McLennan
COMMUNITY
COLLEGE

WACO, TEXAS

COURSE SYLLABUS

AND

INSTRUCTOR PLAN

COLLEGE PHYSICS I

PHYS – 1401 – 87

Professor Laura Wright

NOTE: This is a 16-week course.
NOTE: This is an Online Only course.

COVID 19 Notice:

McLennan Community College is committed to providing you with every resource you need to reach your academic goals. We are also concerned for your safety. We are working through COVID-19 guidelines to make sure we offer a safe environment for you and our faculty. This will include smaller class sizes to manage social distancing and proper cleaning techniques. You will have the advantage of a physical classroom experience but may also need to work part of the time online as we adjust to limited classroom capacity. This will also allow us the flexibility to move online if so directed by federal, state and/or local COVID 19 guidelines. Faculty and staff are preparing now to ensure that you have the best experience in the midst of these uncertain times.

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 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 communication
Office Phone Number: 254-299-8419
Office Location: HP 230
Office/Teacher Conference Hours: M/W 2 pm to 4pm, T 3 pm to 4:30 pm (by appointment)
Zoom Meeting ID: 837-729-4618

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. This course is entirely online and you will need to access Brightspace, Mastering Physics, Zoom, email, and other online resources.

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).

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 here (https://www.mclennan.edu/foundation/docs/Emergency_Grant_Application.pdf).

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. In the event of complete system-wide outage, due dates and the schedule will be adjusted accordingly.

*** Click Here for the Minimum System Requirements to Utilize MCC's D2L|Brightspace (https://www.mclennan.edu/center-for-teaching-and-learning/Faculty%20and%20Staff%20Commons/requirements.html)**

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.

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.

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 her/his 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.

Forwarding Emails:

You may forward the 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 become lost or placed in junk or spam filters.

Methods of Teaching and Learning:

This class will be delivered in a completely online format, through text reading assignments, lecture videos, online homework, quizzes, lab activities, and tests.

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. (*Chapters 16, 17, and 18*)
12. Discuss simple harmonic motion and its application to quantitative problems or qualitative questions. *(Chapter 13)*
13. Describe the components of a wave and relate those components to mechanical vibrations, sound, and decibel level. *(Chapter 14)*
14. Prepare laboratory reports that clearly communicate experimental information in a logical and scientific manner. (*Laboratory*)
15. Conduct basic laboratory experiments involving classical mechanics. (*Laboratory*)
16. Relate physical observations and measurements involving classical mechanics to theoretical principles. (*Laboratory*)
17. Evaluate the accuracy of physical measurements and the potential sources of error in the measurements. (*Laboratory*)
18. 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.
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:

You are responsible for everything listed in the detailed calendar below. You should watch the associated videos and read the indicated pages in the textbook on or before the due date for each

assignment, so that you have time to complete the assignment. 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.

Week	Topic	Textbook	What's due Sunday @ 11:59pm
Week 1 8/24-8/30	• Orientaion • Introduction to Physics	Ch. 1	❑ Orientation Quiz ❑ HW 1 ❑ Discussion Board 1
Week 2 8/31-9/6	• Motion in One Dimension • Kinematic Equations • Free Fall	Ch. 2	❑ HW 2 ❑ Lab 1 ❑ Quiz 1 ❑ Discussion Board 2
Week 3 9/7-9/13	• Vectors • Motion in Two Dimensions • Projectiles	Ch. 3 Ch. 4	❑ HW 3 ❑ Lab 2 ❑ Discussion Board 3
Week 4 9/14-9/20	• Newton's Laws • Free Body Diagrams • Forces	Ch. 5	❑ HW 4 ❑ Lab 3 ❑ Quiz 2 ❑ Discussion Board 4
Week 5 9/21-9/27	• Frictional Forces • Strings and Springs • **Test 1 (Weeks 1-4)**	Ch. 6	❑ HW 5 ❑ **Test 1 - take between 9/21-9/25**
Week 6 9/28-10/4	• Work and Kinetic Energy • Power • Potential Energy • Conservation of Energy	Ch. 7 Ch. 8	❑ HW 6 ❑ Lab 4 ❑ Discussion Board 5
Week 7 10/5-10/11	• Linear Momentum • Impulse • Conservation of Momentum • Collisions	Ch. 9	❑ HW 7 ❑ Lab 5 ❑ Quiz 3 ❑ Discussion Board 6
Week 8 10/12-10/18	• Rotational Kinematics • Rotational Energy	Ch. 10	❑ HW 8 ❑ Lab 6 ❑ Discussion Board 7
Week 9 10/19-10/25	• Rotational Dynamics • Static Equilibrium • Gravity	Ch. 11 Ch. 12	❑ HW 9 ❑ Lab 7 ❑ Quiz 4 ❑ Discussion Board 8

Week 10 10/26-11/1	• Fluids, Density and Pressure • Archimedes' Principle • **Test 2 (Weeks 5-9)**	Ch. 15	❑ HW 10 ❑ **Test 2 - take between 10/26-10/30**
Week 11 11/2-11/8	• Bernoulli's Equation • Temperature and Heat • Methods of Heat Transfer	Ch. 15 Ch. 16	❑ HW 11 ❑ Lab 8 ❑ Discussion Board 9
Week 12 11/9-11/15	• Ideal Gases • Phase Equilibrium • Latent Heats • Phase Changes	Ch. 17	❑ HW 12 ❑ Lab 9 ❑ Quiz 5 ❑ Discussion Board 10
Week 13 11/16-11/22	• Thermodynamics • Heat Engines • Refrigerators	Ch. 18	❑ HW 13 ❑ Lab 10 ❑ Discussion Board 11
Week 14 11/23-11/29	• Simple Harmonic Motion • Waves • Sound	Ch. 13 Ch. 14	❑ HW 14 ❑ Quiz 6 ❑ Discussion Board 12
Week 15 11/30-12/6	**Test 3 (Weeks 10-14)**		❑ **Test 3 - take between 11/30-12/4**
Week 16 12/7-12/8	**Final Exam**		**Final Exam - take between 12/7-12/8**

Course Grading Information:

Category	**Percent**
Homework	20%
Discussion Boards	5%
Quizzes	10%
Labs	15%
Tests (3 Regular averaged together)	30%
Final Exam	20%
Total	**100%**

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

Orientation Quiz: Before you can complete any assignments for the course, you must complete an orientation quiz. The orientation quiz is not for credit, but is designed to make sure you understand the policies of this course. You will have unlimited attempts, but you must score an 80% or higher to unlock the course content. Please don't wait to complete the orientation quiz, so that you do not miss any important due dates.

Homework (20%): Homework will be completed through Mastering Physics. It is due each week, except for weeks there is a test. If you are having trouble with the homework, do not wait until the last minute to get help. It is your responsibility to come to my office hours and get help if you need it. There will be a 5% penalty for each day that a homework assignment is late. This is to encourage you not to fall behind, while also allowing flexibility for unforeseen circumstances. The lowest homework grade will be dropped at the end of the semester.

Discussion Boards (5%): each week, you will need to complete a discussion board assignment. You will be given a prompt and expected to answer thoughtfully. You may also respond to other student's posts, as long as the discussion is thoughtful and civil. Discussion board questions may be over a certain topic, or a reflection on what you have learned that week. There will be no credit given for late discussion board assignments, for any reason.

Quizzes (10%): Throughout the semester, there will be 6 quizzes given. Dates for quizzes are given in the calendar above. You can take the quiz at any time within the week they are given. Quizzes are open note and open book. You will have two attempts to complete each quiz, and they will be timed, 30 minutes for each attempt. Beware, the questions are randomized, so you may see different questions each attempt.

Lab Activities (15%): You will need to complete a lab activity each week. All of the labs will be completed online. They will mostly be in the form of simulations designed to enhance your understanding of each week's lessons. Instructions for each lab will be given through Brightspace. Please see late policy below if you are unable to complete the lab activity by the due date. The lowest lab grade will be dropped at the end of the semester.

Tests (30%): There will be three tests throughout the course of this semester. The tests will be taken online in the date ranges listed in the schedule above. Please see late policy below if you are unable to complete the test in the date range given. No tests will be dropped.

Final Exam (20%): The final exam will be comprehensive. It will be in the same format as the regular semester tests. It will be given through Mastering Physics, and you will need to take it in the testing center in the date range listed on the calendar above. Please see late policy below if you are unable to complete the final exam in the date range given.

Extra Credit Opportunities: Throughout out the semester, I may offer extra credit activities. I will post them on Brightspace as they arise.

Academic Dishonesty. Any student that is found guilty of academic dishonesty such as cheating, plagiarism, or collusion, will receive the 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, Attendance, and Make Up Work Policies:

According to MCC policy, you will be dropped from the course if you miss 25% of class. Since this is an online course, attendance will be based upon participation in the course. Students should have activity in the course (homework, test, discussion board, lab). I will run a report each week on Sundays to determine who is participating in the class. Any week in which work is not logged will count as an absence. You will be dropped after four weeks of inactivity (25% of class time). Attendance will be logged in Brightspace, and students are encouraged to regularly check Brightspace for accuracy.

You will receive a 5% penalty for each day a homework assignment is late, regardless of the reason it is late.

Discussion board assignments will ***not*** be accepted late, for any reason.

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.).

If you are unable to complete a test, the final exam, quiz, or lab activity within the date ranges given in the calendar above, please contact me as soon as possible. If you are able to provide documentation for the MCC excused absence reasons listed above, I will make other arrangements for you to complete the test, final, quiz, or lab activity.

The MCC excused absence policy also includes any children you have that may become sick. If you have to miss a due date because you are caring for your sick child, please provide a doctor's note as soon as you are able, so that I can make other arrangements for you to complete your work.

If you are called to active military duty that requires an extended absence, please contact me, so that we can determine the best options for you moving forward in this course.

If you wish to drop this class, for any reason, 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." 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 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.

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.

*** 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**

(https://www.mclennan.edu/highlander-guide/policies.html)

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. Any student or employee may report sexual harassment anonymously by visiting the following website: http://www.lighthouse-services.com/mclennan/.

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.*