

Physics 201/202/203 Syllabus

Welcome to the Physics 201/202/203 Sequence! Be prepared for a fun and exciting year as we explore the concepts of Mechanics, Electricity & Magnetism, Waves, Optics, and Modern Physics together.

General Info

Class Location: Building 28, room 228

Instructor: Åsa Bradley, MS (medical physics) & MFA (creative nonfiction)

Phone: Office (509) 533 3837 (Not good at checking messages)
Cell (509) 209 4194 (Use only for text messages and always identify yourself, I don't have you in my contacts)

Email: Asa.Bradley@sfcc.spokane.edu (Best mode of contact)

Class website: <https://apps.spokane.edu/EasyWeb/Default.asp?id=3487>

or, search for my name among faculty, expand the entry, and click on the website link.

This is where you find copies of the syllabus, schedule, and class handouts.
Check it often for updated information, assignments and homework solutions.

Office: 28-235 (On the west side of the building, facing the quad.)

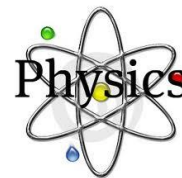
Office hours: See the back of your calendar or the class webpage for specific office hours. Basically, you are always welcome to speak with me, or we can schedule an appointment that fits your schedule.



Courses Descriptions

This year-long sequence is intended for Physics, Engineering, Computer Science and other majors requiring calculus-level physics. In Physics 201 you explore the topics of mechanics. In Physics 202, you study electricity and magnetism, and in Physics 203 you learn about waves, optics, and modern physics. Each of these courses requires lab work. Credit is granted for both lecture and lab for a total of 5 credits. For book information, see next page, but the basic breakdown of what chapters we cover in each of the segments in the physics sequence is:

- PHYS 201: Chapters 1 - 11
- PHYS 202: Chapters 15 – 17 & 21 - 29
- PHYS 203: Chapters 30 – 42



Note: the chapters covered each year may change from the above outline based on factors such as instructor away for conferences, classes missed due to weather, etc. **Also, there are versions of the book that end on chapter 37. If you plan on completing the whole sequence at SFCC, make sure your book contains all the chapters through 44.**

Prerequisites

- Understanding of algebra, trigonometry, and calculus.
- Reasonable fluency in English.

Courses Objectives

The Physics 201/202/203 sequence is included in the SFCC courses that teach you the skills described in the first item on the *College Learning Abilities* list: "Analysis/Problem Solving: Students will access, evaluate and apply information from a variety of sources in a variety of contexts." By the end of the quarter, you will:

- Understand concepts studied in class and be able to apply them to solve complex physics problems.
- Know some of the main characters that contributed to the development of physics as we know it today.
- Have the skills necessary to use physics to better understand the world around you.
- Understand the language of physics, i.e. use the vocabulary that is part of physics.
- Be able to explain physics principles and how physics is used in technology and other aspects of everyday life.
- Be able to conduct laboratory experiments by recording observations, analyzing data, and explaining the results.
- Make the connection between physics and other academic and vocational subjects.

Text Book & Other Required Materials

The following materials are required for the whole sequence, i.e. you only buy these once:



- **Text Book:** Fundamentals of Physics, Extended—Halliday & Resnick, 10th edition by Jearl Walker (Wiley)
- **WileyPLUS:** You need access to this online physics portal to do your homework. It also contains tutorials and extra study aids. There are bundles available that contains both the text book and access to WileyPLUS. Here's a summary of the textbook + WileyPLUS options from the publisher, in order of cost:

\$ WileyPLUS: (Book available through WileyPLUS portal only.)
\$\$ WileyPLUS + etext (Book available through VitalSource app.)
\$\$\$ WileyPLUS + loose leaf text
\$\$\$\$ WileyPLUS + bound text

WileyPLUS allows you a grace period of 2 weeks before you have to pay for access to the system. For class code and instructions on how to set up access to WileyPLUS, see the back of your calendar. **Note: there are versions of the book that end on chapter 37. If you plan on completing the whole sequence at SFCC, make sure your book contains all the chapters through 44:**

- **Calculator:** must be able to do trig functions, doesn't have to be a graphic calculator.

Other materials either recommended or required later in the quarter will be mentioned in class.

Assignments and Exams

The following assignments and exams are given:

- **Homework** – The *Tentative Calendar* shows you when your online homework is due. These sets of problems allow several attempts to complete and also offer hints.
- **In-Class Assignments** – We have an in-class assignment every day, worth 10-25 points each. There are no make-ups for missed in-class assignments, unless you've worked out a solution with me before the regularly scheduled class.
- **Exams** – The questions on the exams are based on the homework. If you understand the homework for each chapter, you will do reasonably well on the exam. You'll be given a basic equation sheet for the test. Although you do not need to memorize the equations we've used in class, you do need to know how to manipulate and apply them. You do not get to keep your exam after it has been graded, but you do get to review it.

Each exam is worth 100 points, and if the quarter includes a final, it is worth 150. I don't give any make-up exams. If you know ahead of time that you will be absent during an exam, I can arrange for you to take it before the scheduled time. If a final is given at the end of the quarter, I drop your lowest exam score, but not the final. **The final exam is done by Scantron, so no partial credit is possible on this exam.**

- **Labs** – We'll conduct a lab experiment that's related to what we're currently studying in class several times during the quarter. Before you leave lab, make sure your station is in the condition you found it. Lab experiments are done as a group, but each person hands in their own lab assignment. If a lab report is assigned, it must be typed and is due one week after the lab was performed. *Each lab is worth 35 points* and I drop your lowest lab score from your final grade. **There are no make-up labs.**

Make-up/ Late work

You're starting grade decreases by **20%** for each day after the due date (including days we don't have class). After an assignment is **2 days late, it is no longer accepted**. No late work is accepted after last day of regular class (i.e. no work is accepted on the day of the final). Online homework is never accepted late.

Missing Class/Late Arrival

If your late arrival disrupts class activities or forces your group to backtrack, you may be asked to leave and not participate in class that day. If you miss class *but notified me before the start of the lesson*, I will work with you to make up an in-class assignment, if the assignment is possible to do on your own. **You are only allowed to do this once.**

Study Tips

You are responsible for your own learning. I am here to help you along the way, but am only one of many study resources available. Ultimately, it is your responsibility to learn the material required. Here are some tips:

- **Read each chapter before coming to class**, even if you only have time for a quick read through. Studies show that the second time you experience a concept, you retain more than if it is the first time you encounter it. Also, by reading through the chapter, you can write down any questions you may have, or note any sections that seem unclear to you and then bring them up during class discussion. (I love questions in class!)
- **Continuously work through the assigned homework exercises**. It helps you keep up with class discussion and better prepares you for the exams. Don't try to do all the home work a day or two before they are due, you probably won't be able to cram it all in.
- If anything is unclear, **ask questions during class discussion or come and see me**. It is better to clear up things as early as possible, since the concepts build on each other. If you are confused one week and don't clear it up, you'll be double confused the week after—and probably twice as frustrated as well.
- **If at any point you feel frustrated or overwhelmed, come and see me!** My job is to make sure that this class is enjoyable and interesting. It should not be a struggle or a source of frustration. It should be fun! 😊



Grading

I grade both on effort and on correctness. A big part of your grade is your reasoning for the reached conclusion. Make sure you show all your work and calculations so that I can follow your thought process. Always attempt to complete all problems. Neatness counts. ***If I can't read it, I can't grade it.***

Your grade will be determined according to the percentage achieved on the total points added from the team sessions, lab, in class activities, and exams according to the following table:

Percentage	Numerical Grade	Letter Grade
≥ 95	4.0	A
≥ 92 but < 95	3.9	A-
≥ 90 but < 92	3.7	
≥ 87 but < 90	3.5	
≥ 85 but < 87	3.3	B+
≥ 80 but < 85	3.0	B
≥ 75 but < 80	2.7	B-
≥ 70 but < 75	2.3	C+
≥ 65 but < 70	2.0	C
≥ 60 but < 65	1.7	C-
≥ 55 but < 60	1.3	D+
≥ 50 but < 55	1.0	D
< 50	0.0	F

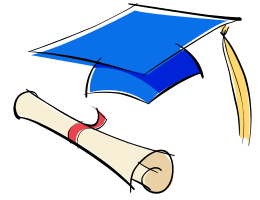


I reserve the right to consider factors such as attendance, exceptional participation, extraordinary work, cheating, etc. to determine the final grade. Depending on these factors, your grade may be different than the distribution described in the table above.

NOTE: I use the grade book on Canvas to record your grades. You should log in regularly to stay up to date on how you're doing in the class and to make sure no mistakes or ambiguity occurs. Visit: <https://ccs.instructure.com/login> for more information.

Academic Integrity and Conduct

You are expected to behave with integrity during lecture, lab, and any other activities involved in this class. Please respect everyone in the class room. **Turn off your mobile phone or keep it on vibrating during lecture and lab. If you absolutely have to take a call, please step outside the room before starting your conversation. The same goes for text messaging.** If you are not going to pay attention in class, then I'd rather you left rather than distract me and your fellow students.



Dishonesty and cheating will not be tolerated during this course. It is unfair to your fellow classmates and the college community at large. While cooperative efforts on homework and lab are encouraged, it is not tolerated during exams. You may want to read the student *Conduct Code and Rules of Enforcement*. Depending on the magnitude of the offence, expulsion from SFCC, expulsion from class, or loss of grade are likely consequences. It is often hard to tell the person that is cheating from the person enabling the cheating. If you allow someone to copy your exam answers, it is very likely that you yourself will also be included in any resulting disciplinary action.

My classroom is part of the Safe Zone program. In order for learning to take place, students must feel safe; this safety is due **all** students, not only those who share your values and beliefs. For this reason, courtesy, thoughtfulness, and acceptance are essential in our discussions in and out of the classroom. Acceptance should not be confused with agreement; one need not agree with a person to listen, but one must listen well in order to disagree respectfully. Every student in this course has a voice and so deserves the courtesy of attentive listening and the freedom to express diverse ideas. If at any time, you feel that you are not receiving this courtesy from me or your fellow students please bring it to my attention immediately.



Emergency and Safety Procedures

Should an emergency occur, stay calm and collected during the evacuation process. I know this is easier said than done. Always bring your belongings with you. You may not be allowed back into the classroom for some time. Evacuation locations will be announced in class. Laboratory safety procedures will be discussed in more detail while in lab. As a general rule, never play with the equipment or turn the equipment on until instructed to do so. If you wear a pacemaker or have other health issues, please see me before the labs. Some of the experiments use very high voltages.



Classroom and Other Accommodations

If you have a health condition or disability, which may require accommodations in order to effectively participate in this class, please contact me after class or contact Disability Support Services in Building 17-201, phone 533-4166. Information about disability will be regarded as confidential.

A Suggestion for How to Read College Textbooks

Using this method, you read your textbook paragraph-by-paragraph rather than trying to read big sections of text in one go. You actively "hunt" for key words and questions, which makes it easier to stay alert and pay attention while you read. It takes longer than just reading a chapter straight through, but ultimately you spend less time reading the text book. Here's how you do it:

1. After you finish a paragraph, decide if any information in that paragraph is worth highlighting or underlining.
2. Using your highlighter or pen, highlight or underline the most important key words or phrases.
3. Write a number (starting with #1) in the margin of the text next to the highlighted or underlined material.
4. Put the same number on your notepad and write a question based on the information you have just highlighted or underlined in the textbook. Since the information you highlighted or underlined is the answer to the question you wrote, you do not have to write the answer in your notes.
5. Proceed with your studying and reading, and every time you find important information, assign it a number and follow the same process.
6. As you finish a chapter or a section, you can quickly test your retention of what you have just learned by going over the questions in your notes and answering them from memory.

Although this method might seem slower at first, the idea is that you only crack open your book once and end up with a nice set of review questions to study for exams from. The only time you'll return to the book is if you're unsure of the answer to one of your questions. To check an answer, simply find the number in the margin that corresponds to your question.