

Course Outline

Physics is an area of science that examines the relationship between matter and energy. Because this course will require frequent manipulation of mathematical relationships, it is crucial that a student have a **strong background in math** (successful completion of both algebra 1 and 2 highly recommended; trigonometry and calculus experience is a plus). A tentative breakdown of what we will study each advisory is shown below

Advisory 1: Kinematics:

- Basic 1-D Kinematics
- Constant acceleration
- Free fall
- Motion graphs
- Projectile 2-D motion

Advisory 3: Static and Current Electricity

- Electrostatics
- Charge transfer in conductors/insulators
- Resistance, Current, and Voltage
- Simple Circuits
- Power and work

Advisory 2: Forces and Energy

- Force
- Newton's 3 laws of motion
- Gravitational Force and acceleration
- Rotational Dynamics
- Energy and Momentum
- Conservation laws

Advisory 4: Electromagnetic Waves

- Magnets and magnetic fields
- Electromagnetic induction
- Simple motors
- Wave mechanics
- The Electromagnetic Spectrum
- Optics

General Class Information

Basic Classroom Expectations: In order to maximize the time spent in the classroom, students are expected to do the following:

- Show **respect** to themselves, the school, other people, and the property of others.
- Demonstrate **effort** by being attentive, following directions, staying focused, and working hard.
- Come to class **prepared** and on time, and be willing to **participate** in class discourse.



Required Materials (DUE Tuesday 9/3):

- A basic-function calculator (Note: students may NOT use their phones)
- A 3-ring binder with lined paper



!!!!Remind.com Text Message Reminders!!!!:

Sometimes it's hard to remember things! That's why extra reminders about upcoming assignments will be sent by text message. Parents AND students are **highly** encouraged to sign up for free text-message reminders. Directions for signing up can be found on the last page of this overview.



Technology and Electronics: In order to utilize the many resources available this year, students MUST have internet access at least once each week. If there is no internet access at home or by smartphone, computers are available for student use in the classroom, the media center, and the counseling suite. To minimize in-class distractions, unauthorized use of personal electronics during class is strictly prohibited. Cell phones are collected at the beginning of class, and returned to students once class is over. Failure to meet this expectation will result in confiscation of student device. Failure to meet this expectation will result in confiscation of student device.



Attendance:

Students are expected to attend class on time, every day. Failure to do so will have a negative impact on a student's participation grade. If a student does miss class, he/she will only be excused if they provide approved documentation of a doctor's appointment, illness, or family emergency. Grading and retention decisions for this class related to student absences shall follow guidance articulated in DCMR Title 5, and as described in the Attendance Policy.



Late/Make-Up Policy:

If a student misses class for any reason, it is expected that they proactively work to find out what they missed as soon as they return to school. Students will have advance notice of tests, quizzes, and upcoming due dates for assignments. In addition, all class material (including notes) will be accessible online and/or hanging in the 'extras' folder in the classroom.

Work turned in late due to a **verified excused absence** will be subject to the DCPS Grading and Reporting Policy. Work not turned in on time due to any reason **other than a verified excused absence** will be subject to the following grade penalties depending on which assignment category it falls under:

- **Participation** - Will receive 0% credit with no chance to make up. Assignments missed due to an excused absence will receive an "E" and will not be counted towards the class grade.
- **Practice and Application:** Will be worth half credit of the earned grade on the assignment. Assignments missed due to an excused absence will be worth full credit when turned in upon returning to class according to the DCPS Grading and Reporting Policy.
- **Assessments:** Tests and quizzes can be made up with no penalty. Other assessments (projects, papers, etc.) will receive a 10% grade penalty for each business day late with the maximum deduction being 50%. The last day to turn in late assignments of take make-up tests and quizzes is the last day of the advisory.

In ALL cases, it is the student's responsibility to initiate make-up work.

Please note: If a student is absent for an extended period of time, or has other extenuating circumstances, the teacher will make appropriate accommodations



Extra Credit:

Students can earn extra credit points by turning in projects early, and correctly answering bonus questions on exams. In addition, tickets are awarded regularly during class for outstanding behavior and participation. Winners of the ticket raffle at the end of the advisory are awarded extra credit.

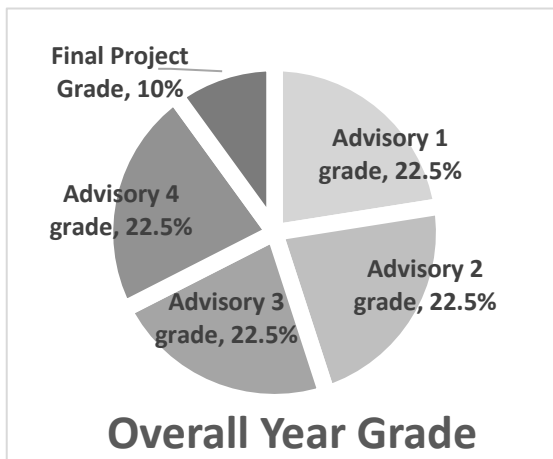
Contact Info and Office Hours: Please don't hesitate to contact me with via email (Jaime.ratkoff@dc.gov) with any questions or concerns.

I am available to meet with students every day during lunch. Meetings before or after school are available by appointment.

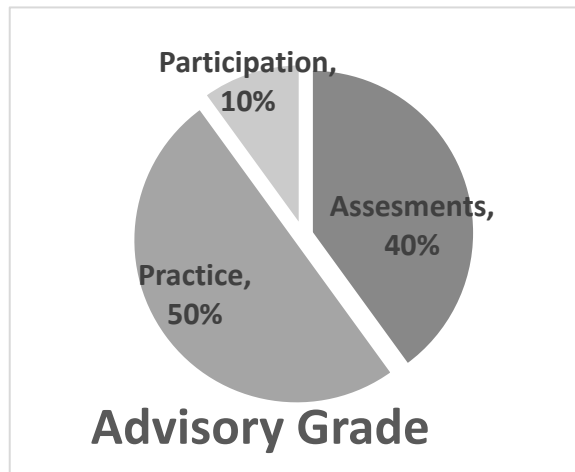
Careful! Make sure to spell this correctly!

Grade Breakdown

Overall Year Grade: A student's overall grade in the class for the year will be the average of all four advisory grades (each 22.5%) and a final project grade (10%).



Advisory Grade: A student's advisory grade will depend on their performance in 3 categories: Assessments (40%), practice/application (50%), and participation (10%).



Advisory Grade Details:

Assessments (40%):

Quizzes: Approximately every other week, students will complete a short open-note in class assessment to help evaluate how they are doing with the material being covered in class.

Advisory exams: Each advisory, students take a comprehensive exam that evaluates their mastery of the material presented during class. Prior to each exam, students complete and review a detailed study guide. Independent study outside of class is HIGHLY encouraged.

Projects: Typically requiring out-of-class time, students will create some kind of work product to show detailed understanding of a specific topic. Grading rubrics will be provided.

Practice and Application (50%):

Weekly Online HW: Online homework is graded based on completion, and will be due Mondays at midnight. Each assignment requires students to answer 4-6 questions about a short video or article to supplement the material we cover in class. Links to the online assignments will be posted each week on ASPEN and sent to students and parents via remind.com text messages

Classwork and Labs: Other assignments will be given to students during class to be completed as directed.

Participation (10%):

Each class day, participation points are awarded for being on time, completing the warm up, following class rules, and actively participating and engaging in classroom activities, discussions, and group work.

Student/Parent Consent Form (Detach and return to Ms. Ratkoff by Tuesday 9/3)

By signing below, you are indicating that you have read and understand the above procedures, expectations, policies, obligations, evaluation criteria, and course content outlined in this syllabus:

Student Signature _____ Date _____

Printed Full Name _____

Parent/Guardian Signature _____ Date _____

Printed Full Name _____

If you have not already done so, please SIGN UP FOR CLASS TEXT-MESSAGE REMINDERS!

Both parents and students are HIGHLY encouraged to sign up for our class text-messages (sent through remind.com). This is a free service, you may opt out at any time, and you do not need to download the app. To sign up, follow the directions below:

Physics classes: send text message: **@g9c88** to: **81010**

(If prompted, please respond with your name and/or birthday. Again, you do NOT need to download the app)

Finally, please be sure to complete the online parent/guardian survey by Tuesday 9/3 (it counts as student's first homework assignment!)

Parent/Guardian Survey url: <http://bit.ly/PHYsurvey2019>