Physics Syllabus
2020 – 2021

To educate students to be self-directed learners, collaborative workers, complex thinkers, quality producers, and community contributors

Course Description
This course is a study of fundamental physics concepts based on the Next Generation Science Standards (NGSS). 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. CO-REQ: Algebra 2

Course Topics

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Scientific Thinking &amp; Tools (STT)</td>
<td>● Constant Acceleration Particle Model / Unbalanced Forces Particle Model (CAPM/UBFPM)</td>
</tr>
<tr>
<td>● Constant Velocity Particle Model (CVPM)</td>
<td>● Energy Transfer Model (ETM)</td>
</tr>
<tr>
<td>● Balanced Forces Particle Model (BFPM)</td>
<td>● Electric Fields (EFF)</td>
</tr>
<tr>
<td>● Momentum Transfer Model (MTM)</td>
<td>● Magnetic Fields (MFF)</td>
</tr>
<tr>
<td></td>
<td>● Electromagnetic Induction (EMI)</td>
</tr>
<tr>
<td></td>
<td>● Waves (MWM)</td>
</tr>
</tbody>
</table>

Grading Calculation
At Naperville North we define formative and summative work as follows:

- Formative work is used to monitor student’s learning to provide ongoing feedback that can be used by students to improve their learning. Examples may include: practice activities, homework, quizzes, etc.
- Summative work is used to evaluate student learning at the end of an instructional unit or segment of learning by comparing it against a standard or benchmark.

Grades communicate each student’s progress toward mastery of goals/standards for the course. Grades should not be reduced or inflated due to student behaviors outside of the standards.

- No extra credit will be issued.
- Formative assignments will be accepted up to the end of each unit.
- A zero on a summative assessment will only indicate that no attempt was made by the student.
- Any percentage lower than 50% will be put into the grade book as a 50%, the lowest possible grade on completed work (incomplete or work not turned in will receive a grade of 0 in the grade book).
  - Violations of the academic integrity policy will be consequenced by administration in collaboration with the IC/teacher.
- Formative work submitted after the due date cannot be penalized more than a total of 10%.
- Summative work submitted after the due date cannot be penalized more than a total of 10% and must be submitted prior to the end of the next unit.

Your course grade will reflect what you have learned, not what you have completed.

(in past years, the final exam has been worth 15% of the course grade and will not exceed 15%).

- Formative
  - 10% Daily work (Homework, whiteboard presentations, Canvas practice quizzes, lab activities)
- Summative
  - 40% Science Practices (labs, lab practicums, lab quizzes, engineering projects)
  - 50% Standards Quizzes

Everything other than mid-semester exams and final exams are scored on a 4 point scale:
4 (100%): Clear demonstration of understanding (with minor errors allowed).
3 (85%): Significant understanding demonstrated, but a key aspect of the solution is not.
2 (70%): Partial understanding demonstrated, but key information or concepts are misapplied.

Updated August 2020
1 (50%): No demonstration of understanding.
0: No reasonable attempt.

A : 90-100 %
B : 80-89 %
C : 70-79 %
D : 60-69 %
F : below 60%

Reassessment Policy

Students will be provided multiple and varied opportunities to demonstrate mastery of learning standards.

- The purpose of reassessment is to allow students to demonstrate mastery of course standards in which they remain deficient.
- Students will be required to engage in further learning and reassessment when students do not demonstrate sufficient learning of the course essential standards.
- Students who have demonstrated sufficient learning of the essential standards (but scored below 80%), will be allowed reassessment opportunities on summative assessments if they so choose. To be eligible for reassessment, students must
  - Demonstrate readiness for the summative assessment through completion of formative work.
  - Complete designated learning experiences as assigned by the teacher
- Reassessments MUST be completed during the next unit of study.
- Project-based assessments that include multiple opportunities for feedback and improvement in the assessment process will represent multiple attempts and be considered a reassessment
- Higher reassessment grades will replace the original assessment score (but will not exceed 80%).

Students will be expected to submit only original work and follow the academic integrity policy described in the NNHS student handbook. The Academic Integrity policy still applies during remote learning. Anything that is not explicitly

- Level 1 infraction will follow our reassessment policy, students will earn no more than – 80%;
- Level 2 infraction – 50%;
- Level 3 infraction – 0%

Communication

- As a high school student, it is strongly encouraged that you communicate directly with your teacher regarding questions. You can email your teacher and set up a time to meet virtually.
- Teachers make every effort to respond to emails and phone calls within 24 hours during the work week.
- 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. Your email may have been filtered.

- Make an appointment with your teacher.
- NNHS student supports

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

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

- Actively check Canvas for student’s remote learning assignments.
- Actively check Infinite Campus for their student’s grade.
  - Infinite Campus is a tool to progress monitor student work until 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.

Mr. McWhirter – Science Coordinator
amcwhirter@naperville203.org

Updated August 2020