

PHYS-160-001 University Physics I
(Aug 23- Dec 15)
Fall 2021, Enterprise Hall 80, MWF, 10:30-11:20am

TENTATIVE SYLLABUS

Instructor:

Dr. Branislav Djordjevic
Room: 201B, Planetary Hall
E-mail: bdjordje@gmu.edu
Office Hours: M&W: 12:00 – 1:00 PM; Thursday: 3:30 – 4:30 PM

Recitations Instructors:

Dr. Erhai Zhao, sections: 301,302
Dr. Keith F Higginbotham, sections:303, 306
Dr. Branislav R Djordjevic, sections: 304, 305, 308, 309
Dr. John P Keady, sections: 307, 3H1

Tutor: Dr. S. Fisher. E-mail: sfisher2@gmu.edu

Text: Young & Freedman, University Physics with Modern Physics, 15e (14th and 13th edition are equally good).

Blackboard: [Fall 2021 University Physics I \(PHYS-160-001, PHYS-160-H01, PHYS-160-P01\)](#)

Homework and pre-lecture quizzes: You have two options to purchase access to Mastering, directly from Pearson: a) Mastering with e-Book: ~\$120, or b) Mastering without e-Book: ~\$70. **However, you will register for Mastering and later access your homework FROM WITHIN BLACKBOARD!** Your Mastering homework is integrated with your Blackboard course. Never log directly into Mastering website! **First log in your Blackboard course, and then click on “Your Mastering Homework & Quizzes”** link in the content. I will post detailed instruction about how to register. All Mastering assignments should be completed by their due dates. **NO EXTENSIONS WILL BE GIVEN! YOU NEED TO STAY ON TOP OF THE SCHEDULE** throughout this short course. Due dates are given in Mastering. **Pre-Lecture Reading Quizzes** will be due before the start of the new chapter, generally on by Monday, at 10:30 AM. **For specific due dates look at Mastering Physics schedule.** This means you have to come to class PREPARED, i.e., READ THE CHAPTER once before the lecture during the weekend.

Attendance: Attendance is your responsibility since I am not grading it. No complaints later if you miss important information because you are not attending your classes.

See the next page for the tentative schedule.

Tentative Schedule:

Week of: (MON)	Chapters	Homework* Due Sundays 11:59 pm See Mastering for dates	Pre-lecture Quiz** Due Mondays 10:30 am See Mastering for dates
08/23	Ch. 1 Introduction; Vectors; Calculus	(Ch1)	(Ch1)
08/30	Ch. 2 Kinematics in 1D	(Ch2)	(Ch2)
09/06	No class on Monday 9/6 – Labor Day! Ch. 3 Kinematics in 2D	(Ch3)	(Ch3)
09/13	Ch. 3 Kinematics in 2D Ch. 4 Newton’s Laws	(Ch4)	(Ch4)
09/20	Ch. 5 Application of Newton’s laws	(Ch5)	(Ch5)
09/27	Midterm Exam 1 (Ch 1-5) (Monday) Ch. 6 Work, Kinetic Energy	(Ch6)	(Ch6)
10/04	Ch.7 Potential Energy, Conservation of Energy.	(Ch7)	(Ch7)
10/12	Ch.8 Linear Momentum First day this week is on TUESDAY!	(Ch8)	(Ch8)
10/18	Ch.9 Rotational Kinematics	(Ch9)	(Ch9)
10/25	Ch.10 Rotational Dynamics	(Ch10)	(Ch10)
11/01	Ch.11, Equilibrium; Midterm Exam 2 (Ch 6-10) (Monday)	(Ch11)	(Ch11)
11/08	Ch.13 Gravitation	(Ch13)	(Ch13)
11/15	Ch. 13 Gravitation Ch. 14 Oscillations		
11/22	Ch. 14 Oscillations No classes on 11/24 (Thanksgiving)	(Ch14)	(Ch14)
11/29	REVIEW of EVERYTHING Our last class is on 12/3, Friday		
12/08	Final Test (Comprehensive) 10:30 am – 1:15 pm, the same classroom		

Graded Assignments:

Midterm Exams (20% each) x 2	40 %
Final Exam	25 %
MASTERING PHYSICS Homework (Due by Sunday midnight)	15 %
Recitation Attendance and ACTIVE Participation	10 %
Pre-Lecture Reading Quizzes (in Mastering Physics) – due dates are in Mastering	10 %
Total	100 %

- Midterm exams will typically consist of 3 real problems to solve (not multiple choice).
- Exam grades will not be curved.
- No exam will be dropped.
- But, if you show CONTINUOUS progress on your exam scores, you will be rewarded for that.

Grading Scale:	Percentage	Grade
	97	A+
	90	A
	87	B+
	80	B
	77	C+
	70	C
	60	D
	<60	F

Continues on the next page!

Lecture Format:

Lectures are given face-to-face in the classroom. Lectures will include problem solving by hand, as in recitations. **Pre-Lecture Quizzes** are due BEFORE the new chapter lecture by 10:30 AM and will NOT be extended. You need to come to class prepared.

Exams:

There are **two midterm exams and the final**. There will be **NO makeups** of the exams. If you know in advance that you cannot attend the exam, and bring the appropriate documentation, an arrangement can be made for you to take the exam **EARLY**.

Students are expected to bring the following items to each exam:

1. A calculator
2. 2 sides - 1 page (8:5 x 11) **handwritten** formula sheet (no photocopying).
3. Pencil or pen.

Students are required to have a scientific calculator. For the exams, devices such as cell phones, tablets and laptops will not be allowed.

There will be no bathroom breaks during the exam. Once you leave you are done. Please do **NOT** drink 3 cups of coffee before the exam.

The Final exam is comprehensive.

All exams are closed book, closed notes, and are **NOT** multiple-choice.

Students with accommodations must contact me via email and send me the faculty contact sheet.

Honor Code:

Copying homework, use of online homework solutions or the instructor solution manual, giving or receiving assistance on exams, posting exam questions online and asking for solutions, viewing answers on exam questions during the exam, participating in any kind of discussion groups during the exam, and any other improper conduct will be considered a violation of the Honor Code. Students who cheat in any way will be reported to the GMU Honor Committee, without exception!

University Resources

Learning Services <https://learningservices.gmu.edu/>
Student Support and Advocacy Center <https://ssac.gmu.edu/>
Counseling and Psychological Services <https://caps.gmu.edu/>

Important Dates

Look here: https://registrar.gmu.edu/calendars/fall_2021/

Class Etiquette:

Our communication must be courteous, polite, respectful, and precise. **Always sign your emails with your full Name and specify your course.** When asking about specific topic, or problem – be it from the homework, or from the book, be specific, instead of letting your instructor search to find the problem you are referring to.

Course Goals and Learning Outcomes:

First semester of three-semester, calculus-based introductory physics sequence, designed primarily for science and engineering majors. The topics covered in this course are in Mechanics. This course also fulfills general education requirement in natural science.

This course is designed to assist students to comprehend the fundamental ideas of mechanics and to help them to apply the basic physical principles appropriately. Furthermore, the students will develop the ability to solve realistic physical problems. The secondary objective of the course is to improve students' symbolic reasoning skills to assist them in further enhancing their analytical skills.

By successfully completing this course students will achieve the following Mason Core learning outcomes:

1. Understand how scientific inquiry is based on investigation of evidence from the natural world, and that scientific knowledge and understanding:
 - a) evolves based on new evidence
 - b) differs from personal and cultural beliefs
2. Recognize the scope and limits of science.
3. Recognize and articulate the relationship between the natural sciences and society and the application of science to societal challenges (e.g., health, conservation, sustainability, energy, natural disasters, etc.).
4. Evaluate scientific information (e.g., distinguish primary and secondary sources, assess credibility and validity of information).