



WACO, TEXAS

**COURSE SYLLABUS
AND
INSTRUCTOR PLAN**

**College Physics I
PHYS 1401 87**

Dr. Ke (Mike) Qiao

NOTE: This is an online course.

NOTE: This is a 6-week course

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I reserve the right to change any term on this syllabus at any time during the semester.

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: Credit for MATH 1316 or equivalent.

Instructor Information:

Instructor Name:	Dr. Ke (Mike) Qiao
MCC E-mail:	kqiao@mclennan.edu
Office Phone Number:	NA
Office Location:	NA
Office Hours:	5 pm - 9 pm by email or phone. M – F
Zoom meeting ID:	8192909574, by appointments only

Required Text & Materials: [MCC Bookstore Website](#)

- *Physics*, 5th Edition
James S. Walker
- *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.

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
(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.

Additional requirements:

Students must have a reliable computer and internet connection. Students must be able to demonstrate basic computer literacy skills such as keyboarding, sending and receiving email, and using a web browser.

Methods of Teaching and Learning:

Students will learn through watching lecture videos, online homework assignments, laboratory exercises, quizzes, and tests. Additional methods may be used as opportunities present themselves.

Course Objectives and/or Competencies:

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1. Determine the components of linear motion (displacement, velocity, and acceleration), especially motion under conditions of constant acceleration.
2. Apply Newton's laws to physical problems including gravity.
3. Solve problems using principles of energy.
4. Use principles of impulse and linear momentum to solve problems.
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.
6. Solve problems involving rotational and linear motion.
7. Describe the components of a wave and relate those components to mechanical vibrations, sound, and decibel level.
8. Demonstrate an understanding of equilibrium, including the different types of equilibrium.
9. Discuss simple harmonic motion and its application to quantitative problems or qualitative questions.
10. Solve problems using the principles of heat and thermodynamics.
11. Solve basic fluid mechanics problems.
12. Demonstrate techniques to set up and perform experiments, collect data from those experiments, and formulate conclusions from an experiment.
13. Record experimental work completely and accurately in laboratory notebooks, and communicate experimental results clearly in written reports.

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.

Course Outline: This course will encompass the following material. Objectives 12-13 are covered in laboratory work. Core Objectives are covered throughout the entire semester.

Chapter 1 – Introduction to Physics
Chapter 2 – One-Dimensional Kinematics
Chapter 3 – Vectors in Physics
Chapter 4 – Two-Dimensional Kinematics
Chapter 5 – Newton's Laws of Motion
Chapter 6 – Applications of Newton's Laws
Chapter 7 – Work and Kinetic Energy
Chapter 8 – Potential Energy and Conservation of Energy
Chapter 9 – Linear Momentum and Collisions

Chapter 10 – Rotational Kinematics and Energy
Chapter 11 – Rotational Dynamics and Static Equilibrium
Chapter 12 – Gravity
Chapter 13 – Oscillations about Equilibrium
Chapter 14 – Waves and Sound
Chapter 15 – Fluids
Chapter 16 – Temperature and Heat
Chapter 17 – Phases and Phase Changes
Chapter 18 – The Laws of Thermodynamics

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	Chapter Coverage	Objectives		Chapter Coverage	Objectives
Week 1	1-3	1	Week 4	12-15	7, 9, 11
Week 2	5-7	2, 3	Week 5	16-18	10
Week 3	9-11	3, 4, 5, 6, 8	Week 6	Final	1-11

Course Grading Information:

Assignments: 45%

Quizzes/Exams: 20%

Labs: 20%

Final Exam: 15%

Assignments: Homework assignments are involved numeric problems designed to challenge you to gain a deeper understanding of the course material. Assignments will be given, turned in and graded utilizing Mastering Physics.

Lab: 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.

Quizzes/Exams: There will be five Quizzes/Exams during the semester. Exam questions will come from the material covered in class. Quizzes/Exams will be taken, turned in and graded utilizing Mastering Physics. All exams will be timed and due at the end of the week it is given.

Final Exam: The final exam is comprehensive and has the same format as the other quizzes/exams. It will be taken, turned in and graded utilizing Mastering Physics.

Discussion posts will be counted as extra credit added manually to assignment grades. The first post counts 50 points, the second (including replies) counts 30, the 3rd and 4th each count 10 points. You can have a maximum of 100 points added to regular assignment grades.

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.

Lab: students lose 30% credit for lab reports turned in within 3 days after the due date and time, and no credit after the 3 days. Student absences have no effect on the due date and time.

Exams: Unless there is a college approved, documented excused absence no quiz/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 assignments, or 8 assignments.* 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. Since this is an online course, absences will be counted in line with assignments. Three assignments will be given each week. You will be counted absent for a specific week if you miss two or more assignments.

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](http://www.mclennan.edu/academic-integrity) (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](http://www.mclennan.edu/highlander-guide-2014-15/policies)
(www.mclennan.edu/highlander-guide-2014-15/policies)

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

Updated 11/04/2022



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 254-
2998122
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, (Diversity, Equity & Inclusion/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 from 7:30 am - 6:00 pm Monday through Thursday and 7:30 am - 5:00 pm on Friday. You can contact the Academic Support and Tutoring team via Zoom (<https://mclennan.zoom.us/j/2542998500>) or email (ast@mclennan.edu) during the above mentioned times.

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.

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

Go to <https://www.mclennan.edu/center-for-teaching-and-learning/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.