

School: BASIS International School Shenzhen

Instructor: Neill Lee

Email: neill.lee@basisinternationalsz.com

Course Description

In physics III, students will continue to build their understanding of the physical world both conceptually and mathematically. The application of physical concepts will be expanded to a larger number of real-world situations and two dimensional problems will be introduced for the first time, in line with their progress in math class. Using fundamental physical concepts and algebraic skills, students will develop the ability to pose a scientific argument and present scientific evidence to support a claim. Topics will include kinematics, forces, energy, momentum, and electricity and magnetism. At the end of this course, students will have the understanding of theoretical physics necessary to prepare them for the high school physics.

Grading Policy

Grades will be calculated based on Exams, Quizzes, Homework and In-class assignments, including labs. The number of assignments for each trimester will vary based on class schedules, holidays and days off, and material being covered. For each Trimester, the Course Progress Grade will be determined according to the following weights:

- Class Tests (in Trimester 2 this includes the Pre-Comprehensive exam): 50%
 - Class tests will occur twice every grading period (middle and end) and will be announced at least one week in advance.
 - The Precomprehensive exam is included in Trimester 2's Course Progress Grade and will be worth 30%.
 - Please see the student handbook for calculation.
- Class Quizzes: 30%
 - Quizzes will be approximately every 1-2 weeks, and will cover the content of the current unit and may cover the content of previous units. Quizzes will held randomly without notice.
- Class work, home work and Laboratory Work 20%
 1. Accuracy 5%
 2. Participation 5%
 3. Organisation/Neatness: 5%
- Attendance, Punctuality and Equipment: 5%

The average of all three trimesters is the Cumulative Course Average.

The Final Course Grade is the average of the Cumulative Course Average after the last grading period (50%) and the Comprehensive Exam Score (50%).

No homework will be assigned or graded during the review week before Pre-comps or Comps.

Classroom Policy

Late assignments will NOT be accepted. If the student does not come to class prepared with completed assignments, no credit will be given. Because extenuating circumstances occur, the lowest assignment grade will be dropped from each grading period. This includes one late homework assignment per grading period.

Assignments without the student's name will receive no credit.

After an absence, the student should follow the homework buddy procedures described in the Parent-Student Handbook to obtain missed materials. Lecture notes will be posted on my website (<https://d29eb5mega6ct7.cloudfront.net/depict.htm> [<https://d29eb5mega6ct7.cloudfront.net/depict.htm>]) or are obtained by asking a peer. Students will be allowed time to make up work as outlined in the Parent-Student Handbook. Students are responsible for scheduling makeup quizzes or tests due to absence.

Students are expected to keep an organized binder as the materials and notes provided are essential for quizzes, tests and the comprehensive exams. Random notebook checks will take place. Additionally, students will have bell work at the beginning of class. These, and other assignments, may be peer edited or graded on occasion to ensure students are keeping up with the material.

Because the Communication Journal will be used to communicate grades and student progress updates, students must bring their CJ to every class period. Parents should frequently check CJ's and feel free to write to me in the CJ as well as by email at neill.lee@basisinternationalsz.com [<mailto:neill.lee@basisinternationalsz.com>]

Students are expected to comply with the Parent-Student Handbook Code of Conduct including, but not limited to, the following:

- Promotes respect for fellow students and staff members
- Promotes respect for all individuals
- Promotes individual and community responsibility
- Provides a safe environment for students
- Provides a disruption-free educational environment

Instructional Materials

Textbook	
ISBN	0321009711
Author	Hewitt, Paul G.
Title	Conceptual Physics
Publisher	Little, Brown and Company
Strategy	Classroom set

Although not normally advised for this course, students may check out textbooks to take home at the teacher's discretion or purchase their own copy for home use. Please be advised that the course is based on in-class notes; the textbook contains much more information, and in greater depth, than the students will be held accountable for knowing.

Additional Instructional Materials include

PhET interactive simulations <http://phet.colorado.edu/en/simulations/category/physics>. University of Colorado, 2013

The Cosmos: A Spacetime Odyssey FOX/National Geographic 2103 (Video)

Looney Tunes, Road-Runner and Wiley E Coyote Episodes Warner Brothers (Video)

The following websites may be helpful in your study of physics. They are excellent references and sources for reliable physics material on the web:

Hyperphysics: <http://hyperphysics.phy-astr.gsu.edu/hbase/Hframe.html>

The mechanical universe: <http://www.learner.org/resources/series42.html> [<http://www.learner.org/resources/series42.html>]

AP Physics: http://www.collegeboard.com/student/testing/ap/sub_physb.html [http://www.collegeboard.com/student/testing/ap/sub_physb.html]

Physics.org <http://www.physics.org> [<http://www.physics.org>]

The physics classroom <http://www.thephysicsclassroom.com> [<http://www.thephysicsclassroom.com>]

Crash Course Physics <https://www.youtube.com/watch?v=OoO5d5P0Jn4> [<https://www.youtube.com/watch?v=OoO5d5P0Jn4>]

Crash Course Astronomy <https://www.youtube.com/playlist?list=PL8dPuuaLjXtPAJr1ysd5yGlyiSFuh0mIL> [<https://www.youtube.com/playlist?list=PL8dPuuaLjXtPAJr1ysd5yGlyiSFuh0mIL>]

Other Information

Student Hours

TBA

Parent Hours

TBA Please make all appointments through the front office. All parent meetings will be scheduled for 15 minute duration.

Students are required to bring the following materials to EVERY physics class period

- TI 30 Series calculator (or one used for chemistry)
- Binder (physics only) with dividers
- Pencils and erasers
- Graph paper
- Hole Punch
- Ruler
- White Board Marker

Additional resources, notes, and tutorials for students can be found on the following websites:

<http://www.physicsclassroom.com/Class/> [<http://www.physicsclassroom.com/Class/>]

<http://www.bbc.co.uk/education/subjects/zpm6fg8> [<http://www.bbc.co.uk/education/subjects/zpm6fg8>]

<http://phet.colorado.edu/> [<http://www.bbc.co.uk/education/subjects/zpm6fg8>]

<http://hyperphysics.phy-astr.gsu.edu/hbase/hframe.html> [<http://hyperphysics.phy-astr.gsu.edu/hbase/hframe.html>]

This syllabus is subject to change and students will be informed of any changes.

Syllabus Outline Lesson Units

Graphing and Dimensional Analysis

1D kinematics

Forces and Newton's Laws

Energy

Momentum and Collisions

Precomp review

Precomps

Waves and Light

Electricity and Electric Circuits

Astronomy

Comp review

Comprehensive Exams