

Updated 07/18/2023



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

College Physics I

PHYS – 1401 – 004

Professor Laura E. Wright

NOTE: This is a 16-week course.
NOTE: This is a Face-to-Face course.

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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. Semester Hours 4 (3 lec/3 lab)

Prerequisites and/or Corequisites:

Prerequisite: MATH 1314 and MATH 1316, 2412 or 2413 with a grade of C or better.

Instructor Information:

Instructor Name: Professor Laura Wright

MCC Email: lwright@mclennan.edu (preferred method of contact)

Office Phone Number: 254-299-8419

Office Location: S 246 or Zoom Meeting ID: 837-729-4618

Office/Teacher Conference Hours: 9-11 T/W/Th, please email me if you need to meet outside of this

I generally try to answer emails and calls as quickly as possible. However, please give me at least 24 hours to respond. Emails/calls sent on weekends or holidays may not receive a response until the following business day.

This course meets every Tuesday and Thursday from 11:10am – 2:05pm in Room 230 of the Science building

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, and logarithms. Must not have camera or web access (you cannot use your phone for quizzes and tests)
- Reliable access to the internet. Homework assignments can be accessed online through Mastering Physics, and other materials will be available through Brightspace

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

Methods of Teaching and Learning:

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

Course Objectives and/or Competencies:

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

1. Determine the components of linear motion (displacement, velocity, and acceleration), and especially motion under conditions of constant acceleration. (*Chapters 2&4*)
2. Apply Newton's laws to physical problems including gravity. (*Chapter 5&6*)
3. Solve problems using principles of energy. (*Chapters 7&8*)
4. Use principles of impulse and linear momentum to solve problems. (*Chapter 9*)
5. Solve problems in rotational kinematics and dynamics, including the determination of the location of the center of mass and center of rotation for rigid bodies in motion. (*Chapter 10*)
6. Solve problems involving rotational and linear motion. (*Chapter 10*)
7. Describe the components of a wave and relate those components to mechanical vibrations, sound, and decibel level. (*Chapter 14*)
8. Demonstrate an understanding of equilibrium, including the different types of equilibrium. (*Chapter 11*)
9. Discuss simple harmonic motion and its application to quantitative problems or qualitative questions. (*Chapter 13*)
10. Solve problems using the principles of heat and thermodynamics. (*Chapters 16, 17, and 18*)
11. Solve basic fluid mechanics problems. (*Chapter 15*)
12. Demonstrate techniques to set up and perform experiments, collect data from those experiments, and formulate conclusions from an experiment. (*Laboratory*)

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13. Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly in written reports. (*Laboratory*)

Course Attendance/Participation Guidelines:

If a student is not in attendance in accordance with the policies/guidelines of the class as outlined in the course syllabus as of the course census date, faculty are required to drop students from their class roster prior to certifying the respective class roster. A student's financial aid will be re-evaluated accordingly and the student will only receive funding for those courses attended as of the course census date.

Before the 60% point of the semester, a student who is absent for 25% or more of a face-to-face or blended course or who misses 25% or more of assigned work for an online course will be withdrawn from the course with a grade of W. A student may also request to be withdrawn with a grade of W before the 60% point of the semester. After the 60% point of the semester, the student may request to be withdrawn if the student is passing, or be assigned the final grade earned at the end of the semester after grades have been updated to reflect missing work.

Attendance will be taken during each lecture session and each lab session. If you are not in lecture or lab when attendance is taken, you will be marked absent, regardless if you show up later in the class period. In addition, if you leave lecture or lab before you are officially dismissed, you may be marked absent. For this class, which meets twice a week, and has both a lecture and lab section, 25% of class time is 16 lecture/lab sessions. If you reach 16 absences, the above withdrawal rules apply.

Course Outline or Schedule:

This calendar is subject to change. In the event that I need to make changes to the schedule, I will notify the class via MCC email, Brightspace announcement, and in class as soon as I possibly can. Please make sure you check email and Brightspace regularly in the event of a change.

Week	Topic	Textbook	What's Due Tuesday?
Week 1 Aug 22 – Aug 28	Introduction to Physics Motion in 1 Dimension	Ch. 1, 2	

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	<i>Lab 1: Measurements</i>		
Week 2 Aug 29 – Sep 4	Kinematics/ Free Fall Vectors/Motion in 2D <i>Lab 2: Free Fall</i>	Ch. 2, 3	HW 1 due Tuesday, Aug 29 @11:59pm
Week 3 Sep 5 – Sep 11	Projectiles Newton's Laws <i>Lab 3: Vectors</i>	Ch. 4, 5	HW 2 due Tuesday, Sep 5 @11:59pm
Week 4 Sep 12 – Sep 18	Forces and Free Body Diagrams Friction, Strings, Springs <i>Lab 4: Projectiles</i>	Ch. 5	HW 3 due Tuesday, Sep 12 @11:59pm
Week 5 Sep 19 – Sep 25	Work, Kinetic Energy, Power Thur, Sep 21 – TEST 1 (Ch. 1-5)	Ch. 6	HW 4 due Tuesday, Sep 19 @11:59pm
Week 6 Sep 26 – Oct 2	Potential Energy Conservation of Energy Linear Momentum and Impulse <i>Lab 5: Springs</i>	Ch. 7, 8	HW 5 due Tuesday, Sep 26 @11:59pm
Week 7 Oct 3 – Oct 9	Conservation of Momentum, Collisions Rotational Kinematics <i>Lab 6: Collisions</i>	Ch. 9	HW 6 due Tuesday, Oct 3 @11:59pm

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Week 8 Oct 10 – Oct 16	Rotational Energy Rotational Dynamics Static Equilibrium <i>Lab 7: Rotational Motion</i>	Ch. 10, 11	HW 7 due Tuesday, Oct 10 @11:59pm
Week 9 Oct 17 – Oct 23	Gravity Fluids, Archimedes' Principle <i>Lab 8: Static Equilibrium</i>	Ch. 12, 15	HW 8 due Tuesday, Oct 17 @11:59pm
Week 10 Oct 24 – Oct 30	Bernoulli's Equation Thur, Oct 26 – TEST 2 (Ch. 6 – 12)	Ch. 15	HW 9 due Tuesday, Oct 24 @11:59pm
Week 11 Oct 31 – Nov 6	Temperature and Heat Ideal Gases and Phase Equilibrium <i>Lab 9: Archimedes' Principle</i>	Ch. 16	HW 10 due Tuesday, Oct 31 @11:59pm
Week 12 Nov 7 – Nov 13	Latent Heat and Phase Changes Thermodynamics <i>Lab 10: Calorimetry</i>	Ch. 17, 18	HW 11 due Tuesday, Nov 7 @11:59pm
Week 13 Nov 14 – Nov 20	Simple Harmonic Motion Waves <i>Lab 11: Simple Harmonic Motion</i>	Ch. 13, 14	HW 12 due Tuesday, Nov 14 @11:59pm
Week 14 Nov 21 – Nov 27	Sound	Ch. 14	HW 13 due Tuesday, Nov 21

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	<i>Thur, Nov 23 – No Class, Thanksgiving Break</i>		@11:59pm
Week 15 Nov 28 – Dec 3	Tue, Nov 29 – TEST 3 (Ch. 13-18) <i>Lab 12: Waves and Sound</i>		HW 14 due Tuesday, Nov 28 @11:59pm
Week 16 Dec 5	FINAL EXAM – Tuesday, December 5 @ 12:30 – 2:30 pm in Science 230		

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. Homework assignments will generally be due every Tuesday at 11:59pm, unless stated otherwise. The Tuesday a homework is due, we will go over some of the more challenging homework problems from that assignment during the lab period. The lowest homework grade will be dropped at the end of the semester.

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

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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 to be completed during the lab time. 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. You will have 120 minutes to complete each exam.

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. You will have 120 minutes to complete the final exam.

Academic Dishonesty: Any student that is found guilty of academic dishonesty, such as cheating, plagiarism, or collusion, will receive a zero grade on every test or assignment involved. For repeated violations, a guilty student can be assigned a failing grade in this course and can be recommended for suspension from the McLennan Community College District.

Late Work and Make Up Work Policies:

Excused Absence Policy: MCC allows for “excused” absences under these circumstances: authorized participation in official College functions; personal illness, or the illness of a dependent (such as a child) that requires the student to serve as a caretaker; an illness or a death in the immediate family; the observance of a religious holy day. Additionally, accommodations can be made for special circumstances related to military service, changes in immigration status, pregnancy and parenting protection under Title IX. 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.).

Late Work Policy: Late work will not be accepted, for any reason. If you are absent on the day a homework is due, you must scan it and send it to me electronically. If you miss a lab, quiz, or test on the dates listed in the calendar above due to an MCC excused absence reason, you must

contact me as soon as possible (before any applicable lab, quiz, test dates, if possible) and provide acceptable documentation as listed above for your absence so that I can make arrangements for you to make up the affected assignment(s). Absences without documentation or for reasons that do not fall under the above will not be considered for makeup and you will receive a zero for each affected assignment.

If you wish to withdraw from this class, you must email me from your MCC student account before 5 pm on the last day for student-initiated withdrawals, with the request "Please withdraw me from COURSE ID and SECTION NUMBER." If the email does not come from your student account, or if the request is verbal, I cannot withdraw you. Otherwise, you will stay on the roster for the rest of the semester and be awarded the grade earned. Withdrawing past the 60% date is only done in documented, extreme, life-crisis circumstances, which usually involve withdrawing from school entirely.

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 childcare 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 this educational opportunity.

[Click Here for the MCC Attendance/Absences Policy](https://www.mclennan.edu/highlander-guide/policies.html)

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

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ACADEMIC RESOURCES/POLICIES

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. For additional information, please visit www.mclennan.edu/disability.

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

disabilities@mclennan.edu 2542998122 Room
319, Student Services Center

Title IX:

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 acting Title IX Coordinator at titleix@mclennan.edu or by calling, Dr. Claudette Jackson, (Accommodations/Title IX) at (254) 299-8465. MCC employees are mandatory reporters and must report incidents immediately to the Title IX Coordinator. Individuals may also contact the MCC Police Department at (254) 299-8911 or the MCC Student Counseling Center at (254) 299-8210. The MCC Student Counseling Center is a

confidential resource for students. Any student or employee may report sexual harassment anonymously by visiting <http://www.lighthouse-services.com/mclennan/>. Go to McLennan's Title IX webpage at www.mclennan.edu/titleix/. It 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.

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/>

Academic Support and Tutoring is here to help students with all their course-related needs. Specializing in one-on-one tutoring, developing study skills, and effectively writing essays. Academic Support and Tutoring can be found in the Library and main floor of the Learning Commons. This service is available to students in person or through Zoom. You can contact the Academic Support and Tutoring team via Zoom or email (ast@mclennan.edu) by going to our website (<https://www.mclennan.edu/academic-support-and-tutoring/>).

College personnel recognize that food, housing, and transportation are essential for student success. If you are having trouble securing these resources or want to explore strategies for balancing life and school, we encourage you to contact either MCC CREW – Campus Resources Education Web by calling (254) 299-8561 or by emailing crew@mclennan.edu or a Success Coach by calling (254) 299-8226 or emailing SuccessCoach@mclennan.edu. Both are located in the Completion Center located on the second floor of the Student Services Center (SSC) which is open Monday-Friday from 8 a.m.-5 p.m.

Paulanne's Pantry (MCC's food pantry) provides free food by appointment to students, faculty and staff. To schedule an appointment, go to https://mclennan.co1.qualtrics.com/jfe/form/SV_07byXd7eB8iTqJg. Both the Completion Center and Paulanne's Pantry are located on the second floor of the Student Services Center (SSC).

MCC Foundation Emergency Grant Fund:

Unanticipated expenses, such as car repairs, medical bills, housing, or job loss can affect us all. Should an unexpected expense arise, the MCC Foundation has an emergency grant fund that may be able to assist you. Please go to

<https://www.mclennan.edu/foundation/scholarships-and-resources/emergencygrant.html>

to find out more about the emergency grant. The application can be found at

https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf.

MCC Academic Integrity Statement:

Go to www.mclennan.edu/academic-integrity for information about academic integrity, dishonesty, and cheating. The unauthorized use of artificial intelligence (AI) for classwork can be a violation of the College's General Conduct Policy. Whether AI is authorized in a course and the parameters in which AI can be used in a course will be outlined by each instructor.

Minimum System Requirements to Utilize MCC's D2L|Brightspace:

Go to <https://www.mclennan.edu/center-for-teachingandlearning/FacultyandStaffCommons/requirements.html> for information on the minimum system requirements needed to reliably access your courses in MCC's D2L|Brightspace learning management system.

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 notified via 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.

Email Policy:

McLennan Community College would like to remind you of the policy (<http://www.mclennan.edu/employees/policy-manual/docs/E-XXXI-B.pdf>) regarding college email. All students, faculty, and staff are encouraged to use their McLennan email addresses when conducting college business.

A student's McLennan email address is the preferred email address that college employees should use for official college information or business. Students are

expected to read and, if needed, respond in a timely manner to college emails. For more information about your student email account, go to www.mclennan.edu/studentemail.

Instructional Uses of Email:

Faculty members can determine classroom use of email or electronic communications. Faculty should expect and encourage students to check the college email on a regular basis. Faculty should inform students in the course syllabus if another communication method is to be used and of any special or unusual expectations for electronic communications.

If a faculty member prefers not to communicate by email with their students, it should be reflected in the course syllabus and information should be provided for the preferred form of communication.

Email on Mobile Devices:

The College recommends that you set up your mobile device to receive McLennan emails. If you need assistance with set-up, you may email Helpdesk@mclennan.edu for help.

You can find help on the McLennan website about connecting your McLennan email account to your mobile device:

- [Email Setup for iPhones and iPads](#)
- [Email Setup for Androids](#)

Forwarding Emails:

You may forward emails that come to your McLennan address to alternate email addresses; however, the College will not be held responsible for emails forwarded to an alternate address that may be lost or placed in junk or spam filters.

For more helpful information about technology at MCC, go to [MCC's Tech Support Cheat Sheet](#) or email helpdesk@mclennan.edu.

Disclaimer:

The resources and policies listed above are merely for informational purposes and are subject to change without notice or obligation. The College reserves the right to change policies and other requirements in compliance with State and Federal laws. The provisions of this document do not constitute a contract.