PHY2020 Course Syllabus – Summer C 2025

Contact Information

Instructor TBD

Office

Phone (352) 392-0521

Email Use Canvas Mail.

Office Hours

TBD using Zoom Conferences, or by appointment.

For questions about course content, your grade, or other personal issues, use the Canvas mail tool. Expect a response within 24 hours, not including weekends or university holidays.

Course Information

Credit Hours: 3

Class Numbers: 11731, 11732, 11730

Course Modality: This course is online asynchronous. All videos are prerecorded. No synchronous requirements exist. Live office hours are available according to the schedule above for on-demand assistance. Attendance to office hours is optional and the office hours are not recorded.

Purpose: This course exposes students to the foundations and principles of physics—the most fundamental of the experimental sciences—to give you a greater appreciation of the world around you and how it works. It assumes no previous background in physics, provides a one-semester overview of the subject, and meets the General Education Physical Science ("P") requirement. It may be useful as preparation for courses such as PHY 2048 and PHY 2053.

General Education Designation: General Education Subject Area: **GE-P** (physical science) with Subject Area Objectives - Undergraduate Affairs - University of Florida (ufl.edu)Links to an external site. .

Course Description

This course offers a comprehensive survey of physics, covering a wide range of topics including motion, Newton's Laws, energy, sound, heat, electricity, magnetism, and optics. Emphasizing a conceptual understanding of physics, the course integrates critical thinking skills and real-world applications.

Student Learning Objectives

This course offers General Education credit in the Physical Sciences (GE-P), for which program area the objective is as follows: “Physical science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the physical sciences. Courses focus on major scientific developments and their impacts on society, science and the environment and the relevant processes that govern physical systems. Students will formulate empirically-testable hypotheses derived from the study of physical processes, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.”

Student Learning Outcomes:

1. Students will perform simple calculations relevant to real world problems.
2. Students will explain the basis of physical principles (such as conservation laws) and how they apply to everyday phenomena.
3. Students will interpret information conveyed in diagrams and graphs.
4. Students will critically evaluate everyday phenomena using the scientific method.

This course will also assess General Education Student Learning Outcomes covering both content and skills according to its P designation:

- *Content*: Identify, describe, and explain the basic concepts, theories and terminology of natural science and the scientific method; the major scientific discoveries and the impacts on society and the environment; and the relevant processes that govern physical systems.
- *Critical Thinking*: Formulate empirically-testable hypotheses derived from the study of physical processes or living things; apply logical reasoning skills effectively through scientific criticism and argument; and apply techniques of discovery and critical thinking effectively to solve scientific problems and to evaluate outcomes.
- *Communication*: Communicate scientific knowledge, thoughts, and reasoning clearly and effectively.

These course level student learning objectives align with the UF General Education student learning outcomes and physical science area learning outcomesLinks to an external site. and are assessed according to the table below.

General Education SLO	Physical Science SLO	Course Objective Alignment	Assessment
Content	Identify, describe, and explain the basic concepts, theories and terminology of natural science and the scientific method; the major scientific discoveries and the impacts on society and the environment; and the relevant processes that govern physical systems.	Objectives 1-4	All assessments and student practice assignments offer opportunities for students to demonstrate learning about the physics content covered in this course. **Independent Practice** • Optional Practice Problems • Optional Test Your Understanding Quizzes **Formative**: Weekly Module Quizzes **Summative**: 3 exams
Critical Thinking	Formulate empirically-testable hypotheses derived from the study of physical processes or living things; apply logical reasoning skills effectively through scientific criticism and argument; and apply techniques of discovery and critical thinking effectively to solve scientific problems and to evaluate outcomes	Objectives 1-3	
Communication	Communicate scientific knowledge, thoughts, and reasoning clearly and effectively.	Objective 4	• Required postings to discussion boards • Physics Photo Project

You can download the Student Course Map to see how course and module objectives directly relate to each assignment, discussion, quiz, and exam in this course.

Course Requirements

Required Textbook

There is no required textbook for this course. All course content is contained within the modules of this course.

Recommended Textbooks

1. Douglas Giancoli, *Physics: Principles with Applications*, published by Pearson

2. Paul Hewitt, *Conceptual Physics*, published by Pearson. Available through UF Access

Use of one or the other of these textbooks may be helpful, **but is not required**. Each book has several editions that are basically the same, and many used copies are available. $20 should buy a decent copy if you are looking for a traditional textbook to supplement this course. In general, Giancoli's book is more formal and quantitative, whereas Hewitt's book is more conceptual with words and pictures. Depending on your learning preferences, you may find one book or the other more useful.

This course covers the most taught physics that there is. That means that there are more educational resources for this course's content than there are for any other type of physics course. There are plenty of textbooks out there, as well as free online resources. Some examples include MIT OpenCourseWare, Physics Libretexts, and Google is your friend.

Prerequisites

There are no prerequisites for this course. Facility with high school math (basic algebra, geometry, and trigonometry) is expected.

Minimum Technology Requirements

The University of Florida expects students entering an online program to acquire computer hardware and software appropriate to their degree program. Most computers are capable of meeting the following general requirements. A student's computer configuration should include:

- Webcam
- Microphone
- Broadband connection to the internet and related equipment (cable/DSL modem)
- Microsoft Office Suite installed (provided by the university)

Honorlock Requirements: In order to take exams under the supervision of Honorlock, you need access to a computer with a video camera, a microphone, and a good internet connection, located in a quiet room where you can take the exams in privacy. You must take your exam using the Google Chrome browser after installing the Honorlock extension. It is your responsibility to be sure you meet all these technical requirements. You are strongly advised to check your setup ahead of each exam using the link at https://honorlock.com/support/. Interruptions in the internet connection or entry of other persons into the room will be reported by Honorlock and investigated to ensure the academic integrity of the exam.

Calculator: A calculator is required for numerical calculations, and the Honorlock Scientific Calculator may be used instead of a physical calculator for all coursework. Note: Only the Honorlock Scientific Calculator is permitted during exams. No handheld calculators are allowed during exams. Therefore it is advised to become accustomed to using this calculator in your practice.

Zoom:

Office hours will be conducted using Zoom. You can find resources and help using Zoom at the University of Florida's Zoom website.

Minimum Technical Skills

To complete your tasks in this course, you will need a basic understanding of operating a computer and using word processing software. You will also need basic understanding of how to operate a scientific calculator, including knowledge of entering values in scientific notation, using trig functions, and how the calculator uses order of operations to perform calculations, like the calculator app mentioned in the previous section.

Materials/Supply Fees

There is no supply fee for this course.

Course Policies

Attendance and Make-Up Work

Since the course is online, you can work at your own pace provided that you complete all quizzes and exams by the deadlines set in the course schedule below. Generally, you can work ahead on all quizzes leading up to the next exam.

As this is an online class, you are responsible for observing all posted due dates and are encouraged to be self-directed and take responsibility for your learning.

Requirements for class attendance and make-up exams, assignments, and other work in the course are consistent with university policies. See UF Academic Regulations and Policies for more information regarding the University Attendance Policies. Contact the instructor at least five UF teaching days in advance for predictable events, or as soon as possible after any emergency.

Extra Credit

The only extra credit planned is for a mid-course survey. Individual extra credit assignments will not be allowed out of fairness to other students.

Grading Policy

I will make every effort to have each assignment graded and posted within one week of the due date.

Course Grading Policy

This course evaluates your progress on the learning outcomes as you demonstrate your understanding completing the assignments in two primary categories: quizzes and exams.

Assignment Group	Percentage of Course Total
15 quizzes	20% combined
3 unit discussion boards	6% combined
1 project	14% combined
3 exams	60% (20% for each exam)
Playposit Participation	1%
1 course survey	1%

QUIZZES: The 15 quizzes are not timed and taken in Canvas. You may submit each quiz just once. It may be attempted at any time between its opening and 11:59 p.m. on the day before the next exam is scheduled. However, quizzes submitted after 11:59 p.m. on the quiz's due date will receive only a fraction of the credit that the same answers would have received for an on-time submission. Submissions that are up to 24 hours late will receive credit for 75% of the raw score, while submissions that are more than 24 hours late will receive credit for 50% of the raw score. It is in your best interest to submit each quiz on time.

PHYSICS PHOTO PROJECT: You will complete one project in this course to photograph and describe the physics principles of some event. The project is scaffolded so that you will submit a draft, conduct peer reviews, and a final submission.

EXAMS: Modules are grouped into units and each unit contains an exam. The three unit exams are timed (120 minutes) and taken in Canvas under the supervision of Honorlock during a window specified in the Course Schedule below. Unit Exams 1 and 2 are based on the modules within the unit. Unit exam 3 assesses the entire course, but is focused primarily from material covered by unit 3. More details about unit 3 exam will appear later in the semester. You do not need to schedule a start time in advance, but you must meet all Honorlock technical and administrative requirements and submit the exam before the end of its window. It is your responsibility to take each exam within its specified window.

UNIT DISCUSSION BOARDS: Modules are grouped into units and each unit contains a discussion board for posting questions and offering your classmates assistance. It is the space which affords us to build a community of learners and work collaboratively to assist you in meeting the course objectives. Your participation is strongly encouraged and will be awarded based on the frequency of participation and the quality of your post to offer thoughtful and substantive contributions as evidence of your engagement with your peers. To be considered for maximum points, you should post weekly with substantive comments, questions, or responses to peers.

PLAYPOSIT PARTICIPATION: Course videos may contain questions for student response. Students earn points for these and they accumulate over the semester. The responses are graded as participation. Points are earned based on submission of a response on PlayPosit.

OPTIONAL ASSIGNMENTS: Each module contains Test Your Understanding quizzes which do not count towards your overall course grade. These quizzes are for your practice and feedback prior to completing the required module quiz and unit exam.

CALCULATING SCORES AND OVERALL GRADE: All scores and grades in the course will be communicated to students via the Canvas Gradebook (Grades in the left margin of the Canvas page). Scores on each quiz and exam will appear automatically in the gradebook so students can estimate their projected grade:

- "Quizzes" = (points earned on quizzes) / (points available on quizzes) x 100%
- "Exams" = (points earned on exams) / (points available on exams) x 100%
- Discussion Boards = (points earned on posts) / (points available on post) x 100%
- “Project” = (points earned on draft submission, peer review,final submission) / (points available on draft,review,final) x 100%
- “Participation” = (points earned on PlayPosit) / (points available on PlayPosit) x 100%
- "Total" = 0.20 x (Quizzes %) + 0.60 x (Exams %) + 0.06 x (Discussion Boards %) + 0.14 x (Project %) + 0.01 x (Participation %) + 0.01 x (Extra Credit %)

Grading Scale

Percent	Grade	Grade Points
85% - 100%	A	4.00
80% - 84%	A-	3.67
75% - 79%	B+	3.33
70% - 74%	B	3.00
65% - 69%	B-	2.67
60% - 64%	C+	2.33
55% - 59%	C	2.00
50% - 54%	C-	1.67
45% - 49%	D+	1.33
40% - 44%	D	1.00
35% - 39%	D-	0.67
<35%	E	0.00

Letter grades are assigned grade points as described at https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/ . The final calculation of the grade percentage is rounded to the nearest whole number. A minimum grade of C is required for General Education credit.

UF Policies

University Policy on Accommodating Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565) by providing appropriate documentation. Once registered, students will receive an accommodation letter that must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

University Policy on Academic Conduct

UF students are bound by The Honor Pledge, which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity by abiding by the Honor Code." On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Student Honor Code and Student Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Plagiarism

The Student Honor Code and Student Conduct Code states that:

"A Student must not represent as the Student’s own work all or any portion of the work of another. Plagiarism includes but is not limited to:

- Stealing, misquoting, insufficiently paraphrasing, or patch-writing.
- Self-plagiarism, which is the reuse of the Student’s own submitted work, or the simultaneous submission of the Student’s own work, without the full and clear acknowledgment and permission of the Faculty to whom it is submitted.
- Submitting materials from any source without proper attribution.
- Submitting a document, assignment, or material that, in whole or in part, is identical or substantially identical to a document or assignment the Student did not author."

Course Schedule

Day	Date	Assignment	Module Title (Length of required videos)
Mon	May 12	COURSE OPENS	
Wed	May 14	**Quiz 1 due** (1 question)	*Introduction to Physics (31 min)*
Fri	May 16	**Quiz 2 due** (4 questions)	*Vectors and Geometry (33 min)*
Tues	May 20	**Quiz 3 due** (4 questions)	*Description of Motion and Falling Bodies (1 hr 45 min)*
Fri	May 23	**Quiz 4 due** (5 questions)	*Newton's Laws (1 hr 5 min)*
Thur	May 29	**Quiz 5 due** (3 questions)	Circular Motion and Newtonian Gravity (48 min)
Tues	Jun 3	**Quiz 6 due** (4 questions)	Work and Energy (51 min)
Wed	Jun 4	Quizzes 1-6 close	
Thurs	Jun 5	Exam 1 120 minutes, start after 7am, end by 11:59pm	Covers Unit 1: Modules 1-6
Wed	Jun 11	**Quiz 7 due** (3 questions)	*Momentum (1 hr)*
Mon	Jun 16	**Quiz 8 due** (3 questions)	*Rotational Motion and Equilibrium (1 hr 20 min)*
Tues	Jun 17	**Physics Project Draft Submission** due at 11:59PM	

Day	Date	Assignment	Module Title (Length of required videos)
Fri	Jun 20	**Quiz 9 due** (3 questions)	*Fluids and Archimedes' Principle (1 hr 40 min)*
Wed	Jul 2	**Physics Project Peer Reviews** due at 11:59PM	
Wed	Jul 2	**Quiz 10 due** (4 questions)	*Temperature and Heat (1 hr 50 min)*
Mon	Jul 7	Quizzes 7-10 close	
Tues	Jul 8	Exam 2 120 minutes, start after 7am, end by 11:59pm	Covers Unit 2: Modules 7-10
Fri	Jul 11	**Quiz 11 due** (4 questions)	*Waves and Sound (2 hr)*
Thurs	Jul 17	**Quiz 12 due** (3 questions)	*Electrostatics (1 hr)*
Fri	Jul 18	**Physics Project Final Submission** due at 11:59PM	
Wed	Jul 23	**Quiz 13 due** (3 questions)	*Electric Currents (1 hr 20 min)*
Wed	Aug 30	**Quiz 14 due** (3 questions)	*Magnets and Magnetism (1 hr 25 min)*
Mon	Aug 4	**Quiz 15 due** (3 questions)	*Light Rays (1 hr 30 min)*
Tues	Aug 5	Quizzes 11-15 close	

Day	Date	Assignment	Module Title (Length of required videos)
Wed	Aug 6	Exam 3 120 minutes, start after 7am, end by 11:59pm	Covers Modules 1-15

Netiquette and Communication Courtesy

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. These guidelines for online behavior and interaction are known as netiquette.

Security

Remember that your password is the only thing protecting you from pranks or more serious harm.

- Don't share your password with anyone.
- Change your password if you think someone else might know it.
- Always log out when you are finished using the system.

General Guidelines

When communicating online:

- Treat the instructor with respect, even via email or in any other online communication.
- Always use your professors' proper title: Dr. or Prof., or if you are unsure use Mr. or Ms.
- Unless specifically invited, don't refer to a professor by their first name.
- Use clear and concise language.
- Remember that all college-level communication should have correct spelling and grammar.
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you."
- Use standard fonts such as Times New Roman and use a size 12 or 14 point font.
- Avoid using the caps lock feature AS IT CAN BE INTERPRETED AS YELLING.
- Limit and possibly avoid the use of emoticons like :) .
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or be construed as being offensive.
- Be careful with personal information (both yours and others).
- Do not send confidential information via email.

Email

When you send an email to your instructor, teaching assistant, or classmates:

- Use a descriptive subject line.
- Be brief.
- Avoid attachments unless you are sure your recipients can open them.
- Avoid HTML in favor of plain text.
- Sign your message with your name and return email address.
- Think before you send the email to more than one person. Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, "Reply All."
- Be sure that the message author intended for the information to be passed along before you click the "Forward" button.

Discussion Boards

When posting on the discussion board in your online class:

- Check to see if anyone already asked your question and received a reply before posting to the discussion board.
- Remember your manners and say please and thank you when asking something of your classmates or instructor.
- Be open-minded.
- If you ask a question and many people respond, summarize all posts for the benefit of the class.
- When posting:
    - Make posts that are on-topic and within the scope of the course material.
    - Be sure to read all messages in a thread before replying.
    - Be as brief as possible while still making a thorough comment.
    - Don't repeat someone else's post without adding something of your own to it.
    - Take your posts seriously. Review and edit your posts before sending.
    - Avoid short, generic replies such as, "I agree." You should include why you agree or add to the previous point.
    - If you refer to something that was said in an earlier post, quote a few key lines so readers do not have to go back and figure out which post you are referring to.
    - Always give proper credit when referencing or quoting another source.
    - If you reply to a classmate's question make sure your answer is correct, don't guess.
    - Always be respectful of others' opinions even when they differ from your own.
    - When you disagree with someone, you should express your differing opinion in a respectful, non-critical way.
    - Do not make personal or insulting remarks.
    - Do not write anything sarcastic or angry, it always backfires.
    - Do not type in ALL CAPS, if you do IT WILL LOOK LIKE YOU ARE YELLING.

Zoom

When attending a Zoom meeting:

- Do not share your Zoom office hours link or password with others.
- Even though you may be alone at home, your professor and classmates can see you! While attending class in your pajamas is tempting, remember that wearing clothing is not optional. Dress appropriately.
- Your professor and classmates can also see what is behind you, so be aware of your surroundings.
- Make sure the background is not distracting or something you would not want your classmates to see.
    - When in doubt use a virtual background. If you choose to use one, you should test the background out first to make sure your device can support it.
    - Your background can express your personality, but be sure to avoid using backgrounds that may contain offensive images and language.
- Mute is your friend, especially when you are in a location that can be noisy. Don't leave your microphone open if you don't have to.

Getting Help

Technical Difficulties

For help with technical issues or difficulties with Canvas, please contact the UF Computing Help Desk at:

- http://helpdesk.ufl.edu
- 352-392-HELP (4357)
- Walk-in: HUB 132

Any requests for make-ups (assignments, exams, etc.) due to technical issues should be accompanied by the ticket number received from the UF Computing Help Desk when the problem was reported to them. The ticket number will document the time and date of the problem. You should email your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Health and Wellness

- **U Matter, We Care**: If you or someone you know is in distress, please email umatter@ufl.edu, call 352-392-1575, or visit U Matter We Care to refer or report a concern, and a team member will reach out to the student in distress.
- **Counseling and Wellness Center:** Visit the UF Counseling & Wellness Center website or call 352-392-1575 for information on crisis services and non-crisis services.

- **Student Health Care Center:** Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the UF Student Health Care Center website.
- **University Police Department**: Visit the UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).
- **UF Health Shands Emergency Room/Trauma Center:** For immediate medical care in Gainesville, call 352-733-0111, or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Shands Emergency Room/Trauma Center website.

Academic and Student Support

- **Career Connections Center:** For career assistance and counseling services, visit the UF Career Connections Center website or call 352-392-1601.
- **Library Support:** For various ways to receive assistance concerning using the libraries or finding resources, visit the UF George A. Smathers Libraries Ask-A-Librarian website.
- **Teaching Center:** For general study skills and tutoring, visit the UF Teaching Center website or call 352-392-2010.
- **Writing Studio:** For help with brainstorming, formatting, and writing papers, visit the University Writing Program Writing Studio website or call 352-846-1138.

Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available on the GatorEvals Providing Constructive Feedback FAQ page. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via the GatorEvals website. Summaries of course evaluation results are available to students at the GatorEvals Public Results page. More information about UF's course evaluation system can be found at the GatorEvals Faculty Evaluations website.

Tips for Success

Taking a course online can be a lot of fun! Here are some tips that will help you get the most of this course while taking full advantage of the online format:

- Schedule "class times" for yourself. It is important to do the coursework on time each week. Late work may not be accepted. See descriptions above for which assignments may carry a grade reduction for late work.

- Read ALL of the material contained on this site. There is a lot of helpful information that can save you time and help you meet the objectives of the course.
- Print out the Course Summary located in the Course Syllabus and check things off as you go.
- Take full advantage of the online discussion boards. Ask for help or clarification of the material if you need it.
- Do not wait to ask questions! Waiting to ask a question might cause you to miss a due date as you need to allow for a response time.
- Do your work well before the due dates. Sometimes things happen. If your computer goes down when you are trying to submit an assignment, you'll need time to troubleshoot the problem.
- To be extra safe, back up your work to an external hard drive, thumb drive, or through a cloud service.

Privacy and Accessibility Policies

For information about the privacy policies of the tools used in this course, see the links below:

- Adobe
  - Adobe Privacy Policy
  - Adobe Accessibility
- Honorlock
  - Honorlock Privacy Policy
  - Honorlock Accessibility
- Instructure (Canvas)
  - Instructure Privacy Policy
  - Instructure Accessibility
- Microsoft
  - Microsoft Privacy Policy
  - Microsoft Accessibility
- PlayPosit
  - PlayPosit Privacy Policy
  - PlayPosit Accessibility
- Sonic Foundry (Mediasite Streaming Video Player)
  - Sonic Foundry Privacy Policy
  - Sonic Foundry Accessibility (PDF)
- Zoom
  - Zoom Privacy Policy
  - Zoom Accessibility

(Links to an external site.)

Discussion Board Postings Rubric

Discussion Boards					
Criteria	**Ratings**				**Pts**
Participation Does the student meet the minimum expectations for the weekly engagement in class discussion?	**1 pts** **Full Marks** Submits at least one original post and/or response for each module.	**0.75 pts** **Late** Submits minimum required posts, but one or more are late.	**0.5 pts** **Partial Participation / Late** Does not meet the minimum standard and/ or over half of the posts are submitted late.	**0 pts** **Posts submitted** Less than two posts and/or all posts are submitted the week before the exam.	1 pts
Quality Does the student submit posts which foster discussion and/or provide constructive guidance?	**1 pts** **Full Marks** Posts offer substantive engagement on topics by contributing personal experiences, specific reflections about the material learned and/or the learning process, or responses to peers offering constructive and meaningful thought.		**0.5 pts** **Partial Credit** Posts are predominately reactive to students posts and indicate agreement (I agree with you) or are vague (i.e. that's interesting!), or are framed as an end to a conversation rather than any substantive dialogue.	**0 pts** **No Marks** All posts offer no substantive dialogue to the learning environment.	1 pts
					Total Points: 2

Photo Submission Criteria

Step 1: Take three photographs capturing a physics phenomenon/a.

Please adhere to the following guidelines:

- The physics phenomenon or phenomena must be one/some that is/are discussed in class or will be discussed in later modules.
- The three photographs may be a time sequence of the event or may be taken from different vantage points for the phenomena repeated three times.
- The photographs must be taken during the semester you are enrolled in this course.
- You may use a camera or smartphone when taking the photographs.
- The photographs cannot be modified or enhanced.
- Photographs may be resized so that the three photos fit on one 8.5x11 page or each photograph on a separate page (but not necessarily enlarged to take up the entire page).

Step 2: Type an essay explanation of the physics principle(s) witnessed in the photos.

Please adhere to the following guidelines:

- Your explanation should be approximately 100 words.
- Include a descriptive title pertaining to the submission.
- Your essay must utilize at least one physics concept but will most likely require multiple concepts to explain the physics completely.
- You may also refer to separate and unrelated principles if these appear within the photograph.
- The essay should appear on a page by itself, with the title and your name.

Step 3: Submit the images and essay in Canvas.

Please adhere to the following guidelines:

- Your submission should be one file with a collection of three photographs taken solely by you. Your explanation should be approximately 100 words.
- Your name must appear in the header of each page of the submission.
- Submit the photographs and the essay as a single PDF file containing at least two pages and up to four pages.
- The assignment must be submitted prior to the deadline to receive a grade for the draft submission.

Rubric for both Draft and Final submissions:

Physics in the Real World: Final Photo Submission Rubric				
Criteria	**Ratings**			**Pts**
Submission	**1 pts** **Full Marks**	**0.5 pts** **Half Marks** Misses 1-2 criteria listed above.	**0 pts** **No Marks**	1 pts
Physics Essay Content	**3 pts** **Full Marks** Correctly identifies physics principles and applies principles to craft an accurate and complete explanation of the contents of the photo.	**1.5 pts** **Half Marks** Correctly identifies physics principles, but applies principles inaccurately or incompletely in the explanation.	**0 pts** **No Marks** Incorrectly identifies physics principles and incorrectly applies principles to craft an inaccurate explanation of the contents of the photo.	3 pts
				Total Points: 4