

## High School (7<sup>th</sup> – 12<sup>th</sup>)

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### Course Title: Brain Training

Course length: 2 semesters

Grade level: K-12

Curriculum: various sources (no curriculum to purchase)

Course Description: Using physical movement to make the brain connections -- this is the focus of brain training. The class itself will seem like a physical education class of sorts, but in reality the focus is cross hemispheric exercises coupled with kinesthetic and oral activities that stimulate brain connections to form and keep neuropathways open for learning information. This proven therapy has helped students improve their academic skills as well as physical coordination for sports. All this in a fun atmosphere that encourages students to embrace an academic challenge and rise to achievement while minimizing frustration. The basis for this course is Dianne Craft's Brain Integration Therapy, which can be found at this link: <http://www.diannecraft.org>.

### Course Title: General Science

Course Length: Fall and Spring Semesters

Curriculum: Exploring Creation with General Science by Dr. Jay L. Wile (Second edition)

Course Overview: This course provides a broad overview of science presented from a biblical viewpoint. The course is rigorous – requiring memorization of terms and concepts. The study of science requires the integration of previously-mastered skills in reading comprehension, writing, and problem

solving. Each of the sixteen modules will be covered in a period of two weeks, during which the student will spend a minimum of one-half hour per day – in addition to class attendance – reading, studying, answering problems and study guide questions and writing lab reports. The areas of study include: The Scientific Method, applied science and technology, archaeology, geology, paleontology, fossils, DNA and the Five-Kingdom classifications of life, and the human body. Experimental labs are performed throughout this course.

**Required Materials:** Three-ring binder with dividers for 16 modules and lined notebook paper are required for the year-long course. A separate experiment notebook is also required, either as a section in your binder or a separate 3-ring binder.

**Required Fees:** First semester lab fees will be \$20.00 per student.  
Second semester lab fees will be \$20.00 per student.

### Course Title: Physical Science

Course Length: Fall and Spring Semesters

Curriculum: Exploring Creation with Physical Science by Dr. Jay L. Wile (Second edition)

**Course Overview:** This course provides a broad overview of science presented from a biblical viewpoint. The course is rigorous – requiring memorization of terms and concepts. The study of science requires the integration of previously-mastered skills in reading comprehension, writing, and problem solving. Each of the sixteen modules will be covered in a period of two weeks, during which the student will spend a minimum of one-half hour per day – in addition to class attendance – reading, studying, answering problems and study guide questions and writing lab reports. The areas of study include: The Scientific Method, applied science and technology, archaeology, geology, paleontology, fossils, DNA and the Five-Kingdom classifications of life, and the human body. Experimental labs are performed throughout this course.

**Required Materials:** Three-ring binder with dividers for 16 modules and lined notebook paper are required for the year-long course. A separate experiment notebook is also required, either as a section in the binder or a separate 3-ring binder.

### Course Title: Biology

Course Length: Fall and Spring Semesters

Curriculum: Exploring Creation with Biology by Dr. Jay L. Wile (Second edition)

**Course Overview:** This course provides a broad overview of God's creation, presented from a biblical viewpoint. The course is rigorous – requiring memorization of terms and concepts. The study of high school level science requires the integration of previously-mastered skills in reading comprehension, writing, and problem solving. Each of the sixteen modules will be covered in a period of two weeks, during which the student will spend a minimum of one hour per day – in addition to class attendance – reading, studying, answering problems and study guide questions and writing lab reports. The areas of

study include: definition of life, microorganisms, fungi, life-sustaining chemistry, cell structure and function, cell reproduction, genetics, evolution, ecosystems, animals (invertebrates, arthropods, and vertebrates), plant anatomy, physiology, and reproduction, and a final module on reptiles, birds, and mammals. Many currently socially-accepted theories are also addressed and 'set straight' by scientific truth, including Darwin's theory of evolution. Experimental labs are included throughout this course with four dissections performed during the second semester.

**Required Materials:** Three-ring binder with dividers for 16 modules and lined notebook paper are required for the year-long course. A separate experiment notebook is also required, either as a section in your binder or a separate 3-ring binder.

**Required Fees:** First semester lab fees will be \$30.00 per student.

Second semester lab fees will be \$60.00 per student.

### Course Title: Chemistry

Course Length: Fall and Spring Semester

Curriculum: Dr. Jay Wile's Discovering Design with Chemistry

Description: High school chemistry is the math-based study of atoms and molecules, acids and bases, chemical reactions and thermodynamics, and many other interesting topics. While the prerequisite is Algebra 1, the math used in this course is only a small fraction of Algebra 1. If your student is competent with multiplying and dividing fractions, converting between standard notation to scientific notation, and can rearrange basic algebraic equations such as  $ax + by = c$  and  $ax + by + cz = d$ , solving for x, y, or z, then they can handle the math of this course. KCA will administer a pre-test, and students will have the opportunity to study and re-take the test if necessary. The twice weekly format for this course will allow time for plenty of math practice. In addition, chemistry is a study of patterns, so the approach to many different problems is the same.

The text for this course is Dr. Jay Wile's Discovering Design with Chemistry. This is Dr. Wile's 3rd chemistry textbook, and is an improvement over his already-excellent Exploring Creation with Chemistry. Dr. Wile has rearranged the topics so that the hardest math is at the end of the school year, and has upgraded the experiments to be much more interesting and engaging. Students must purchase the text and the gray answer book. The two-book set is available from [rainbowresource.com](http://rainbowresource.com) for \$65 with free shipping.

Students must bring a calculator to every class. The inexpensive option is a TI-30Xa, about \$10, and the expensive option is the TI-84 Plus, which is the calculator used in KCA math classes. I will teach students how to solve problems using either of these calculators. Casio calculators are not allowed.

My goal is to de-mystify the study of chemistry. It does require a lot of work, but it is not impossibly hard. If students can learn to appreciate the elegance of the subject, then there are many exciting

career options awaiting them, including pharmaceuticals, industrial chemistry, materials science, biochemical science, and beyond.

### Course Title: Physics

Course Length: Fall and Spring Semester

Curriculum: Dr. Jay Wile's Exploring Creation with Physics

Description: High school physics is primarily a study of mechanics – falling, flying, rotating, and orbiting things, both visible (such as artillery shells and planets) and invisible, such as electrons. Additionally, this course covers optics, electromagnetic waves, magnetism, and simple electric circuits. The prerequisite is completion of Algebra 2; however, this course has been successfully mastered by concurrent students of Algebra 2 who achieved a high grade in Algebra 1. Students should be competent with scientific notation, fraction manipulation, simple trigonometric functions, equations involving squares and square roots, and rearranging algebraic equations such as  $v^2 = v_0^2 + 2a \cdot \Delta x$  to solve for “ $\Delta x$ ” and  $F = (G \cdot m \cdot n) / r^2$  to solve for “ $r$ ”. The twice weekly format for this course will allow time for plenty of math practice.

The text for this course is Dr. Jay Wile’s Exploring Creation with Physics, 2nd Edition. Students must purchase the text and the gray answer book. The two-book set is available from [rainbowresource.com](http://rainbowresource.com) for \$62.95 with free shipping.

Students must bring a calculator to every class. The inexpensive option is a TI-30Xa, about \$10, and the expensive option is the TI-84 Plus, which is the calculator used in KCA math classes. I will teach students how to solve problems using either of these calculators. Casio calculators are not allowed.

This is a challenging course, but very satisfying, as we learn to apply math to the things we see occurring around us every day. It is applicable to not only those students planning on going into physics or engineering, but also game programmers, who are required to take physics so that they can program lifelike motion in their scenarios, and anyone who wants a better understanding of how things work!

### Course Title: Anatomy and Physiology

Course Length: Fall and Spring Semesters

Curriculum:

Advanced Biology Human Body: Fearfully and Wonderfully Made, Second Edition, by Shannon and Yunis

Course Overview: This course is a college-preparatory class that provides an advanced study of the human body’s 11 organ systems. The completion of this course, including labs, experiments, and dissections would count as an honors level class, which would prepare one for taking the CLEP test. Registration for this course requires the successful completion of Apologia Biology. Each of the sixteen modules will be covered in a period of two weeks, during which the student will spend a minimum of one hour per school day – in addition to class attendance – reading, studying, answering questions, or writing lab reports. The subjects include the following systems: Skeletal, Muscle, Nervous, Endocrine, Cardiovascular, Lymphatic, Digestion, Respiratory, Urinary, and Reproductive. Experimental labs are included throughout this course.

Required Texts: Advanced Biology Human Body: Fearfully and Wonderfully Made, Second Edition, by

Shannon and Yunis

Kaplan Anatomy Coloring Book, by Kaplan 2014 – 5th edition

Required Materials: Three-ring binder with dividers for 16 modules and lined notebook paper are required for the year-long course. A separate experiment notebook is also required, either as a section in your binder or a separate 3-ring binder. Also, pen and pencils and blank copy paper for experiment drawings.

A set of colored pencils – at least 10 different colors including a medium gray, or individual pencils including: medium gray, red, blue, purple, yellow, and black

### Course Title: [Composition/Literature](#)

Course Length: Fall and Spring semesters

Curriculum: Institute of Excellence in Writing Writing Lessons

Description: Students will use different source texts while learning to write with structure and style using the Institute for Excellence in Writing curriculum. For the 2017-18 school year, we will be using the [IEW Following Narnia Volume II](#) for 7-12th graders.

### Course Title: [Exploring World History](#)

Course Length: 1 year

Curriculum: “Exploring World History” Part 1 & 2, by Ray Notgrass, “In Their Words”

Description: Exploring World History covers the most important events, issues, and people throughout time from a Christian perspective. Part 1 covers creation through the Middle Ages. Part 2 explores the Renaissance to present day. In Their Words contains original documents, speeches, poems, and stories from World History, providing students with an in depth understanding of the time.

### Course Title: [Pre-Algebra](#)

Grade Levels: 8th-9th grades

Course Length: Fall & Spring Semesters

Curriculum: Saxon Algebra 1/2 3rd Edition

For over 30 years, Saxon Math™ has been delivering proven results for students in Grades K–12. The Saxon Math curriculum has an incremental structure that distributes content throughout the year. This integrated and connected approach provides deep, long-term mastery of the content and skills called for in most State Standards.

What does Saxon Math provide? Incremental: Students have time to understand and practice the lesson

Distributed: Students have time to practice and master previous concepts

Cumulative: Students are ready for high stakes assessments with Saxon Math.

### Course Title: [Algebra II](#)

Grade Level: 10-11

Course Length: Fall & Spring Semesters

Curriculum: Saxon Algebra II

Description: This course is the continuation of the study of the behavior and interrelationships of numbers. Algebra is not difficult, only different. With proper practice and self-discipline, the concepts become familiar; no longer confusing. The course begins with a quick review of Algebra 1 topics, then moves into more advanced concepts. Topics will include geometry and an introduction to trigonometry. Successful completion of this course will prepare the student for Advanced Math. The student will be required to maintain a course notebook, participate during class period, and complete exercises daily. The successful study of any math course requires organization and consistent effort.

Required Text: Algebra 2: An Incremental Development, Second Edition, by John H. Saxon, Jr., Saxon Publishers, copyright 1997.

Required Materials: Three-ring binder, lined notebook paper, graph paper, and a straightedge (or ruler) are required for the year-long course. A scientific calculator is required for this course. I recommend the TI-30XIIS, which can be purchased at any office supply or Walmart.

Course Title: [Advanced Math](#)

Grade Level: 10-11

Course Length: Fall & Spring Semesters

Curriculum

Required Text: Advanced Mathematics: An Incremental Development, Second Edition, John H. Saxon, Jr., 1996, Saxon Publishers, Inc. ISBN: 1-56577-039-0

Recommended Text: Advanced Mathematics: An Incremental Development, Second Edition, Solutions Manual, John H. Saxon, Jr., 1997, Saxon Publishers, Inc. ISBN: 1-56577-042-0  
Required Calculator: TI-30XIIS

Course Description : Advanced Math is a four-semester course that covers all pre-requisite material for college-level calculus. These subjects include: functions, systems of equations and inequalities, matrices and determinants, analytic geometry, sequence and series, probability, logarithms, upper-level algebraic concepts, trigonometry, and precalculus.

The philosophy of this curriculum is: students retain what they do. Understanding of concepts comes after practicing methods of solution. Advanced Math success is dependent upon student diligence in the completion of daily assignments, which will include completion of all problems in every section of the text. The repetition of problem solution makes the use of advanced-level skills automatic, rendering future calculus and physics problems reasonable, if not easy!

Upon successful completion of this two-year course, the student will be prepared to complete the CLEP exams for College Algebra, Trigonometry, and Pre-Calculus. Successful completion of these CLEP exams will place the student in Calculus I during their Freshman year of college. This advantageous placement

will enable the student a timely completion of science and math degrees.

Prerequisites for Advanced Math are the successful completion (grade C or better) of both Saxon Algebra I and Saxon Algebra II.

### Course Title: High Theater Arts

Course Length: Fall Semester

Students will learn to use their talents, reinforce their self-confidence, and improve their ability to work with others. To prepare for the stage, students will be introduced to basic acting skills such as improvisation, characterization, role preparation and stage movement. Students will learn the specialized vocabulary of the theatre, audience etiquette and performance evaluation criteria. Students will be guided through the production process, from selecting a play and its cast to working creatively and safely behind the scenes. Students will explore special interests in technical theatre from light and sound design to special effects and make-up and costume design.

### Course Title: High School Intro to Musical Theater

Course Length: Spring Semester

Students will learn to use their talents, reinforce their self-confidence, and improve their ability to work with others. To prepare for the stage, students will be introduced to basic acting, vocal performance and dance skills. Students will be guided through the production process, by selecting, rehearsing and performing musical numbers and scenes from classic musicals and work creatively and safely behind the scenes. Students will explore special interests in technical theatre from light and sound design to special effects and make-up and costume design

### Course Title: Speech Boot Camp

Course Length: One Semester

Curriculum: Andrew Pudewa's Speech Boot Camp, Introduction to Public Speaking; Excerpts from Beebe, S. Communication: Principles for a Lifetime; Toastmaster Magazine

Description: The purpose of this class is to empower students with the fundamental concepts and provide skill development in communication. Students will learn to research, prepare, and deliver speeches as well as identify areas of listening.

### Course Title: Constitutional Literacy

Course Length: One Semester

Curriculum: [Constitutional Literacy with Michael Farris](#)

Constitutional Literacy: The Constitution is the cornerstone for American freedoms. It is expected that the people will enforce our leaders' duty to preserve, protect, and defend the constitution. How can we ensure the leaders and Supreme Court follow our law if we are not constitutionally literate. We must understand the history, weight, and importance of this unique document

### Course Title: Economics

Course Length: One Semester

Economics: A clear explanation of the economics you need for success in your career. Topics include: money, its origin and history; the dollar, its origin and history; foreign currencies; creation of wealth; the role of Profits; charity and self-reliance...and others.

### Course Title: Personal Finance

Course Length: One Semester

Curriculum: Dave Ramsey's "Foundations in Personal Finance....High School Edition"

Description: The rationale behind teaching finance to students is that personal finance is 80% behavior and 20% head knowledge. We believe that teaching teens how to take control of their money can help them avoid huge money mistakes down the road. They need to know that their financial decisions have long-term consequences. Students must learn how to budget, save, spend wisely, avoid debt, and give. Studies show that money problems are the leading cause of college students dropping out of school and of divorce in America.

### Course Title: Elements and Principles of Art and Design

Course Length: Fall and Spring Semesters

Curriculum: None required; possible art supplies as requested by the teacher

Description: the art program at KCA is structured to nurture creative expression while building skills and vocabulary to develop the unique talents and potential of each student. As a visual arts teacher, I feel it is important to build a strong foundation based on the Elements and Principles of art and design. Students will be introduced to and create art using a variety of materials, art themes and movements in art history.