

Lyon College Batesville Campus: Standard Course Policies

Effective date: August 1, 2026

These policies apply to all courses offered at Lyon College's Batesville campus. Details related to a specific course can be found in the rest of the course's syllabus.

Honor Code

All graded work in this class is to be pledged in accordance with the Lyon College Honor Code. The use of a phone for any reason during the course of an exam is considered an Honor Code violation.

Class Attendance Policy

Active participation and interaction with instructors and classmates are vital parts of learning. Therefore, no matter the style or format of a given course, Lyon College students are expected to attend, according to instructor-defined standards, all class periods for the courses in which they are enrolled. Instructors must record attendance promptly in the College's Learning Management System.

Occasionally, students may be prevented from attending classes for college-sponsored events or for other unavoidable and/or uncontrollable reasons. Absences due to such reasons are excused absences. Absences for college-sponsored events are always considered excused. Instructors, on a case-by-case basis, may consider other absences excused. For excused absences, instructors cannot penalize a student's participation or graded work without first offering a reasonable make-up opportunity.

Instructors who find that a student is absent from class excessively, excused or not, and also not making good-faith efforts to keep up and meet performance standards may request that the student be involuntarily dropped from the course. Before pursuing this, the instructor must have submitted an appropriate alert via the Early Alert system at least two calendar weeks prior so that the student will have had a warning that they are in jeopardy and have time to correct the behavior and performance. Students will be given the opportunity to respond to an instructor's request to drop them. The final decision will be made by the Provost and communicated to the instructor, the student, the Registrar, and other relevant parties.

Students who are involuntarily withdrawn from a course will receive a W, WP, or WF in the course following the same rules that apply for voluntary withdrawals. Students may not be involuntarily withdrawn under this policy after the final exam period for the relevant term, sub-term, or mini-term has begun.

Recording of Classes and Meetings

To protect the intellectual property of instructors, the privacy of students and employees, and the integrity of the learning environment, students may not make audio, video, photographic, or other recordings of class sessions, laboratories, studio activities, examinations, private meetings with faculty or staff, or other instructional or academic activities without the knowledge and prior written permission of the instructor, except as required as an approved disability accommodation. Instructors may authorize recording or provide recordings of their classes on a course-by-course basis when they determine it is appropriate for instructional purposes.

Any recordings or other course materials provided or authorized (see above) by an instructor are for the personal educational use of students enrolled in the course. Students may not copy, share, post, distribute, sell, or otherwise make such recordings or materials available to others without the instructor's prior written permission.

Unauthorized recording or distribution of recordings or other instructional materials may constitute a violation of College policy, the Honor Code, copyright law, or other applicable laws and may result in disciplinary action.

Academic Support

The Morrow Academic Center (MAC) assists students who want to improve grades or academic skills by providing peer-led services including Supplemental Instruction (SI), tutoring, the Writing Center, and academic coaching as well as providing 24-hour, online tutoring for all subjects through online tutoring. A schedule of peer-led services is available at

lyon.edu/mac and online tutoring is accessed through courses in Canvas. Contact Emily Dyer, Director of Academic Support and Accessibility, at (870) 307-7319 or emily.dyer@lyon.edu for more information about MAC services.

Technology Support

For any technology-related support, you can contact the IT department by emailing support@lyon.edu or by calling 870-307-7555. You can also navigate to support.lyon.edu to submit a ticket request. Your course content will be accessible digitally using the Canvas Learning Management System (LMS), which uses your myLyon credentials for your student login. To access Canvas, login at lyon.instructure.com.

NOTE: Students taking RISE courses will use the [RISE Canvas LMS login](#).

Disabilities

Students seeking reasonable accommodations for learning, psychological, or physical disabilities must contact Emily Dyer, Director of Academic Support and Accessibility, in the Morrow Academic Center at (870) 307-7319 or at emily.dyer@lyon.edu.

Harassment, Discrimination, and Sexual Misconduct

Lyon College seeks to provide all members of the community with a safe and secure learning and work environment that is free of crime and/or policy violations motivated by discrimination, sexual and bias-related harassment, and other violations of rights. The College has a zero-tolerance policy against gender-based misconduct, sexual assault, and interpersonal violence toward any member or guest of the Lyon Community. The College encourages anyone experiencing or knows of someone experiencing harassment, discrimination, or sexual misconduct to speak to and file an official report with our Title IX Coordinator, located in the Nichols Building, office 12 near the north exit. All college employees (faculty, staff, administrators) are required to report actual or suspected incidents of harassment, discrimination, intimidation, and violence to appropriate officials immediately. However, there are limited exceptions, referred to as confidential reporters (Campus Clinic Director, the Chaplain, or the Director of Mental and Behavioral Health). Confidentiality will be maintained to the greatest extent possible within the constraints of the law. [Title IX Reporting Tool](#). [Lyon College Title IX Policy](#).

Mental & Behavioral Health

Lyon College is dedicated to ensuring each student has access to mental and behavioral health resources. The College's Mental and Behavioral Health Office is located in Edwards Commons and is partnered with White River Health's Behavioral Health Clinic. The office is committed to helping the Lyon community achieve maximum mental and behavioral wellness through both preventative and reactive care. A full-time, licensed, professional counselor provides counseling, consultations, outreach, workshops, and many more mental and behavioral services to Lyon students, faculty, and staff at no cost. The Mental and Behavioral Health Office also provides access to White River Health's services and facilities, including medication management and in-patient and out-patient care. To make an appointment, contact counseling@lyon.edu.

The rest of a course's syllabus will include at least the following:

- A description of the course consistent with the Lyon College catalog.
- A list of student learning outcomes for the course.
- A summary of all course requirements.
- An explanation of the grading system to be used in the course.
- Any course-specific attendance policies that go beyond the College policy.
- Details about what constitutes acceptable and unacceptable student collaboration on graded work.

Tentative Syllabus for Physics 210: Fall 2026 R2

Professor: Dr. Stuart Hutton

Office: Derby Center: 248 Research Lab: Derby 219: General Physics lab: 148

Lab email: lyonphysics@lyon.edu web: physics.lyon.edu

Phone: *.307.7560 Email: stuart.hutton@lyon.edu**

During tests: During this time you are forbidden to communicate with others except with me. You may not use networked devices or photographic devices during tests. You are required to be present during the specified times or accommodation times for the tests except by excused absence.

[Location:Meeting times] =[Derby 007:MWF 09:00-09:50]

Grading

As a general guide to grades, grades will be assigned as follows:

100-90]	(90-80]	(80-70]	(70-60]	<(60
A	B	C	D	F

In this course, you will have several grading opportunities, tests, and in-class problems. I expect active participation in our class. The various weight of each of these activities in your final point grade is shown below. Late assignments will normally not be accepted. Additionally, since we will be doing in-class problems, poor attendance will negatively affect your grade: in particular, you will not receive credit for class participation for unexcused absences. There are no make-ups for in-class worksheets.

Tests (4 tests and 1 [comprehensive] final exam)=90%

Each test is worth 18% of your grade.

Homework / in-class problems/ class participation=10%

Phy241 is a separate course from either Phy210 or Phy240. The grade in Phy241 has no impact upon the grade in either Phy210 or Phy240 except as a co-requisite.

Your work on tests will be graded for correctness. You are expected to become proficient with physical quantities and units in addition to being able to do the physics leading to the solution of problems. You are expected to each day come prepared for class. This is accomplished by having looked over the worksheet before class, and then working the problems for complete understanding after class. Students are generally expected to commit two hours of study outside of class for each hour of lecture. You will also notice that before each of the 4 tests, I have scheduled an Untest. On this day, you should come prepared to work as if this were the actual test. The format of the untests is not multiple choice. Instead you are expected to work through the problems as if it were an actual test. I have also scheduled several Unquizzes. Time permitting, we will allow about 10 minutes for you to complete self-diagnostic Unquizzes. During unquizzes and untests, you are encouraged to ask questions and discuss approaches to the solutions.

Course Description: Physics 210

In this course you will be exposed to fundamentals of physics. Among the topics that we will cover are mechanics, waves and thermodynamics. Refer to Student Learning Outcomes for a discussion of minimal course outcome expectations.

Course Objectives: Physics 210

As a consequence of this course, you should obtain an enhanced understanding of the fundamentals of physics. In addition, you should come away from this course with an ability to solve fundamental problems involving physical principles.

Course Prerequisites: Physics 210

You are expected to be proficient with algebra and trigonometry. It is strongly recommended that your life will be made easier if you review trigonometry. Phy241 is a concurrent requirement.

Text: Physics 210

The textbook in this course is:

Physics, 8th Edition, by John D. Cutnell, Kenneth W. Johnson
ISBN 978-0-470-22355-0

You may use earlier editions of this text (which can be obtained at much lower prices online {\$0.25 for example is a low price}) but you will need to be sure to read the correct portions of the text.

The schedule is designed around this particular text edition. Again, you may use earlier or later editions but you will need to be sure to read the correct portions of the text. The text must be considered to be a very important resource so students are expected to be reading along in the text as the course progresses.

Punctual and complete class attendance is expected. Absences will negatively impact your final grade. Attendance will be taken. Consistently arriving to class late will constitute absences. Refer to the Standard Course Policies for official college attendance rules, early alert procedures, and administrative withdrawal terms.

Academic Honesty

It is expected and encouraged that students in this class will work together on homework problems. If you use reference work, be sure to include proper references. Questions during tests should be directed to the professor only and students are not permitted to communicate with each other during tests. Students are specifically prohibited from discussing any aspect of tests until all students have completed the test in both phy240 and phy210. **Use of any networked device or a photographic device during a test is considered to be automatically an honor code violation.** Contravention of these conditions will be considered to be a violation of the Lyon College Honor Code. Guidelines regarding AI use as is related to academic honesty are provided later in this document.

AI Usage Guidelines FA26

The use of generative artificial intelligence (AI) tools or automated problem-solving software presents both opportunities for learning and responsibilities regarding academic integrity. Guidelines regarding AI use as is related to academic honesty are provided later in this document. **Under no circumstances are you permitted to use AI resources on tests.**

A warning about searches and AI

A quick heads-up about AI: I am fine with you using AI search summaries to help you figure things out. In fact, just about every search engine except perhaps Searx and Searxng automatically include AI summaries, usually at the top of your search results.

Be careful! If you search for a physics concept and paste that summary into your report, keep in mind that any classmate typing a similar query into the same search engine will likely get the exact same sentences. If you paste that text into your assignment, your paper will match someone else's work word-for-word. Even if you never intended to plagiarize, submitting auto-generated text as your own writing still constitutes plagiarism—and it sticks out like a sore thumb.

In short: You are welcome to use AI tools and search summaries during your personal study time, but to get credit for your work, the actual writing must come from your own head. Do not copy and paste summaries.

Permitted Use: Post-Draft Proofreading & Editing

You are permitted to use generative AI tools to review and proofread your already written lab reports prior to submission. Think of the AI as an advanced spell checker.

Allowed: Asking the AI to flag grammar errors, typos, awkward phrasing, or run-on sentences in text you wrote.

Prohibited: Asking the AI to write the initial draft, generate explanations from scratch, or fabricate lab data.

Your Responsibility for Physics Accuracy

Generative models edit for grammatical fluency, not scientific truth. AI tools routinely "smooth out" technical prose by accidentally altering physical laws, dropping units, or changing numerical values. You are 100% responsible for reviewing every suggested edit line-by-line. If the AI changes your physics, you are accountable for the error.

An Experiment for FA26: The one time you may use AI to assist with an initial draft

Note: this applies ONLY to Physics 241FA26 and not to any other course at Lyon.

Physics 241 requires 3 scientific reasoning (SR) paragraphs. In the following manner, you may (but are not required) use AI to assist in the development of your first draft:

Each SR covers 1 or more specific labs. You **must** submit your finished lab reports to AI, along with the rubric and guidelines for SR completion. You may ask ai to prepare a summary within the guidelines. You work from that summary to produce your initial paragraph. You may absolutely not cut and paste AI output and submit that as your paragraph. Your paragraph must still come from your words, but the summary may be used as a guideline. You are responsible to ensure that only terms covered up until that time in the course and lab are used. AI in particular will use terms and concepts that have not been covered in class in this paragraph and, back to the sore thumb, it sticks out. Be very careful: AI is very good at deception in such a way that you think it is truth. Of course, it is not a purposeful thing on the part of AI: AI follows vector dot products, cross products, and probabilities. AI does not know what the next word of output will be until it is output.

After you complete your SR paragraph, you may submit it back to AI for proofreading. Again, relatively small changes may happen but you are still responsible for the physics contained in your paragraph.

Because of the relaxed assistance, you are not permitted to hand in SR after the deadlines provided unless you had an excused absence from a particular lab. **This means you must have completed the labs and have them accepted before the deadlines.**

CLASS SCHEDULE / OFFICE HOURS Fall 2026

Professor: Stuart Hutton

Monday	Tuesday	Wednesday	Thursday	Friday
8:00-8:50 PHY240.01 Fundamentals of Physics I Derby 007	8:00-9:15	8:00-8:50 PHY240.01 Fundamentals of Physics I Derby 007	8:00-9:15	8:00-8:50 PHY240.01 Fundamentals of Physics I Derby 007
9:00-9:50 PHY210.01 General Physics 1 Derby 007		9:00-9:50 PHY210.01 General Physics 1 Derby 007		9:00-9:50 PHY210.01 General Physics 1 Derby 007
	9:30-10:00		9:30-10:00	
10:00-10:50 Office Hours Derby 248	10:00 - 10:50	10:10-10:50 Office Hours Derby 248	10:00 - 10:50	10:10-10:50 Office Hours Derby 248
11:00-11:50	11:00 - 11:50 Phy321 Astrophotography	11:00-11:50	11:00-11:50 Phy390	11:00-11:50
12:00 - 12:30 Phy335 Modern Physics	12:00 - 12:50	12:00 - 12:50	12:15-12:50 reflections	12:00 - 12:50
13:00-15:00	13:00-14:30 14:30-15:40 Phy335 Modern Physics	13:00-15:50 PHY241.01 Fundamentals of Physics Lab 1 Derby 148	13:00-15:50 PHY241.02 Fundamentals of Physics Lab 1 Derby 148	13:00-15:50 PHY241.03 Fundamentals of Physics Lab 1 Derby 148
15:00 - 15:50 Phy335 Modern Physics				
	16:00-16:50 Div Meetings Fac <u>Assy</u>	16:00-16:50 P&T <u>Worthington</u>		

Schedule for Phy210, Phy240, and Phy241: Fall 2026

labs	Worksheet Number	Date	210: Cutnell: 8 th ed. Assignment Reading : Homework	240: Serway 4 th ed Assignment: Reading: homework
WRF Lab 00	Class Initialization	W August 19	Chapter 01: Units, vectors, math and trig	Chapter 01 Introduction and Vectors
	Worksheet 01 units trig	F August 21	Chapter 01:H01	Chapter 01:H01
	Worksheet 02 1d motion	M August 24	Chapter 02:H02: 1d motion	Chapter 02:H02 1d motion
WRF Lab 01: Forces & Vectors	Worksheet 03 free fall	W August 26	Chapter 02:H03	Chapter 02:H03
	Worksheet 04 2d motion1	F August 28 UQ01	Chapter 03:H04: 2d motion	Chapter 03:H04: 2d motion
	Worksheet 05a 2d motion2	M August 31	Chapter 03:H05	Chapter 03:H05
WRF Lab 02: Problems: 1 and 2D motion: SR1 due	Worksheet 05 2d motion2	W September 02	Chapter 03:H05	Chapter 03:H05
	Worksheet 06 force1, fbd	F September 04 UQ02	Chapter 04:H06: Forces, fbd	Chapter 04:H06 Forces, fbd
	Labor Day	M September 07		
WRF Lab 03: Planes & Friction	Worksheet 07 force 2, fbd	W September 09	Chapter 04:H07	Chapter 04:H07
	UnTest #1	F September 11		
	Test 1	M September 14		
WRF Lab 04: Atwood's, mechanical advantage, work & Energy: SR2 due	Worksheet 08 inclined plane	W September 16	Chapter 06:H08: work and energy	Chapter 06:H08 Energy and Energy Transfer
	Worksheet 09 inclined 2	F September 18 UQ03	Chapter 06: H09	Chapter 07:H09 Potential Energy
	Worksheet 10 energy 2	M September 21	Chapter 07:H10: impulse, momentum	Chapter 08:H10 Momentum and Collisions
WRF Lab 05: Centripetal Force & Hooke's Law	Worksheet 11 spring energy	W September 23	Chapter 07: H11	Chapter 08:H11
	Worksheet 12 collisions1	F September 25 UQ04	Chapter 05:H12: Uniform Circular Motion	Chapter 10:H12 Rotational Motion
	Worksheet 13 collisions2	M September 28	Chapter 08:H13: Rotational kinematics	Chapter 10:H13
WRF Lab 06: Static Equilibrium: SR3 due	Worksheet 14 ucm 1	W September 30	Chapter 08: H14	Chapter 10:H14
	Worksheet 15 acc frames	F October 02 UQ05	Chapter 09:H15: Rotational dynamics	Chapter 10:H15
	UnTest #2	M October 05		
W Lab: TBA	Test 2	W October 07		
	Hurkle-Durkle Day 1	R October 08		
	Hurkle-Durkle Day 2	F October 09		
	Worksheet 16 non ucm	M October 12		
WRF Lab 07: Simple Harmonic Oscillation	Worksheet 17: Rotate2 energy	W October 14	Chapter 09: H17	Chapter 10:H17
	Worksheet 18 Torque, L	F October 16 UQ06	Chapter 09: H18	Chapter 10:H18
	Worksheet 19 statics	M October 19	Chapter 10: H19 Simple Harmonic Oscillation	Chapter 12:H19 Oscillatory Motion
RF Lab: TBA	Service Day	W October 21		
	Worksheet 20 osc1:spring	F October 23 UQ07		
	Worksheet 21 osc2:pendulum	M October 26		
WRF Lab 08: Standing Waves and Vibrations	Worksheet 22 string waves1	W October 28	Chapter 16:H20 waves and sound	Chapter 13:H20 Mechanical Waves
	Worksheet 23:string waves2	F October 30 UQ08	Chapter 16:H21 waves and sound	Chapter 13:H21 Mechanical Waves
	Worksheet 24 sound waves	M November 02	Chapter 16:H22 waves and sound	Chapter 13:H22 Mechanical Waves
WRF Lab09: Archimedes' Principle & Pressure	Worksheet 25 beats, Doppler	W November 04	Chapter 16:H23	Chapter 13:H23
	UnTest #3	F November 06		
	Test 3	M November 09		
WRF Lab: TBA	Worksheet 27 therm 01	W November 11	Chapter 12: H24 Temperature and Heat	Chapter 16: H24:Temperature and the kinetic theory of gasses
	Worksheet 28 therm 02	F November 13 UQ09	Chapter 13:H25: transfer of heat	Chapter 16:H25
	Worksheet 29 therm 03	M November 16	Chapter 14:H26: IDG and kinetic theory	Chapter 17: H26:Energy in Thermal Processes: 1 st law of thermo
WRF Lab 10: Thermodynamics	Worksheet 30 therm 04	W November 18	Chapter 15::H27: thermodynamics	Chapter 18: H27: Heat Engines, Entropy, and the 2 nd law of thermo
	Worksheets 30, 26	F November 20 UQ10	Chapter 15: H28	Chapter 18:H28
	Worksheet 31 Fluids 1	M November 23	Chapter 11: H29: Fluids	15: H29:Fluid Mechanics Sections 15.1 - 15.4 Chapter 16:Fluid Mechanics: Sections 16.5-16.9
	Thanksgiving Break	Wed-Sun November 25-29		
	UnTest #4	M November 30		
[WRF No Lab]	Test 4	W December 02		
	Course Review / last day	F December 04		
	Final Exams	December 07 - 11		

Physics Problem Solving Rubric Rev FA2026

Note: this rubric indicates the process for completion of physics problems. Since our tests are now multiple choice, this should be viewed as a self-guided checklist for successful and complete problem completion. For sample calculations in lab reports, you should follow this rubric closely.

	1	0.7	0.4	0
1, Critical Thinking: Solution started correctly. Note: sketches may be considered here as required in problem statement.	correct approach If required, sketches were correct.	approach would lead to correct result Sketches miss one label or some other component absent or incorrect.	Something is right in the approach but insufficient to reach problem solution. Sketches miss multiple labels, directions incorrectly indicated	incorrect approach Sketch not present or not at all correctly labeled.
2. Quantitative Literacy: Solution proceeded quantitatively	Mathematical operations correct and units correct	Mathematical operations and units correct however an error usually related to incorrect units or the final numerical result present	Mathematical operations have some correct steps but misapplication or other errors prevented problem completion. Units reported in final result not present or incorrect .	Necessary mathematical operations incorrect and units absent
3, Scientific Thought & Informational Literacy Note: this may be contained within an equation starting the problem solution.	correctly stated physical principle or law and physical terminology needed to solve problem.	physical principle or law used shown however omission or extraneous material present. physical terminology needed to solve problem used but not complete or absent important concept.	statement of physical principle or law present but would not apply to present problem so as to lead to solution. physical terminology needed to solve problem incomplete and would not have lead to problem completion.	no statement of physical principle/ law or incorrect physical principle/ law. Did not use physical terms needed to solve problem or incorrect terms used.

Problem scoring: maximum per **problem section** is about 5 points, some sections may have fewer points. In a test containing 4 problems, this equates to 25% of the total test score. The final score per problem is calculated as follows:

$$P_i = \frac{\text{total number of points from rubric}}{\text{maximum rubric points per problem}} \times \frac{100}{\# \text{ of problems on test (normally 4)}}$$

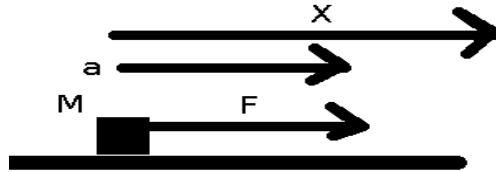
The test score is then determined by

$$\text{percentage test grade} = \sum_{i=1}^{i=\text{Number of problems on test}} P_i$$

Example of a complete solution

Find the vector position at time t of an object of mass M when subjected to a constant force $\vec{F}=F\hat{x}$ for a time t if the object was initially at $x=0$ and at rest. Provide a numerical result with correct SI units for $F=1$ N, $M=1/2$ kg and $t=2$ s. Include a correctly labeled sketch showing F acting on M , a and x .

Solution:



$$\text{Newton's law: } \vec{F}=M\vec{a} \Rightarrow \vec{a}=\frac{\vec{F}}{M}; \vec{F}=F\hat{x} \Rightarrow \vec{a}=\frac{F}{M}\hat{x} : a_x=\vec{a}\cdot\hat{x}=\frac{F}{M}$$

Constant force : kinematic equations of motion in x direction for position:

$$x=x_0+v_{x,0}t+\frac{1}{2}a_x t^2$$

Object initially at rest: $v_{x,0}=0$ m/s . Object initially at $x=0$: $x_0=0$ m .

Kinematic equation reduces to: $x=\frac{F}{2M}t^2$

$$\text{With numerical values: } x=\frac{1\text{ N}}{2\left(\frac{1}{2}\text{ kg}\right)}(2\text{ s})^2=4\frac{\text{Ns}^2}{\text{kg}}=4\text{ m}$$

Final answer with vectors: $\vec{x}=4\text{ m}\hat{x}$

Score:

1: Started with Newton's law and used correct equation of motion, additionally a correctly labeled sketch was drawn showing correct vector directions as was required=1

2: Algebra (including vectors) correctly lead to final result, unit algebra correct=1

3: Correctly used physical information in the problem which were mass M , initial conditions (at $x=0$, at rest) , time t , constant force, vector directions. Correct numerical quantities (including correct vectors) provided in final result with correct SI units reported=1

Student Learning Outcomes for the Physics Program at Lyon College FA2026

1. Students who complete the physics 210/220, 240/250, 241/251 sequence are able to

1a. Articulate the basic principles of physics.

1b. Apply the basic principles of physics to solve a variety of qualitative and quantitative problems at the introductory physics level.

This can be measured with portions of exam problems.

General Education learning outcomes for Phy 210/Phy240/ Phy241/Phy220/Phy250/Phy251

Critical thinking: 210,240,241,220,250,251

Inquiry and analysis: 241,251

Quantitative literacy: 210,240,241,220,250,251

Scientific thought and Information literacy: 210,240,241,220,250,251

Portions related to Phy:241,251 will be evaluated by percentage numbers of accepted labs. Students are allowed to submit revised reports. Portions related to Phy:210,240,220/250 rubric will have results recorded from exams.

Critical thinking is regularly evaluated in 210,240,241,220,250,251. It is evaluated in terms of starting with correct physical principles applicable to a given situation and being able to follow it through to completion. It is evaluated by use of exam problems. In 241/251, it is part of the process of scientific thought and is evidenced by use of supporting data for a hypothesis as is required by the lab rubric.

Inquiry and analysis is regularly evaluated in 241/251 as part of the required element of accepted lab writeups. It is evidenced by student explanation of the experiment and is a required element by the rubric.

Quantitative literacy is evidenced primarily in 210/240/220/250 by successful completion of physical problems with correct units and correct numerical operations. It is evaluated by use of exam problems. Quantitative literacy is exhibited in 241/251 by students being able to follow through with sample calculations sometimes partially enabled by spreadsheet examples and being able to interpret the results. This is evidenced by the accepted writeup and is a required element by the rubric.

Scientific thought and information literacy is regularly evaluated in 241/251 and is evidenced by use of hypothesis with supporting evidence (or not supporting evidence) based upon experiment as is required by the lab rubric. Information literacy is regularly evaluated in 241/251 and is evidenced by correct physics terminology in lab reports as required by the lab rubric. It is also a significant portion of 210/240/220/250 and is evidenced by student success in using the basic physical terminology enabling students to correctly initiate quantitative solutions to physical situations.