Naperville North High School Physics Syllabus 2025/2026

D203 Profile of A Learner	We are proud to present the Profile of a Learner, which outlines the key competencies and descriptors our community has identified as essential for our students: Adaptability, Communication, Critical Thinking, Learner's Mindset, Global Citizen**.**
Department Mission	At Naperville North High School, our mission is to provide high-quality, innovative, and engaging science education that fosters deep understanding, critical thinking, and a lifelong passion for scientific inquiry. Grounded in the Next Generation Science Standards (NGSS), our curriculum and teaching approach empower students to develop the knowledge, skills, and attitudes necessary to thrive in a rapidly changing world. We are dedicated to nurturing curiosity, collaboration, and scientific literacy, preparing our students to become informed citizens who can contribute to solving local and global challenges through the application of scientific principles.
Course Description	This course is a study of fundamental physics concepts based on the Next Generation Science Standards. Students will evaluate evidence from experiments and technology used by scientists to understand the nature of physics. Concepts and skills are reinforced by a strong emphasis on hands-on laboratory experiences and the integration of other branches of science. Constructivist methods of teaching are employed to ensure the best possible comprehension and retention of science concepts. PRE-REQ: Geometry CO-REQ: Algebra 2
Course Textbook & Resources	This course does not use a textbook. We will use a variety of websites and online platforms as learning resources throughout the semester.
Course Standards & Weights	**Unit P0 Course Standards** **HS-PS3-1:** Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known." Includes mechanical energy types like kinetic and potential, as well as thermal, electrical, and field-based energies **HS-PS3-2:** Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of objects and energy associated with the relative position of objects. **Unit P1 Course Standards** **HS-PS2-5:** Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current. **HS-PS3-5:** Develop and use a model of two objects interacting through electric or magnetic fields to illustrate the changes in energy of the objects due to the interaction. **HS-PS3-2:** Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motion of particles (objects) and energy associated with the relative positions of particles (objects). **HS-PS3-3:** Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy. **HS-PS3-1:** Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known. **Unit P2 Course Standards** **HS-ESS1-5:** Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.

HS-ESS2-1: Develop a model to illustrate how Earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features.
HS-ESS2-3: Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection.
HS-PS1-8: Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.

SEL Standards
1B.5a. Implement a plan to build on a strength, meet a need, or address a challenge.
2C.5a. Evaluate the application of communication and social skills in daily interactions with peers, teachers, and families.
3B.5b. Evaluate how responsible decision making affects interpersonal and group relationships.

Units of Study:

Semester 1
P0: Energy & Rollercoasters
P1: Energy Flow from Earth's Systems
P2: Energy, Forces, & Earth's Crust

Semester 2
P3: Collisions & Momentum
P4: Meteors, Orbits, & Gravity

Grade Calculation Definitions

Students will be provided with multiple and varied opportunities to demonstrate mastery of learning standards. Although varied in content, all courses will include examples of practice and evidence of learning:

- **Evidence of Learning**: Tasks or assessments where feedback is provided to the student and considered evidence of a student's level of proficiency on a given standard or skill. This may include, but is not limited to formative tasks that provide insights on areas for growth as well as summative tests, projects and/or performances. In this course, specific examples include: Tests, Quizzes, Labs
- **Practice**: Tasks that are connected to course standards and learning targets that promote the development of skills and/or knowledge that will be assessed, but where feedback is not provided. This may include, but is not limited to daily readings, note taking, practice exercises and tasks essential to the learning process. In this course, specific examples include: Homework

Grading Disbursement

Semester grades for all classes (prior to the final exam) will be calculated by a weighted average. As part of the calculation for the overall semester grade, final exams/projects will not exceed 15% of the semester grade.

A = 100-90%, B = 89-80%, C = 79-70%, D = 69-60%, F = 59-0%

Semester Grade:

- Coursework = 85% (Evidence of Learning = 90%, Practice= 10%)
- Final Exam = 15% *Final Exam Format:* Cumulative Exam

Grading Practices

Grades communicate each student's progress toward mastery of goals/standards for the course.

- Infinite Campus Symbols/Comments:
  - A score of "Missing" (M) will indicate an assessment has not been turned in and the comments section will include a specific date by which students can still submit. After that date, a zero (0) will be recorded.
  - Any score may also have a comment indicating the due date, turned in, late, reassessment eligibility including the timeline and/or reassessment final scores.
  - A zero indicates that no attempt was made by the student. If a legitimate attempt is made on an assessment and practice work has been completed in a consistent and timely manner (*completing 85% of practice listed in Infinite Campus.*), a score of 50% will be the lowest possible grade.
- Late Work:
  - Evidence of Learning work submitted after the original due date cannot be penalized more than a total

of 10% and can be submitted for credit up to 5 days after the original due date.
    - Practice Work is not accepted for credit after the due date.
- Other:
    - No extra credit will be issued.

D203 AI Belief Statement

At Naperville North High School, we strive to build a learner's mindset in all students, developing qualities such as adaptability, communication, critical thinking, and global citizenship. Generative Artificial Intelligence (AI), offers new opportunities to engage with important technology relevant to the future that also raises significant educational considerations. AI tools provide unique ways to engage students in the learning process, hence we encourage our staff to guide students in using AI responsibly. Teachers have the authority to establish guidelines for AI use in their classrooms, setting clear expectations for how AI can be used on learning tasks. Concurrently, we recognize that reliance on AI risks replacing genuine student engagement and original thought, undermining the attributes we aim to cultivate. Striking a balance between leveraging AI tools effectively and maintaining educational standards is crucial to the learning experience of each student.

Academic Integrity Code

District 203 students are challenged to address the academic process enthusiastically, diligently, and most importantly, honestly. It is the responsibility of our students, teachers, and administration to uphold the fundamental academic values of honesty, responsibility, fairness, respect and trust. The integrity of our district's academic programs is built upon these principles.

Academic integrity violations include cheating, plagiarism, self-plagiarism or copy infringement, obtaining or providing an unfair advantage, using a writing service and/or AI in place of original work unless specifically authorized by staff, falsification of documents, unauthorized access to records, and inappropriate collaboration, whether intentional or unintentional. The classroom teacher and administration will collaborate and exercise professional judgment in determining academic integrity violations.

Technology Expectations

- **Cell phones**: Students will be expected to store their cell phones in a phone holder or designated classroom location throughout each class period as communicated by each teacher. Cell phones should not be seen or heard in the classroom setting. Appropriate use of cell phones is allowed during passing periods, during study halls, at lunch, before and after school. Please note that cell phone use is strictly prohibited in locker rooms and restrooms at all times.
- **Ear buds and headphones**: The use of ear buds and headphones is strictly prohibited in the classroom unless permission has been granted by the teacher. Ear buds and headphones should not be seen or heard in the classroom setting. For safety reasons, students should also be able to hear announcements, alerts, etc. at all times and, therefore, students are permitted to use one ear bud or headphone during passing periods, at lunch, before and after school.
- **District issued Chromebooks**: Students are required to use their District issued Chromebook and will not be permitted to use personal laptops or devices in the classroom setting. Student personal devices are not protected by district systems and put student safety and the safety of our network at risk. Additionally, student personal devices are not enabled with applications and programs necessary for administration of state and AP assessments.

Reassessment Policy

The purpose of reassessment is to allow students another opportunity to demonstrate mastery of course standards. Each unit will include a unit test, which may be used to replace that unit's quizzes. A higher test grade can replace quizzes up to 85%. Practice work is not eligible for reassessment.

Refer to the chart below for eligibility:

☐ The assessment included multiple opportunities for feedback and improvement in the process for the final product OR formative assessments are aligned to standards, allow students to practice in the same assessment format, and gain feedback for improvement before the summative assessment.	☐ There was timely and consistent completion of practice work and formative assessments. ☐ A one-time performance on an assessment does not reflect the student's level of proficiency leading up to the assessment. ☐ Assessment score is below 85%
Not eligible for reassessment	Eligible for reassessment if all three statements above are true.

Reassessment Parameters:

- The reassessment opportunity will require designated learning experiences that demonstrate readiness as assigned by the teacher.
- Reassessments MUST be completed within 5 school days of the student receiving feedback unless otherwise determined by the instructor. The reassessment deadline should be communicated in an IC comment.
- The final reassessment score will be capped at 85%.

Student Communication

- You are encouraged to communicate with their teacher regarding questions.
- Teachers make every effort to respond to emails and phone calls within 24 hours during the workweek.
- The best way to communicate with teachers is through email; however, if you haven't received a response within 48 hours, please resend the email or call their voicemail. Your email may have been filtered.

Additional Resources for Support

- You can make an appointment with your teacher should you need additional instruction or support in learning material.
- You can attend peer tutoring in the Lit Center during lunch periods to receive extra support or to work on assignments.
- You can drop in to work with a peer tutor during lunch periods or before school in the Literacy Center.

Parents or Guardians Partnership

Naperville North believes in a collective partnership with parents/guardians which provides students the best opportunities for success.

Some ways parents/guardians can support their student's learning are:

- Actively check Infinite Campus for their student's grades.
  - Infinite Campus is a tool to progress monitor student work until the final course grade is posted.
  - Monthly progress grades are posted and represent the current grade of a student in the course at that moment in time.
- Discuss missing assignments, reiterate due dates, help organize folders, materials, assignment notebooks, and review upcoming projects and assessments.