

# Foundations of Scientific Inquiry Pre-IB/H Syllabus 2015 – 2016

Teacher: Mr. A. Burt

## COURSE DESCRIPTION:

This course is designed to provide you with a background in several physical science disciplines including chemistry and physics. Foundations of Scientific Inquiry is uniquely designed to get you ready to excel in the highest levels of chemistry, biology and physics. Course material will strengthen your reading and study skills in the sciences. We will pay attention to developing technical writing and incorporating math skills in the science area, as well as the use of technology. Laboratory techniques will be introduced and your lab skills will be expanded. You will be introduced to and master the guidelines for formal lab reports used by the MPS science department. Units covered through the year will include:

- Scientific Method
- Math Skills in Science
- SI/Metric System
- Graphing and Data Tables
- Energy Resources
- Energy
- Matter Classifications
- Atomic Structure/Nuclear Changes
- Periodic Table
- Chemical Compounds
- Organic Chemistry
- Chemical Reactions
- Solutions
- Acids and Bases

## TEACHING METHODS:

The general method for teaching this course will be a combination of lectures with note taking, problem solving, demonstrations, videos, class discussions, laboratory investigations, and activities/assignments using the iPad.

## REQUIRED MATERIALS:

A textbook (Spectrum Science – A Physical Approach by Holt) will be provided. You will need a 1½ - 2" three-ringed binder (for your notes and worksheets), binder dividers (at least 11 for all of our units), **college-ruled** loose-leaf paper, graph paper, **metric** ruler, colored pencils, blue or black pens, pencils, and a **scientific non-graphing calculator** (must be able to do powers of 10). The iPad will be used as a tool in combination with the lessons but will not serve as a replacement for a written notebook. ***Also recommended but not required: a box of tissues!!*** Items need to be replaced as necessary during the school year.

**Students are expected to bring all required materials to class daily.**

## LABORATORY INVESTIGATIONS:

All science classrooms are scientific laboratories. A laboratory is a place where scientific investigations and experiments are done. As you study science, you will be carrying out such investigating using equipment and materials that can harm you if not used correctly. Everyone who works in a science laboratory must learn the skills necessary to make it a safe place. Students are expected to read and follow safety guidelines. Parents and students will be required to sign a lab safety agreement. Prior to any lab investigations, students will be expected to have read the procedures and understand the necessary safety precautions.

## ASSIGNMENTS:

Daily assignments will be given including: reading, problem solving, workbook activities, text questions, written laboratory reports after lab investigations, and preparing for tests. Success in this class is **highly** dependent on you doing your assigned work!

All assignments will be posted on the MPS website at: [www.mpshome.com](http://www.mpshome.com). To find it, go to MPS Students, then Teacher Web Sites, then Gdaniec. In addition to the daily assignments, some worksheets and helpful links will also be available on the webpage. These will be quite helpful because some of the information from class will not be found in your textbook.

Students are responsible for handing in assignments on the due date at the beginning of class. It is the student's responsibility to seek out the teacher if there are any questions or lack of understanding in the assignment; **prior to the class it is due. Late assignments will lose 25% of the total grade per day (not class)**

**and must be handed to the teacher directly.** *No credit will be given once the assignment has been returned and/or reviewed in class.*

Students who are absent are expected to see the teacher **the day they return** to school to **discuss** missed class material, **obtain** new assignments, and **turn in** assignments that are due (or else those assignments will be considered late). If the absence causes the student to miss a test, the parents are asked to inform the attendance secretary when calling the school that they are aware their child is missing a test. **If a student is absent on a test or lab experiment day, they will have exactly three school days from their first day back to make-up the work. If the student fails to comply with this time frame, they will receive a '0' on the assignment.** Please consult the MPS handbook for more information regarding vacations. It will be exceedingly difficult to maintain your grade if a vacation is taken during school time.

#### **GRADING:**

The grading scale for this course follows that listed in the Student Handbook. Student achievement will be based on these factors: tests, quizzes, lab reports, in-class activities, and homework assignments. Students will be expected to keep track of their grades so they may continually evaluate their progress and parents/students should regularly check their grades on Power School. Students must keep graded assignments (also keep copies of any computer work in your school folder). The burden of proof rests with the student in any grade discrepancy. All students should realize that Science Concepts is a course that requires constant effort to keep up with reading, lecture, note-taking, assignments, and laboratory investigations and reports.

The final assessment will be given in two parts; one exam in January and the other in June. The average of the two final exams will constitute one-seventh of the final yearlong grade while each term grade will account for two-sevenths of the final year grade.

#### **CLASSROOM DISCIPLINE:**

Students are expected to act in accordance with the MPS Disciplinary Code outlined in the student handbook. These policies encourage an environment of mutual respect, honesty, and fairness for both students and teacher alike. Behavior not appropriate will be handled in accordance with the guidelines set forth in the student handbook. Additional classroom expectations will be reviewed in class and are outlined on the homework website.

#### **iPAD USE IN CLASS:**

As mentioned above, the iPad will be used in combination with lessons. Students are expected to act in accordance with the MPS Acceptable Use Policy outlined on the school website and reiterated in the student handbook. Photos and video may not be taken of teachers, staff, or students without their permission, and if during a class, without the knowledge and express permission of the teacher of the class. If a student is using their iPad when not permitted to do so or is utilizing it for something other than the current assignment, it will be taken away and the student will receive a Tier 1 detention. It is important for the student to recognize that the use of the iPad in class, while exciting, is a privilege and not a right.

#### **HELP SESSIONS/CONTACT:**

Do come see me if you have a question or need extra help. Come before you get hopelessly lost! The sooner you come in and ask a question, the sooner we can find a way to help you understand! A National Honors Society student can also be arranged to tutor you one-on-one. I will be in Room 212: Monday – Thursday until 3:30PM or later if necessary. If I will not be available it will be announced in class and posted on the homework website. Morning sessions can be prearranged if after school sessions cause a conflict. I can be contacted through email at: [sgdaniec@mpsakers.com](mailto:sgdaniec@mpsakers.com), via the Contact tab on the homework website, or by calling the school.

**Welcome to FOUNDATIONS OF  
SCIENTIFIC INQUIRY!**  
**We are going to have a GREAT year!**

