



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

**COLLEGE PHYSICS I
PHYS - 1401 - 03**

Professor Laura E. Wright

COLLEGE PHYSICS I
PHYS 1401 SECTION 03

Course Description:

Fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton's Laws of Motion, and gravitation and other fundamental forces; with emphasis on problem solving.

Prerequisites and/or Corequisites:

Prerequisite: MATH 1316, 2412 or 2413 with a grade of C or better.

Instructor Information:

Instructor Name: Professor Laura Wright

MCC E-mail: lwright@mcclennan.edu (preferred method of communication)

Office Phone Number: 254-299-8419

Office Location: HP 230 (Health Professions Building)

Office/Teacher Conference Hours: MW 11:30am-1pm, M-Th 2:30-3:30pm or by appointment

*If you need to meet with me during a time that is outside of my office hours, please email me to make arrangements.

*Please note that I do not have office hours on T/Th before class. This means if you need to see me for help, do not wait the morning of a test to come see me, because I won't be available to help you.

This course meets TTh 11:10am – 2:05pm in S 230

Required Text & Materials:

- *Physics*, 5th Edition
James S. Walker
Pearson Addison-Wesley
ISBN: 9780321976444 (textbook only)
ISBN: 9780134019734 (textbook with *Mastering Physics Student Access Kit*)
- *Mastering Physics Student Access Kit*
Pearson Addison-Wesley
ISBN: 9780134019666
(License can be purchased online through www.masteringphysics.com)
- A “scientific” calculator: This means something that can handle exponents, trig functions, hyperbolic trig functions, and logarithms.
- Reliable access to the internet. Homework assignments can online online through Mastering Physics.

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- Access to Brightspace: This course will have a significant component on Brightspace. If you haven't yet logged into the system, learn how to do so. Log in, and make sure you can access this course's materials.

MCC Bookstore Website: <http://www.mclennan.edu/bookstore/>

Student Support/Resources:

MCC provides a variety of services to support student success in the classroom and in your academic pursuits to include counseling, tutors, technology help desk, advising, financial aid, etc. A listing of these and the many other services available to our students is available at <http://www.mclennan.edu/campus-resource-guide/>

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources, we encourage you to contact a success coach by calling (254) 299-8226. Students can visit the Completion Center Monday-Friday from 8:00 a.m.-5:00 p.m. to meet with a success coach and receive additional resources and support to help reach academic and personal goals. Paulanne's Pantry (MCC's food pantry) is open 12:00 p.m.-1:00 p.m., Monday-Friday, without an appointment. The Completion Center and pantry are located on the Second Floor of the Student Services Center (SSC).

Minimum Technical Skills:

Students should have basic computer skills, knowledge of word processing software, and a basic understanding of how to use search engines and common web browsers.

Backup Plan for Technology:

In the event MCC's technology systems are down, you will be contacted/notified through your MCC student email address. Please note that all assignments and activities will be due on the date specified in the Instructor Plan, unless otherwise noted by the instructor.

* [Click Here for the Minimum System Requirements to Utilize MCC's D2L|Brightspace](http://www.mclennan.edu/center-for-teaching-and-learning/teaching-commons/requirements)
(www.mclennan.edu/center-for-teaching-and-learning/teaching-commons/requirements)

Click on the link above for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

Methods of Teaching and Learning:

Students will learn through lecture and reading, as well as through work on homework, labs, and exams. Additional methods may be used as opportunities present themselves.

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Course Objectives and/or Competencies:

Upon successful completion of this course, students will be able to:

1. Perform operations and solve problems using dimensional analysis. (*Chapter 1*)
2. Identify the principles of kinematics, and solve problems using these principles. (*Chapters 2&4*)
3. Describe vectors, and solve problems using vectors in Physics. (*Chapter 3*)
4. Identify forces and Newton's Laws of motion, and solve problems utilizing Newton's Laws of motion. (*Chapter 5&6*)
5. Identify the different types of energy, and solve problems using principles of conservation of energy. (*Chapters 7&8*)
6. Define the principles of impulse, momentum, and collisions, and use those principles to solve problems. (*Chapter 9*)
7. Discuss rotational kinematics and dynamics and the relationship between linear and rotational motion. (*Chapter 10*)
8. Solve problems involving rotational and linear motion. (*Chapter 10*)
9. Define equilibrium, including different types of equilibrium. (*Chapter 11*)
10. Describe and apply the basic principles of fluid mechanics. (*Chapter 15*)
11. Discuss and apply the principles of temperature and heat in thermodynamics. (*Chapter 16*)
12. Prepare laboratory reports that clearly communicate experimental information in a logical and scientific manner. (*Laboratory*)
13. Conduct basic laboratory experiments involving classical mechanics. (*Laboratory*)
14. Relate physical observations and measurements involving classical mechanics to theoretical principles. (*Laboratory*)
15. Evaluate the accuracy of physical measurements and the potential sources of error in the measurements. (*Laboratory*)
16. Identify appropriate sources of information for conducting laboratory experiments involving classical mechanics. (*Laboratory*)

CORE OBJECTIVES – LIFE AND PHYSICAL SCIENCES: Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.

- A. Critical Thinking Skills - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information. These will be assessed through lecture exams, problems assigned for homework, and/or laboratory exercises.
- B. Communication Skills - to include effective development, interpretation and expression of ideas through written, oral and visual communication. These will be assessed by presentations and/or reports based on laboratories, problems, and/or research.
- C. Empirical and Quantitative Skills - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. These will be assessed through lecture exams, problems assigned for homework, and/or laboratory exercises.

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D. Teamwork - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal. This will be evaluated through group discussions, group laboratory projects, and/or through group presentations.

(Core Objectives are covered throughout the entire semester.)

Course Outline or Schedule:

Date	Topic	Chapter	HW due
Tue, Aug 27	Introduction to Physics	1	
Thu, Aug 29	Motion in 1D	2	
Tue, Sep 3	Kinematics/Free Fall	2	
Thu, Sep 5	Vectors	3	HW 1
Tue, Sep 10	Motion in 2D	3	
Thu, Sep 12	Projectiles	4	
Tue, Sep 17	Newton's Laws	5	HW 2
Thu, Sep 19	Free Body Diagrams/Forces	5	
Tue, Sep 24	Frictional Forces, Strings, Springs	6	
Thu, Sep 26	Tension, Circular Motion	6	HW 3
Tue, Oct 1	Test 1 (Ch 1-6)		
Thu, Oct 3	Work, Kinetic Energy, Power	7	
Tue, Oct 8	Potential Energy, Conservation of Energy	8	HW 4
Thu, Oct 10	Linear Momentum, Impulse	9	
Tue, Oct 15	Conservation of Momentum, Collisions	9	
Thu, Oct 17	Rotational Kinematics	10	HW 6
Tue, Oct 22	Rotational Energy	10	
Thu, Oct 24	Rotational Dynamics, Static Equilibrium	11	
Tue, Oct 29	Gravity	12	HW 7
Thu, Oct 31	Test 2 (Ch 6-11)		
Tue, Nov 5	Fluids, Density, Pressure	15	
Thu, Nov 7	Archimedes Principle and Buoyancy, Bernoulli's Equation	15	
Tue, Nov 12	Temperature and Heat	16	HW 8
Thu, Nov 14	Specific Heat, Methods of Heat Transfer	16	
Tue, Nov 19	Ideal Gases, Phase Equilibrium, Evaporation	17	HW 9
Thu, Nov 21	Latent Heats and Phase Changes	17	
Tue, Nov 26	Laws of Thermodynamics	18	HW 10
Thu, Nov 28	<i>Thanksgiving - No School</i>		
Tue, Dec 3	Test 3 (Ch 12, 15-18)		
Thu, Dec 5	Final Exam Review		
Tue, Dec 10	Final Exam - 12:40pm - 2:40pm S230		

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*This calendar is subject to change. In the event that I need to make changes to the schedule, I will send an email to the class via Brightspace as soon as I possibly can. If possible, I will make an announcement in class before the scheduled change.

Course Grading Information:

Category	Percent
Homework	20%
Quizzes	5%
Labs	25%
Tests (3 Regular averaged together)	30%
Final Exam	20%

A: 90%+ B: 80% – 89% C: 70% – 79% D: 60% – 69% F: 0% – 59%

Homework: Homework assignments are involved numeric problems designed to challenge you to gain a deeper understanding of the course material. Homework will be completed online and graded utilizing Mastering Physics. The link to your course is accessed through Brightspace. The lab period after a homework assignment is due, we will go over some of the more challenging homework problems from that assignment in class. I will not post solutions to homework or problem sets online, you must attend class or get the notes from a classmate who did if you want to see them worked out.

Quizzes: There will be at least 5 pop quizzes in class. Pop quizzes will be open note and open book; however, internet capable devices (phone, tablet, etc) will not be allowed. Quizzes may be given at any time during the class period. If you are not present in class for any reason during a pop quiz, you will not be allowed to make it up.

Lab: The lab grades will consist of activities and problem sets to be completed during the lab time. If you do not finish before the end of class time, you may take it home to complete and turn in the next class period. You can expect to have a lab every day after each lecture, except for test days, there will be no lab afterward. Additionally, the lab period before a test will be used as a review session for the test; however, the review itself will not be graded. I will drop the lowest lab grade at the end of the semester.

Exams: There will be three major exams during the semester. Exam questions will come from the material covered in class, the textbook, and laboratory exercises. The exams will be closed note and closed book. Internet capable devices (phones, tablets, etc) will not be allowed.

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Final Exam: The final exam is comprehensive and has the same format as the other exams. The final exam will be closed note and closed book. Internet capable devices (phones, tablets, etc) will not be allowed.

Late Work, Attendance, and Make Up Work Policies:

Homework: Students lose 2% credit per hour for problems completed after the due date and time on Mastering Physics. **Student absences have no effect on the due date and time.** The class period after a homework assignment is due, we will spend part of the lab time going over some of the more challenging homework questions.

Lab: Students who miss a lab for an college approved, documented excused absence are responsible for getting a data set from the instructor and turning in the lab before class of the next class period. Students who miss an in-class problem set are responsible for turning those problems before class of the next class period. If you leave class before you finish your lab activity or problem set, you will be marked absent and not allowed to turn in the work for that day. If you need to leave early for a college approved reason, please notify me BEFORE class, and you must provide documentation by the next class period when you turn in your work.

Exams: Unless there is a college approved, documented excused absence no major exam may be made up. Any unexcused absence for an exam will result in a grade of zero for that exam.

Final Exam: The final exam is required for all students. Unless there is a college approved, documented excused absence the final exam may not be made up. Any unexcused absence for the final exam will result in a grade of zero for that exam.

Attendance is mandatory. *Per MCC policy, you will be automatically dropped after missing 25% of class meetings, or 8 lectures.* If you are dropped before the official drop date, you will receive a grade of W. If you are dropped after the official drop date, you will receive a grade of F, unless there are highly unusual circumstances.

Tardiness and Leaving Class Early: Any student who is late for class or who leaves class early will accumulate a full absence, regardless of the reason for the tardiness or early departure. These absences will count towards the 25% absence policy of MCC. If you have an excusable reason to arrive late or leave early, please notify me beforehand.

If you wish to drop this class, you must email me from your MCC student account before 5 pm on the last day for student-initiated drops, with the request "Please drop me from COURSE ID and SECTION NUMBER." An email that says something like, "I would like to drop..." or, "I was thinking about dropping..." or, "I was wondering if I should drop..." will ***not*** be considered a drop request. (*Just like saying, "I would like to get married," does not mean anyone is going to automatically marry you.*) If the email does not come from your student account, or if the request is verbal, I cannot drop you. Alternatively, there is a form you can fill out and have me

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sign before 5 pm on the last day for student-initiated drops. (Make an appointment to ensure I am on campus to provide the signature). After submitting your request, you must verify the drop was processed, notifying me in writing within 48 hours of your original request if it was not. Otherwise, you will stay on the roster for the rest of the semester and be awarded the grade earned. Drops past the drop date are only done in documented, extreme, life-crisis circumstances, which usually involve withdrawing from school entirely.

MCC allows for “excused” absences caused by (1) authorized participation in official College functions, (2) personal illness, (3) an illness or a death in the immediate family, or (4) the observance of a religious holy day. It is your responsibility to let me know the reason for an absence the day you return to campus and provide sufficient documentation (doctor’s note, email from coach, etc.).

Normally, please do not bring your children, friends, or guests to the class. (Please discuss this with me because I do not want you missing class if you cannot make child care arrangements.)

Student Behavioral Expectations or Conduct Policy:

Students are expected to maintain classroom decorum that includes respect for other students and the instructor, prompt and regular attendance, and an attitude that seeks to take full advantage of the education opportunity.

- Cell phone usage, either voice or text, not directly pertaining to coursework will not be tolerated during class. The student will be asked to leave the classroom. This will result in a recorded absence for the class meeting.
- Computer usage, for academic or personal reasons, not directly pertaining to coursework will not be tolerated during class. The student will be asked to leave the classroom. This will result in a recorded absence for the class meeting.
- Listening to audio input (i.e. music/podcasts) not related to course material during lecture/presentations is unacceptable. The student will be asked to leave the classroom. This will result in a recorded absence for the class meeting.
- Please do not bring young children with you to the classroom. While they are cute, they are also a distraction.
- The student must send all email messages to the instructor using their MCC provided student email account (firstinitiallastinitialstudentIDnumber@students.mclennan.edu). The instructor will send all emails to the students’ MCC email accounts. Students are expected to check their MCC student email accounts on a regular basis while enrolled in this course.
- Students who are having trouble with technology should contact the Tech Support at (254) 299- 8077 M-F 8:00 am to 5:00 pm or (254) 299-6202 after hours.

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* [Click Here for the MCC Academic Integrity Statement](#)

(www.mclennan.edu/academic-integrity)

The link above will provide you with information about academic integrity, dishonesty, and cheating.

* [Click Here for the MCC Attendance/Absences Policy](#)

(www.mclennan.edu/highlander-guide/policies)

Click on the link above for the college policies on attendance and absences. Your instructor may have guidelines specific to this course.

Accommodations/ADA Statement

Any student who is a qualified individual with a disability may request reasonable accommodations to assist with providing equal access to educational opportunities. Students should contact the Accommodations Coordinator as soon as possible to provide documentation and make necessary arrangements. Once that process is completed, appropriate verification will be provided to the student and instructor. Please note that instructors are not required to provide classroom accommodations to students until appropriate verification has been provided by the Accommodations Coordinator. Instructors should not provide accommodations unless approved by the Accommodations Coordinator. For additional information, please visit mclennan.edu/disability.

Students with questions or who require assistance with disabilities involving physical, classroom, or testing accommodations should contact:

disabilities@mclennan.edu

254-299-8122

Room 319, Student Services Center

* [Click Here for more information about Title IX](#)

(www.mclennan.edu/titleix)

We care about your safety, and value an environment where students and instructors can successfully teach and learn together. If you or someone you know experiences unwelcomed behavior, we are here to help. Individuals who would like to report an incident of sexual misconduct are encouraged to immediately contact the Title IX Coordinator at titleix@mclennan.edu or by calling Dr. Drew Canham (Vice President for Student Success) at 299-8645. Individuals also may contact the MCC Police Department at 299-8911 or the MCC Student Counseling Center at MCC by calling 299-8210. The MCC Student Counseling Center is a confidential resource for students.

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McLennan's Title IX webpage (<http://www.mclennan.edu/titleix/>) contains more information about definitions, reporting, confidentiality, resources, and what to do if you or someone you know is a victim of sexual misconduct, gender-based violence or the crimes of rape, acquaintance rape, sexual assault, sexual harassment, stalking, dating violence or domestic violence.

** You will need to access each link separately through your Web browser (for example: Internet Explorer, Mozilla, Chrome, or Safari) to print each link's information.*