

ADVANCED TOPICS IN SCIENCE
SYLLABUS

Mr. Stephen A. Roe

Email: sroe@westshorechristian.org

Advanced Topics in Science Web Site: <http://www.plutonium-239.com>

Course Description

This rigorous course is designed to meet the needs of those students planning a science-based study in college including such areas as medicine, nursing, engineering, physics, biology, dentistry, or chemistry. The course is divided into two sections, *Organic Chemistry* and *Physics II Electricity & Magnetism*. During part I, students take an intensive look at such topics as organic nomenclature, alkanes, alkenes, alkynes, functional groups, aromatics, polymer chemistry, and organic reactions. This course work is similar to the first semester of a college organic chemistry course. During part II, students will cover electricity, magnetism, and basic circuits. This is similar to the second semester of a college non-calculus physics course. Due to its rigorous nature, students need instructor approval prior to taking this course. It is assumed these students possess a strong mathematical background, work ethic, and logical thinking skills.

Advanced Topics in Science covers the following concepts (†if time permits):

<u>Organic Chemistry</u>	<u>Physics II: Electricity and Magnetism</u>
Structure and Bonding	Electric Fields and Potential
The Nature of Organic Compounds: Alkanes	DC Electric Circuits and Components
The Nature of Organic Reactions: Alkenes	Magnetism
Reactions of Alkenes and Alkynes	Electromagnetism
Aromatic Compounds	Maxwell's Equations
†Stereochemistry	†Electromagnetic Waves

Required Daily Materials

The following materials are required for each class. You will **not** be permitted to go to your locker once the bell rings.

1. Three-Ring Binder for *Organizing* Notes, Homework, Labs, and Handouts
2. Assignments
3. Scientific Calculator
4. Pen or Pencil with No. 2 (HB) Lead
5. Covered Textbook

Classroom Expectations

1. Use good manners.
For example, do not talk when the person with the floor is speaking, raise your hand and wait quietly until you are given the floor, use appropriate language, etc.
2. Be respectful of others and their belongings.
No Touchy Feely
3. Be responsible for your self.
This includes (1) coming to class on time, (2) being prepared with required daily materials and your completed homework everyday, (3) completing the warm-up assignment in a timely manner, and (4) leaving your cellphone in your locker. [Note: Copying another students work = 0 pts]
ANY BEHAVIOR THAT FALLS BELOW THESE EXPECTATIONS WILL NOT BE TOLERATED.

Grading Policy (Subject to Change)

Your grade will be determined by a point system. This system is broken down as follows:

<u>Work</u>	<u>Point Values</u>
Warm-Up & Daily Reviews	< 5 pts
Homework, Class Work, Review Worksheets	10 pts/page
WebAssign (Online Entry)	1 pt/entry
WebAssign (Final Copy)	TBD
Essential Questions	10 pts/Essential Question
Note Packets	10 pts/Essential Question + 10 pts/page
Laboratory Activities	40 pts
Quizzes	Varies
Cumulative Tests & Projects	100 pts
Summary (Ticket Out the Door/3-2-1)	3 pts