



IB Physics SL Year 1 / CiS Physics RHS



2023-24

Instructor: Dan Berliner (daniel.berliner@mpls.k12.mn.us)

Room 283

Teacher Page: http://roosevelt.mpls.k12.mn.us/berliner_dan_2

Google Classroom: classroom.google.com

U of M Class Website: <https://canvas.umn.edu>

Prerequisites: High school algebra, plane geometry, and trigonometry, or by instructor approval

Office Hours: W/Th after school, or by appt.

Teacher Schedule

Land Acknowledgement

RHS resides on the land where the water reflects the sky: Mni Sota Makoce (Minnesota). We are occupying the ancestral land of the Dakota, Anishinaabe, and Ho-Chunk peoples. This land was taken illegally by the United States government using treaties it did not honor.

Course Overview

IB Physics SL Year 1 is the first of a two-year, algebra-based physics course. This is an advanced class designed for students who are particularly interested in physics and/or related subjects.

College in the Schools

The first year of this class will be administered in coordination with the University of Minnesota via College in the Schools. In other words, the curriculum of this course will be identical to the University of Minnesota course described below. If you choose to participate in this opportunity, you will be officially enrolled at the University, and you will receive college credit for this course upon satisfactory completion.

U of M Course Catalog Information

Title and Department Code: Introduction to College Physics I; PHYS 1101W (4 credits)

Class and Section Number: 24978 (704)

Course Description: Fundamental principles of physics in the context of everyday world. Use of kinematics/dynamics principles and quantitative/qualitative problem solving techniques to understand natural phenomena. Lecture, recitation, lab. Primarily for students interested in technical areas.

We will be using an online textbook this year, so you don't need to check one out from the media center.

If you have any concerns about getting other supplies, please let Mr. Berliner know.

Materials

- One dedicated notebook. You may instead use a 3-ring binder.
- One dedicated folder
- Pencil(s) and pen(s)

Teacher Responsibilities

As your teacher, I take it as my responsibility to care for your physical and mental wellbeing in my classroom, including your right to a high-quality education. While I always strive to treat every individual with the full respect they deserve, I understand that I may fall short of these goals from time to time. I always promise to earnestly listen to any and all constructive criticism should you at any point feel that I am not living up to my responsibilities.

Period 1	Physics
Period 2	Prep Hour
Period 3	IB Physics Yr 1
Period 4	Physics
Period 5	Physics
Period 6	Prep Hour
Period 7	Astronomy

Course Components

Reading: Parts of the online textbook will be frequently assigned for reading. These reading assignments are not optional - the class lessons will be designed under the assumption that you have completed the reading.

Homework: Homework problems will be assigned on a regular basis. This is your chance to practice the physics that you learn from the readings and in class. It is important that these homework assignments be completed on time to keep up with the topics.

Notes: You will be expected to keep organized notes in your own notebook or binder. You can use these notes any time you need to refer to something we did in class, such as while completing homework or studying for quizzes or exams.

Labs: There will be several labs throughout the course, approximately three per quarter. Each lab will have pre-work that will be assigned to complete before the lab. After a set of labs, a detailed lab report will be assigned for you to write. These reports will give you opportunities to write detailed lab reports to practice your communication of scientific ideas. Each lab report may be rewritten based on instructor feedback. However, only the first lab report's rewrite will affect your college grade (see "Grading" below).

Exams: There will be approximately one exam per quarter. These exams will assess your grasp of the physics concepts. They may be retaken for your high school grade, but only the original score will count toward your college grade (see "Grading" below).

Final Exam: The school year will end with a final exam that represents a summary of the content from the entire course.

Grading

You will receive two different grades for this course: a high school grade and a college grade. This is because RHS and the University of Minnesota have different grading policies and philosophies. The college grade will be cumulative for the entire year, and will be based on labs, exams, and the final exam. The high school grade will be quarter-by-quarter, will include other items such as homework and pre-labs, and will be graded using an 8-point rubric. There are also differing policies on things such as retakes. For example, there may be a circumstance where RHS allows a retake but U of M does not. In that case, your retake would only affect your high school grade and not your college grade. The high school grade is what will appear on your RHS transcript, and the college grade is what will appear on your University of Minnesota transcript.

Grade Percentages and Retakes

Item	RHS Grade %	U of M Grade %	RHS Retake?	U of M Retake?
Homework	20%	0%	N/A	N/A
Pre-labs		0%	Yes - unlimited	N/A
Labs*	40%	50%*	Yes - 1 each report	First report only
Exams	40%	50%	Yes - 1 each exam	No

*Per University of Minnesota requirements, students must earn 60% or greater in the lab to pass the class. Only lab reports contribute to the U of M grade.

Grading Scale (RHS 8-point Rubric)

Grade	Score /8
A-/A	7-8
B-/B/B+	5-6
C-/C/C+	3-4
D-/D/D+	2
F	0-1

Grading Scale (U of M Standard Scale)

Grade	%	Grade	%	Grade	%
		A	≥90	A-	≥85
B+	≥80	B	≥75	B-	≥70
C+	≥65	C	≥60	C-	≥55
D+	≥50	D	≥45	D-	≥40
		F	<40		

Tentative Schedule of Summative Assignments

Note: This schedule is extremely tentative, and is subject to change as the year progresses.

Date	Item	Date	Item
10/23/2023 (Mon)	Exam 1 - Constant Motion	3/4/2024 (Mon)	Exam 3 - Momentum
11/2/2023 (Thu)	Lab Report 1 Due	3/15/2024 (Fri)	Lab Report 3 Due
12/11/2023 (Mon)	Exam 2 - Accelerated Motion	4/22/2024 (Tue)	Exam 4 - Energy and Rotation
1/8/2024 (Thu)	Lab Report 2 Due	5/3/2024 (Mon)	Lab Report 4 Due
		5/13/2024 (Mon)	Final Exam

School-Wide Policies (RHS)

Attendance: Attending class is the first, and most important, step for learning. All students are expected to attend class on time every day, except for legitimate excused reasons. While attending class does not guarantee a passing grade, poor attendance patterns are the #1 reason for students not passing this class.

Passes: Students must ask the teacher for a pass to leave the class. If the student already has a pass (such as a clinic appointment or a counselor meeting), they should inform the teacher ahead of time so that the teacher is aware when the student is leaving for that meeting. Except in extenuating circumstances, passes will not be given during the first or last ten minutes of class. In this class, it is expected that passes to leave class are used for their intended purpose and for an appropriate length of time. Students will be reminded of these expectations if passes are misused. Repeated misuse of passes will result in a loss of pass privileges for the class for five school days.

Electronics: Bring a charged Chromebook or personal laptop computer to class every day. Cell phones are not an acceptable alternative. The classroom does not have extra Chromebooks to loan - see Ms. Hansen in the Media Center if you need to check out a loaner Chromebook for the day.

Other electronic devices, such as cell phones, earbuds, or portable speakers, must not be used in the classroom during class time, unless you are specifically instructed to use them for a learning activity. Students may be on phones during passing time and lunch. If a student is asked to put their phone away, they should do so immediately. The teacher will ask to hold onto the device for the remainder of the hour if the device is not put away. Choosing not to comply will result in a dean being called to the room to confiscate the device for the rest of the day, with escalating consequences for multiple occurrences. [See the full district policy here.](#)

Academic Honesty: Respecting and acknowledging the intellectual property of others, including other people's ideas, words, graphs, diagrams, charts and pictures, photographs, works of music, art or literature. Acknowledge all used sources. It is acceptable to include words, ideas, data, diagrams, tables, graphs, film clips and pictures from books and online sources in assignments. Students must always credit where they have got the information used, both in the body of the written work and on the Works Cited page at the end, using the correct referencing format.

Students' Responsibilities:

- Read and understand the Academic Honesty Policy.
- Students genuinely attempt formative work, with the work or ideas of others fully and correctly acknowledged through correct use of citations, and understand that it is an opportunity to receive feedback on their learning and make plans for improvement.
- Ensure that summative assessment work is authentically their own, with the work or ideas of others fully and correctly acknowledged.
- Comply with all internal school deadlines.
- Understand the definitions of what is considered academic dishonesty.
- Take ownership of learning by asking for clarification of instructions when necessary and seeking help when needed.
- Talk to teachers when feeling overwhelmed to discuss assignments and time management strategies to reduce the stress.
- Report malpractice and help cultivate a culture of academic honesty at their school.

Violation Procedures: First infractions (violations) will be handled by your teacher, subsequent infractions of the policy will involve working with a dean and possibly a counselor or coordinator of a program.

Policies (University of Minnesota)

Use of Artificial Intelligence

Artificial intelligence (AI) language models, such as ChatGPT, may be used for writing assignments, such as lab reports, ONLY for the purpose of improving clarity and quality of writing, and with appropriate citation. They may not be used for other assignments or to generate content that falsely portrays the student's understanding or skills. If you are in doubt as to whether you are using AI language models appropriately in this course, I encourage you to discuss your situation with me. Examples of citing AI language models are available at: libguides.umn.edu/chatgpt. You are responsible for fact checking statements composed by AI language models.

Student Conduct Code

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected to adhere to Board of Regents Policy: *Student Conduct Code* (https://regents.umn.edu/sites/regents.umn.edu/files/2022-07/policy_student_conduct_code.pdf).

Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach and/or a student's ability to learn." The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities.

Use of Personal Electronic Devices in the Classroom

Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. To this end, the University establishes the right of each instructor to determine if and how personal electronic devices are allowed to be used in the classroom. For complete information, please reference: <https://policy.umn.edu/education/studentresp>.

Scholastic Dishonesty

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means: plagiarizing; cheating on assignments or examinations, including the

unauthorized use of online learning support and testing platforms; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, misrepresenting, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. If it is determined that a student has cheated, the student may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see: <https://policy.umn.edu/education/instructorresp>.

The Office for Community Standards (<https://communitystandards.umn.edu/avoid-violations/avoiding-scholastic-dishonesty>) has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty. Beware of websites that advertise themselves as being “tutoring websites.” It is not permissible to upload any instructor materials to these sites without their permission or copy material for your own homework assignments from these various sites. If you have additional questions and concerns, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class, e.g., when and whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

Makeup Work for Legitimate Absences

Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see: <https://policy.umn.edu/education/makeupwork>.

Appropriate Student Use of Class Notes and Course Materials

Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. For additional information, please see: <https://policy.umn.edu/education/studentresp>.

University Grading Scales

The University has two distinct grading scales: A-F and S-N (S/N not available with CIS enrollment)

A-F grading scale. The A-F grading scale allows the following grades and corresponding GPA points:

Grade	GPA Points	Definitions for undergraduate credit
A	4.000	Represents achievement that significantly exceeds expectations in the course.
A-	3.667	
B+	3.333	
B	3.000	Represents achievement that is above the minimum expectations in the course.
B-	2.667	
C+	2.333	
C	2.000	Represents achievement that meets the minimum expectations in the course.
C-	1.667	
D+	1.333	

D	1.000	Represents achievement that partially meets the minimum expectations in the course. Credit is earned but it may not fulfill major or program requirements.
F	0.000	Represents failure in the course and no credit is earned.

S/N grading option is not available for U of M sections taught through College in the Schools.

For additional information, please refer to: <https://policy.umn.edu/education/gradingtranscripts>.

Sexual harassment, sexual assault, stalking and relationship violence

The University prohibits sexual misconduct, and encourages anyone experiencing sexual misconduct to access resources for personal support and reporting. If you want to speak confidentially with someone about an experience of sexual misconduct, please contact a confidential resource on your campus (<https://eoaa.umn.edu/report-misconduct>). If you want to report sexual misconduct, or have questions about the University's policies and procedures related to sexual misconduct, please contact your campus Title IX office or relevant policy contacts (<https://eoaa.umn.edu/report-misconduct>).

Instructors are required to share information they learn about possible sexual misconduct with the campus Title IX office that addresses these concerns. This allows a Title IX staff member to reach out to those who have experienced sexual misconduct to provide information about personal support resources and options for investigation. You may talk to instructors about concerns related to sexual misconduct, and they will provide support and keep the information you share private to the extent possible given their University role. For more information, please see: <https://policy.umn.edu/hr/sexharassassault>

Equity, Diversity, Equal Opportunity, and Affirmative Action

The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, membership or activity in a local commission created for the purpose of dealing with discrimination, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: https://regents.umn.edu/sites/regents.umn.edu/files/2019-09/policy_equity_diversity_equal_opportunity_and_affirmative_action.pdf.

Disability Accommodations

The University values disability as an aspect of diversity, and is committed to access and inclusion in our courses. The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

- If you are registered with the DRC and have a current accommodation letter please share your letter with me as soon as possible so that we can discuss how your accommodations will be implemented in this course. The sooner I know about your disability access-needs, the more equipped I can be to facilitate accommodations. You may reach out to me or your (access consultant/disability specialist) if you have any questions or concerns about your accommodations.
- If you are not registered with the DRC and are experiencing or think you may be experiencing disability related to a mental health, attention, learning, chronic health, sensory, or physical condition, and would like to discuss accommodations and/or resources, please contact the DRC (612-626-1333).
- If you have a short-term medical condition, such as a broken arm, I may be able to assist in minimizing classroom barriers. In situations where additional assistance is needed, you should contact the DRC as noted above.

Additional Information: <https://diversity.umn.edu/disability/>, drc@umn.edu

Mental Health and Stress Management

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University services are available to assist you. You can learn more about the

broad range of confidential mental health services available on campus via the Student Mental Health Website: <https://safe-campus.umn.edu/mental-health>.

Academic Freedom and Responsibility

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contacts include: the CIS instructor, CIS faculty coordinator (look up under Courses on the CIS website: <https://ccaps.umn.edu/college-in-the-schools#toc-courses>), E. Hanson, CIS director at hanso996@umn.edu and/or J. Erickson, CIS associate director at j-erick@umn.edu.

* *Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".*

<https://policy.umn.edu/education/syllabusrequirements-appa> as of July 20, 2023.