

# IB Physics SL (Year Two) Course Syllabus 2014-2015

## Teacher Information

Name: Ms. Tiffany Grant

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Room Number: 8157

Phone: (404) 802-4700

Tutorial Day: Thursday, 4:00-5:00 pm

## Course Description and Objectives

IB Physics Standard Level is a two-year introductory university level course designed to integrate hands on learning with rigorous science content. It is a challenging and exciting course that engages students to explain the basic features of the natural universe, primarily the interactions between matter and energy, in mathematical terms. In IB Diploma Program Physics Standard Level, students will develop a broad, general understanding of mechanics, sound, light, electricity, magnetism and modern physics. The IB requires multiple forms of assessments, the independent lab component, Internal Assessment, the personal skills component, Group IV project, and exam component, the External Assessment papers. Students will be expected to submit independently designed and conducted lab work that will fulfill the IB Internal Assessment criteria. During the second year, all students will complete the Group IV project and prepare and sit for three exams, International Baccalaureate Physics Papers, at the end of the second semester.

This physics course is designed to provide the individual opportunities to experience science as a discipline and method of investigation through a combination of study, discussion, problem solving, and hands-on laboratory observation. By the end of the semester you will be able to demonstrate skills necessary to recognize problems, gather quantitative data, efficiently solve problems and explain concepts, and communicate your results and solutions. Open-ended questions are stressed in order to assess students' understanding of physical concepts, and the use of mathematics to illuminate the physical situation rather than to show manipulative abilities.

## Course Outline

<u>Unit Topics:</u>	<u>Topic #:</u>
Electric Currents	5.1, 5.2
Field and Forces	6.1-6.3
Atomic and Nuclear Physics	7.1-7.3
Quantum and Nuclear Physics	B1, B2
Energy, Power, and Climate	8.1-8.6
Thermal Physics	3.1, 3.2
Oscillations and Waves	4.1-4.3
Sight and Wave Phenomena	A1-A6

<u>IB Exam Test Dates:</u>
Friday, May 8, 2015 (Morning)
• Paper 1 (30 Multiple Choice)
• Paper 2 (one data-based question, several short-answer questions, and one extended-response question)
Monday, May 11, 2015 (Afternoon)
• Paper 3 (several short answer questions on two options)

## Materials:

Students are required to bring the following to every class:

1. Textbook: Physics: Principles with Applications, 6<sup>th</sup> Edition, Douglas C. Giancoli (electronic)
2. 3-ring binder with 5 dividers
3. Loose-leaf paper and Graph paper
4. Pencils and Pens
5. Composition book (graph ruled)
6. Calculator (preferably TI-83, TI-84, or TI-89)
7. USB (at least 1 GB of storage)

### Other recommended materials:

Portable pencil sharpener,  
colored pencils, ruler, erasers.

## Evaluation and Grading

Grades will be assigned based on the following breakdown:

<u>Grading Categories:</u>		<u>Grading Scale:</u>	
Tests*	30%	A = 90 – 100	
Classwork/Homework	25%	B = 89 – 80	
Labs	20%	C = 79 – 70	
Quizzes	15%	F = 69 or below	
<u>Final Exam</u>	<u>10%</u>		
Total	100%		

*You will receive additional information about IB Grading for this class.*

- \* Tests will follow the IB Paper 1 and Paper 2 formats. Each test will have several multiple-choice questions and graded using a scantron. **No calculators** will be permitted on the multiple-choice sections of the test. The second part of each test will be free-response questions (data-based, short-answer, and extended-response) with rubrics. Points will be awarded for use of correct formulas and showing work as well as appropriate conceptual comments.

### Late Work

All assignments not submitted on the requested due date and time are **late**. The acceptance late assignments will be at the discretion of Ms. Grant. If accepted, the grades of these assignments **will receive a late penalty** according to the discretion of Ms. Grant.

### Make-up Work

Make-up work (test, lab, classwork) because of an **excused absence** must be made up **during tutorial** (Thursday from 4:00-5:00 pm or by appointment) within one week of absence. It is **your responsibility** to ask for and obtain the make-up work. Students who are absent on the day of a unit test or quiz must take the test or quiz the day they return, no exceptions!

## **Class Expectations**

### Class Rules:

1. Arrive to class on-time
2. Be prepared with your assignments and class materials.
3. No candy, gum, food, or drink (except water).
4. No unauthorized electronic device (iPods, MP3 players, cell phones, etc.) usage.
5. Be respectful of yourself, your peers, your teachers, and classroom visitors.
6. Work hard and Exceed Expectations!

**(Note:** All students are expected to adhere to all policies and procedures as mandated by North Atlanta High School and Atlanta Public Schools 2014-2015 Student Handbook.)

### Consequences:

- 1<sup>st</sup> Offense: Verbal Warning/Student-Teacher Conference
- 2<sup>nd</sup> Offense: Parent Contact
- 3<sup>rd</sup> Offense: Teacher Consequence (Detention: Fridays at 4:00pm)
- 4<sup>th</sup> Offense: Office Referral

**(Note:** Severity of an offense may expedite this process.)

**Note:** Ms. Grant reserves the right to make changes to this course syllabus as needed, in which appropriate notification of changes will be made.

**Parent-Student-Teacher Compact**  
**IB Physics SL (Year Two)**  
**Ms. Tiffany Grant, Teacher**

Dear Parents and Students,

Below are the expectations required for the success of each IB Physics student. Please read each statement thoroughly and initial (both parent and student) in each of the provided spaces, which indicate you and your student's agreement to uphold the following expectations.

Parent	Student	The student will:
_____	_____	1. Regularly attend class.
_____	_____	2. Arrive to class on-time.
_____	_____	3. Complete assignments (classwork, homework, tests, projects, and quizzes).
_____	_____	4. Complete all activities within the specified time.
_____	_____	5. Participate in tutorials during the school week, if needed*.
_____	_____	6. Demonstrate mature behavior in the classroom**.
_____	_____	7. Come prepared for class*.
_____	_____	8. Take home regularly issued progress reports to parents/guardians and return signed to Ms. Grant.
_____	_____	9. Spend at least 4 hours per week studying IB Physics SL.
_____	_____	10. Schedule conferences with the teacher when necessary.
		* See IB Physics SL Course Syllabus
		** See NAHS Student Handbook

I have read and fully understand the policies and procedures written in the IB Physics SL Course Syllabus and Parent-Student-Teacher Compact. I will follow each guideline to the best of my ability. Please sign below and return this contract on or before **Wednesday, August 11, 2014.**

\_\_\_\_\_  
 Student's Name (printed)

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Student's Signature

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Parent/Guardian's Signature

\_\_\_\_\_  
 Date

**Parent/Guardian Contact Information**

Please provide me with the following information so I can communicate with you this year.

Guardian Name: \_\_\_\_\_ Relation to student: \_\_\_\_\_

Home Phone #: \_\_\_\_\_ Best Method of Communication (Circle all that apply):

Work Phone #: \_\_\_\_\_ Home Phone      Work Phone

Cell Phone #: \_\_\_\_\_ Cell Phone      Email

Email Address: \_\_\_\_\_ Best Time (Circle all that apply): AM    PM