final exam. The final exam is optional—it would replace the score of your worst exam. Calculators are encouraged. Cell phones and other internet-ready devices (even if an “app” on one is your calculator) are forbidden during exams—using one will result in penalty. The exams will be closed book and closed notes, with the exception that you are allowed to construct a ‘cheat sheet’ for each exam. This should consist of writing on one side only of a single 8.5 by 11 inch sheet of paper. Creating your cheat sheet is a good way to help study for the exams. Once I give the graded exams back, you will have two business days to submit a written statement to appeal your grade, should you believe that it is incorrect. Be advised that just as I could give a higher grade in review of the exam, I may see that a lower grade is deserved if I consider I have been originally too generous.

Extra Credit Opportunities: One extra credit problem will be assigned on each written homework assignment. One extra credit problem will be assigned on each exam. Toward the end of the semester there will be a short comprehensive exam (closed book and no cheat sheet) for up to 3% extra credit added to your final grade. There will be no other extra credit options so take advantage of these. Please do not ask me to give you an assignment for ‘extra credit’! Come to lectures and recitations, do your homework, come to my office hours, visit OSL and the Drop-in sessions in Workman 110, form study groups, address any struggles with the material **on time** and you should be in good shape!

Tentative List of Topics:

Any changes will be announced in class.

1. Ray Optics (Chapters 32 & 33)
2. Travelling Waves (Chapter 15)
3. Interference (Chapters 34)
4. Diffraction (Chapter 35)
5. Electric Charges and Forces (Chapter 21)
6. Gauss's Law (Chapter 22)
7. Electric Potential (Chapter 23)
8. Capacitance, Dielectrics, Energy storage (Chapter 24)
9. Current and Resistance (Chapter 25)
10. DC Circuits (Chapter 26)
11. Magnetism, Magnetic Forces (Chapter 27)
12. Magnetic Field (Chapter 28)
13. Electromagnetic Induction and Inductance (Chapters 29 & 30)
14. Electromagnetic Waves (Chapter 31)

Special Needs: Students with disabilities are encouraged to contact the Counseling and Health Center to verify their eligibility for appropriate accommodations. Except for unusual circumstances, request for academic accommodations are to be made during the first three weeks of the semester.

Emergency Notification System: If you have not done so already, it is recommended that you register for the Emergency Notification System. May there be any concerns regarding campus safety, you will be notified via text. Here is the link:

<http://www.nmt.edu/cat-campus-police/4002-emergency-notification-system>

In addition, if you must report an emergency situation, please call Campus Police at 575.835.5434.

Counseling Services New Mexico Tech offers mental health and substance abuse counseling through the Office of Counseling and Disability Services. The confidential services are provided free of charge by licensed professionals. To schedule an appointment, please call 835-6619.

A Word of Advice: If you are struggling with the material, please please please come and see me! Also, there is plenty of extra help available at the *Office for Student Learning* and at Workman 110 during the drop-in sessions. Take advantage of these services.