Elementary Physics (PHYS 1305)

CREDIT
3 Semester Credit Hours (3 hours lecture, 0 hours lab)

MODE OF INSTRUCTION
Online

PREREQUISITE/CO-REQUISITE:
N/A

COURSE DESCRIPTION
Conceptual level survey of topics in Physics intended for liberal arts and other non-science majors. May or may not include a Laboratory

COURSE OBJECTIVES
Upon completion of this course, the student will be able to
1. Define basic terminology as related to applied physics.
2. Apply relationships of length, mass, time, and energy to understand various types of motion, forces, and fields.
3. Demonstrate problem-solving techniques related to physics principles including: vectors, motion, mechanics, simple machines, matter, heat, thermodynamics, etc.
4. Answer conceptual level questions related to physics principles including: vectors, motion, mechanics, simple machines, matter, heat, thermodynamics, etc.

INSTRUCTOR CONTACT INFORMATION

Instructor:	Bryan Neal
Email:	bkneal@lit.edu
Office Phone:	(409)247-5103
Office Location:	MPC215
Office Hours:	Appointments may be requested by email or Starfish

REQUIRED TEXTBOOK AND MATERIALS
1. *College Physics 2e* by Paul Peter Urone and Roger Hinrichs, 2022 Edition. OpenStax. https://openstax.org/details/books/college-physics
2. Three-ring binder (2 inches recommended) with tabbed dividers.
3. Scientific calculator.
4. Pens or pencils.

Approved: Initials/date

ATTENDANCE POLICY

Participation is vital to understanding Physics, so student activity will be recorded weekly in Starfish. Students must not simultaneously receive a "0" grade on the Discussion AND Quiz or they will lose 20 points for Participation for the week. There may be infrequent chances for students to get small amounts of "bonus" Participation points. **In an online class, absences cannot be excused without documentation covering all 7 days of the week in question.**

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

COURSE CALENDAR

Section	TOPIC	READINGS	Start	End
0	General/Persistent Information	Module 0	Mo, 08/25	Tu, 09/02
1	Introduction, Kinematics	CH1, CH2	Mo, 08/25	Sa, 09/06
2	2-D Kinematics, Dynamics	CH3, CH4	Mo, 08/25	Sa, 09/06
3	Applications of Newton's Laws	CH5	Sa, 09/06	Sa, 09/13
4	Circular Motion, Work, Energy	CH6, CH7	Sa, 09/13	Sa, 09/20
5	Momentum, Statics, Torque	CH8, CH9	Sa, 09/20	Sa, 09/27
6	Rotational Kinematics	CH10	Sa, 09/27	Sa, 10/04
7	Fluid Statics, Fluid Dynamics	CH11, CH12	Sa, 10/04	Sa, 10/11
8	Temperature, Gas Laws, Kinetic Theory	CH13	Sa, 10/11	Sa, 10/18
9	Heat Transfer, Phase Change	CH14	Sa, 10/18	Sa, 10/25
	MANDATORY Midterm Exam	CH1 – CH14	Th, 10/23	Tu, 10/28
10	Oscillations, Waves, Sound	CH16, CH17	Sa, 10/25	Sa, 11/01
11	Electric Charge, Ohm's Law	CH18, CH20	Sa, 11/01	Sa, 11/08
12	Circuits, Magnetism, Induction	CH21, CH22, CH23	Sa, 11/08	Sa, 11/15
13	Electromagnetic Waves, Relativity	CH24, CH28	Sa, 11/15	Sa, 11/22
14	Quantum Physics, Atomic Physics	CH29, CH30	Sa, 11/22	Sa, 11/29
15	Radioactivity, Nuclear Physics	CH31	Sa, 11/29	Sa, 12/06
	MANDATORY Final Exam	CH16 – CH31	Th, 12/04	Tu, 12/09

Note: A FULL Assignment Calendar will be shared later in the document.

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

1. Participation 10%
2. Discussions (15) 15%
3. Quizzes (15) 15%
4. MANDATORY Midterm Exam 20%
5. Group Project Average (5) 20%
6. MANDATORY Final Exam 20%

Note: Additional information will be shared later in the document.

GRADE SCALE

- 90-100 A
- 80-89 B
- 70-79 C
- 60-69 D
- 0-59 F

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at https://lit.edu/online-learning/online-learning-minimum-computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses.

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

0. Students should ALWAYS contact the Instructor IMMEDIATELY with ANY concerns.
1. Safety and etiquette must always be observed in any physical or digital environment. Any student who breaks safety rules and/or does not conduct themselves properly in any situation will be removed from class to ensure the safety and comfort of others.
2. Children and/or guests are not allowed in the lecture classroom, the laboratory room, or the instructor's office at any time. This includes any scheduled/unscheduled lessons or meetings.
3. If class times and/or delivery method are incompatible with any student's needs, then the student is responsible for switching to a different class section in the first week. If no suitable options are available, then the student should consider dropping the course.
4. The following small rounding allowances will be made: 89.4X→90→A, 79.4X→80→B, 69.XX→70→C, 59.XX→60→D. No other exceptions will be made.
5. Each week has several electronic assignments due as indicated in the Course Calendar in this Syllabus. The due dates are set and visible in multiple locations in Blackboard.
6. Students are expected to maintain physical and/or digital copies of all resources and scratch work. Course material is "recycled" throughout the semester, and most Activities provide "hints" for future Quizzes and Exams. [It is a VERY bad idea to throw anything away until after the semester ends…]
7. Individual extensions on Quizzes will need to be made in time so that the student can complete the assignment within 1 week of the original due date. Extended Quizzes will have the grade capped at 70. [An 80 would be adjusted to a 70, but a 40 would not be further penalized.]
8. NO OTHER ASSIGNMENTS CAN BE EXTENDED INDIVIDUALLY.
9. In the first half of each week, students should strive to work through the relevant Textbook Chapters, simulations/software, video content, and Discussion Boards.
10. By the end of each week, students should strive to read other students' responses to Discussion Boards, complete the assigned Quiz, and prepare for any upcoming Major Assignments.
11. Students will be notified by Announcement and/or Email if any policies or dates change.
12. Respondus Lockdown Browser [with Monitoring] will be required for the MANDATORY Exams.
13. Participation points can go above 100 with bonus points. This will not be capped. However, if a student technically earns negative Participation points, they will be "rounded up" to zero.
15. To clarify, the MANDATORY Midterm Exam, Project Steps, and MANDATORY Final Exam cannot be late for any reason. Missing any of these will typically cost 2 Final Letter Grades.
16. Discussions cannot be extended because of Blackboard settings.
17. The lowest 2 Discussion grades AND the lowest 2 Quiz grades will automatically be dropped. They will still show in the Gradebook, but they will not count towards the Final Average.
18. Addendum files will be added to the Module 0 Folder in Blackboard to provide more information for complicated assignments. Typically, there will also be Guidance in Announcements.
19. Students should typically expect typed communication responses within two business days.
20. Additional instructions and expectations will be communicated through Blackboard and/or email.

ASSIGNMENT CALENDAR

Section	Assignment [Course Weight %]	Start	End
0	Lecture Participation Contract [10%*]	Monday, 08/25	Tuesday, 09/02
1	Lecture Discussion 1 [~1%]	Monday, 08/25	Thursday, 09/04
	Lecture Quiz 1 [~1%]	Monday, 08/25	Saturday, 09/06
2	Lecture Discussion 2 [~1%]	Monday, 08/25	Thursday, 09/04
	Lecture Quiz 2 [~1%]	Monday, 08/25	Saturday, 09/06
3	Lecture Discussion 3 [~1%]	Saturday, 09/06	Thursday, 09/11
	Lecture Quiz 3 [~1%]	Monday, 09/08	Saturday, 09/13
+	Lecture Group Project Part A [4%]	Monday, 09/08	Monday, 09/15
4	Lecture Discussion 4 [~1%]	Saturday, 09/13	Thursday, 09/18
	Lecture Quiz 4 [~1%]	Monday, 09/15	Saturday, 09/20
5	Lecture Discussion 5 [~1%]	Saturday, 09/20	Thursday, 09/25
	Lecture Quiz 5 [~1%]	Monday, 09/22	Saturday, 09/27
6	Lecture Discussion 6 [~1%]	Saturday, 09/27	Thursday, 10/02
	Lecture Quiz 6 [~1%]	Monday, 09/29	Saturday, 10/04
+	Lecture Group Project Part B [4%]	Monday, 09/29	Monday, 10/06
7	Lecture Discussion 7 [~1%]	Saturday, 10/04	Thursday, 10/09
	Lecture Quiz 7 [~1%]	Monday, 10/06	Saturday, 10/11
8	Lecture Discussion 8 [~1%]	Saturday, 10/11	Thursday, 10/16
	Lecture Quiz 8 [~1%]	Monday, 10/13	Saturday, 10/18
9	Lecture Discussion 9 [~1%]	Saturday, 10/18	Thursday, 10/23
	Lecture Quiz 9 [~1%]	Monday, 10/20	Saturday, 10/25
+	Lecture Group Project Part C [4%]	Monday, 10/20	Monday, 10/27
++	MANDATORY Lecture Midterm Exam [20%]	Thursday, 10/23	Tuesday, 10/28
10	Lecture Discussion 10 [~1%]	Saturday, 10/25	Thursday, 10/30
	Lecture Quiz 10 [~1%]	Monday, 10/27	Saturday, 11/01
11	Lecture Discussion 11 [~1%]	Saturday, 11/01	Thursday, 11/06
	Lecture Quiz 11 [~1%]	Monday, 11/03	Saturday, 11/08
12	Lecture Discussion 12 [~1%]	Saturday, 11/08	Thursday, 11/13
	Lecture Quiz 12 [~1%]	Monday, 11/10	Saturday, 11/15
+	Lecture Group Project Part D [4%]	Monday, 11/10	Monday, 11/17
13	Lecture Discussion 13 [~1%]	Saturday, 11/15	Thursday, 11/20
	Lecture Quiz 13 [~1%]	Monday, 11/17	Saturday, 11/22
14	Lecture Discussion 14 [~1%]	Saturday, 11/22	Thursday, 11/27
	Lecture Quiz 14 [~1%]	Monday, 11/24	Saturday, 11/29
15	Lecture Discussion 15 [~1%]	Saturday, 11/29	Thursday, 12/04
	Lecture Quiz 15 [~1%]	Monday, 12/01	Saturday, 12/06
+	Lecture Group Project Part E [4%]	Monday, 12/01	Monday, 12/08
++	MANDATORY Lecture Final Exam [20%]	Thursday, 12/04	Tuesday, 12/09

Note: Subject to change. Changes would be communicated through Blackboard and/or Email.