

Section 5

EDUCATIONAL PROGRAM AND CURRICULUM

Educational Program: Overview

Veritas Academy proposes to educate students in the 6th-12th grades. Veritas would open in the fall of 2009 with 320 students in grades 6-9. Each grade consists of four sections of twenty students. Each following year a new grade is added such that Veritas would be at full capacity of 560 students in the fall of 2012.

As stated in the Executive Summary, District 11 has a widely diverse student population. Though some schools have lower percentages for at-risk students (such as Doherty, with 19.44%) we used the schools nearest our target location to try to get a better sense for our potential demographic and found that the average percent eligible for free and reduced lunch in those schools is 46.9% in middle school and 34.2% in high school.

Again, we will have a lottery system and we will be open to students from other districts entering the lottery, so there is no certainty of the amount of at-risk students we will be serving. We find the example of James Irwin in District 2 helpful: Harrison District 2 has a free-reduced percentage of 65.07%. James Irwin, a charter school similar to Veritas within that district, has a free-reduced population of 21.97% in the middle school and 11.08% in the high school.

Knowing we could have the same population as a typical District 11 high school, we have worked with this population as our assumption. We are confident that we have a program that is successful among students from widespread backgrounds. Veritas is not geared towards the at-risk student, nor is it geared to only the gifted student. Rather, through its core curriculum--incorporating many hours of math, science, humanities, the arts, including music and language, including Latin—implemented in a single-sex setting, Veritas uses a proven effective course and method of study that will enable all students to flourish. The following sections explain our approach to the curriculum as well as the curriculum itself. This is followed by our extensive research which provides overwhelming support to our program.

I. Educational Philosophy:

Veritas Academy is founded upon the conviction that we, as humans, can know truth, create beauty and practice goodness. This pursuit of truth, beauty and goodness is an enterprise which is best achieved together in a community of learners. The community of learners at Veritas comprises both the faculty and the students. The teachers are the senior and more expert members of this community, and their job is not only to communicate knowledge but to gradually draw students into the life of the community of learners. In the early grades, the focus of the material is on the grammar of the various disciplines. But even at this young age, teachers try to nurture a sense of wonder in the students.

Fostering a sense of wonder is an important attribute and one that is highly valued at Veritas Academy because, as Aristotle stated, all human thought and art have their source in human wonder. If students do not wonder about the “why” and “how” behind what they study, they will likely find little delight in what they are learning. As students mature and advance in grade level, additional emphasis is placed upon developing a depth of inquiry. At Veritas, not only is it important to ask questions but also to develop creative and analytical thought to begin to answer these questions. As students develop their sense of wonder and depth of inquiry, they are drawn more and more into the intellectual life of the community of learners.

A Common, Coherent, and Integrated Curriculum: The curriculum of Veritas Academy is the focus of the community of learners. All students follow the same curriculum. A common curriculum assures that all students spend their time on what is essential. An integrated curriculum ensures that each element of the curriculum is purposefully related to the learning environment and to the rest of the curriculum. Each course builds on those that precede it.

The ability to focus on the essential allows Veritas students to develop the skills needed to enter human conversation at many levels. Jesus Concepción, conductor of the KIPP (Knowledge is Power Program) Academy and String Orchestra, says—in regards to the goal of his esteemed orchestra,

Business is not about developing musical talent—it’s developing skill. Talent...is the rare innate ability to play an instrument without much guidance. Skill is learning the lessons. Most music teachers just want to work with the gifted kids. The fact is that less than two percent of our kids have talent. Only two percent have played an instrument before. They all start out at the same level. And each and every child feels equally important and successful.¹

This ability to develop skill—gifted or not—is a key goal of the core curriculum. The common curriculum allows all children to develop the skills needed to speak the languages of human conversation: the spoken and read language, but also the language of mathematics, of science, of

¹ <http://www.kipp.org/08/pressdetail.cfm?a=131>

music and drama and art. The founders of Veritas believe that *all* students deserve access to the many facets of the human experience.

Veritas will ensure that this curriculum aligns with state content standards by the end of the first year of operation. To see Veritas graduation requirements in light of district requirements, see page 68.

The Trivium: Borrowing from the elements in the classical notion of a liberal education, we stratify the curriculum according to the categories of *grammar, logic and rhetoric*.² The sixth, seventh and eighth grades are considered **grammar** courses; they communicate the basic elements of things. The ninth and tenth grade courses are **logic** courses that begin to articulate the implications and relationships that exist among the ideas already learned. The eleventh and twelfth grade courses are **rhetoric** courses, wherein the student begins to synthesize and interrelate ideas and concepts already learned.

The science curriculum provides a good illustration of this stratification. The sixth, seventh and eighth grade courses are built around observation, the perception of regularities in nature and the beginnings of explanation. In the ninth and tenth grade biology and chemistry courses, many of these observations are gathered under scientific laws. In the eleventh and twelfth grade physics courses, Newtonian mechanics and relativity theory provide comprehensive theories of great richness and power, providing explanations for what began as questions about our experiences of the natural world.

The writing curriculum provides another illustration of this classical approach. In grades six through eight, students learn parts of speech, grammar, punctuation, and basic sentence and paragraph structure. In the ninth and tenth grades, they are taught to develop and order their thoughts in a logical way by writing several essays. In the eleventh and twelfth grades, students continue writing essays, working on making their arguments more substantial and compelling by bringing ever-more sophisticated analyses to their writing and by learning different stylistic and organizational techniques.

II. Curriculum According to Subject Matter

Humanities. The study of the humanities is one way in which we take part in the conversation that humankind has been having with itself for centuries in an attempt to understand itself and

² *Trivium* is a Latin term meaning “the three ways” or “the three roads”. In medieval universities, the *trivium* comprised the three subjects taught first: grammar (the structure of the Latin language), logic (the ability to build an argument in Latin) and rhetoric (the ability to express oneself elegantly in Latin). This study was preparatory for the study of the *quadrivium*: the study of arithmetic, geometry, music, and astronomy.

the world in which it lives. In these courses, the students, along with the faculty, study the accomplishments of humanity (history) and its own ideas about itself and the world (philosophy, literature). Finally, students and faculty take part in the conversation in an active way through written and oral expression of ideas as they attempt to grapple with, understand and explain them.

Humanities in grades six, seven and eight:

- *History.* Students in the sixth grade study ancient history, including the civilizations of the Fertile Crescent, Egypt, Greece and Rome. They learn about the rise and fall of empires and the human achievements in those civilizations that continue to affect modern society. Students in the seventh grade study medieval history, from the rise of Christianity to the Renaissance, focusing on such topics as the agricultural revolution, the growth of cities and the development of nations. Students in the eighth grade study geography with an emphasis on how land and water formations shape political, economic and cultural life.
- *Literature and Composition.* These courses lay the foundation for the writing program that continues through high school, including its connection to the literature that the students are reading and discussing. The years include a full review of grammar, including parts of speech, parts of a sentence, phrases, clauses, compound and complex sentences and mechanics. By the end of the eighth grade, the students have been introduced, at the level of the paragraph, to the basic five-part structure of the ninth and tenth grade essays. They are also familiar with the requirements for precise introduction and thorough development of their ideas, a vocabulary and set of skills they will use throughout the Veritas Academy program. In addition, through the reading and discussing of great literature, they will have developed the skills necessary to offer substantial participation in the high-school Humane Letters courses.

Humanities in grades nine through twelve:

- *Humane Letters Seminar.* The course is an integrated approach to the humanities, with the understanding that the various fields of the humanities—literature, history, philosophy—while distinct disciplines, ultimately are not separate. They form a

cohesive whole in understanding humanity. The heart of the program is the seminar.

During the ninth and tenth grades, students learn American and Western European history, respectively. The literature and philosophy they study parallels the historical time periods and the geographic regions they study. This literature and philosophy, however, are not simply meant to be a historical supplement, but are studied as works that contribute to an understanding of the human condition. At this level, the seminar teacher plays a very active part in the discussion—guiding, probing, questioning and instructing—helping the students learn how to learn in the seminar setting.

In the eleventh and twelfth grades, historical narrative moves to the background and the courses focus on the ideas and issues, which are articulated in the readings. Works are taken from the Greek classics, the Hebrew and Christian Scriptures (eleventh grade) and medieval to modern authors (twelfth grade). The skills necessary for careful reading, effective analytical writing and discussion which have been developed through the work of the previous four years are now employed as the means of learning in these last two years of the program. The students begin to deal seriously with questions of the human condition: What is reality? How do we know what we know? Where is it all headed? How, then, ought we to live?

As the students read these texts, their skills of analysis are further sharpened. They learn to comprehend and analyze dense, complicated material. Students begin to refine their writing style while continuing to execute clear, substantial analysis of the texts. Even more, however, the students begin to grapple with the perennial human questions, attempting to understand themselves and the world around them. In this regard, their reading of great fiction and poetry is essential.

At this level, the seminar teachers begin to be a less active part of the discussion, as the students step forward to take leadership of the conversation. Their own inquiry and analytical abilities drive the discussion and the teacher is able to act as a moderator and active participant in the discussion.

See *Instruction Methods* for more information on Socratic seminars.

Writing. The goal of the writing program at the high-school level is to lead students into clarity and beauty of thought and expression, to deepen their thought so that they can analyze sophisticated ideas and to enrich their expression

so they can produce articulate, graceful essays that demonstrate and communicate their understanding.

The writing program is arduous. Freshmen and sophomores write at least four to six essays per year and juniors and seniors twelve to fifteen per year. In this process, they develop into quite good writers. Our experience is that students who learn this program adapt easily to other approaches to writing.

Science. Science is a method designed to reveal the way that nature works. Nature is traditionally divided into two broad categories, the first being purely physical and the other including living systems.

The physical sciences, including physics and chemistry, address questions involving the physical universe, from the scale of atomic particles to the scale of galaxies and benefit from the immutable, law-like behavior of the fundamental entities. The constancy of physical properties across space and time has two important consequences for our ability to gain understanding. First, it makes the physical sciences especially amenable to mathematical descriptions, which make specific predictions that are borne out remarkably well in nature. Second, it greatly enhances our ability to control experimental processes with care and to reproduce experimental results. In contrast, the life sciences must rely to a far greater extent on inferences in order to understand causal mechanisms, because few things are constant. For example, the responses of organisms to a particular change are complicated by variability among individuals, as well as variation in other factors across space and time. In other words, the effects of a particular pathogen, for example, depend on traits of the infected individual and possibly the details of the environment at the time of the infection. Nevertheless, despite these essential differences, the scientific method has proved similarly useful in the life sciences.

The goals of the Veritas Academy science program are

(1) to elicit wonder for the natural world by fostering appreciation for both the remarkable predictability of physical systems and the remarkable adaptability of living systems and

(2) to impart a basic ordered knowledge of that world and an understanding of the roles of both theory (mathematical and conceptual) and experiment in gaining knowledge about it.

The goal is to have students experience the extent to which science is a human endeavor in which they can participate, both as professional scientists and as nonscientist citizens. Upon completion of the program, students are able to design experiments to gather evidence for hypotheses, and, as citizens and critical consumers of information, are able to weigh carefully the strength of evidence for claims. Life and earth sciences help sixth, seventh and eighth grade

students to develop the skills to see nature clearly and to record those observations faithfully using appropriate vocabulary. Biology and chemistry classes taken in grades nine and ten illustrate the principles of classification and comparison based on the relationships among DNA, RNA, proteins, metabolism, organs, biological systems and organisms. In the study of physics in grades eleven and twelve, the students experience the explanatory power of scientific theory and its ability to unify phenomena. It is here that students gain the ability to predict outcomes by comparing experimental results to calculated results and to use these predictions to validate concepts.

The Veritas Academy Computing Initiative is an innovative program within eleventh and twelfth grade physics. Students are given laptops and are taught to write useful computer programs in a powerful easy-entry programming language, MatLab, and create tools with a modern graphical user interface. Each tool solves a particular class of problems in science or mathematics. For more information on MatLab see Appendix D.

Mathematics. The mathematics program includes the study of quantities, of figures and of relationships between quantities and figures. This study is marked by intuition, analysis, logical rigor, elegance and simplicity. Mathematics has a dual nature that is reflected in our program. As a symbolic system, it has elegance, reflected most clearly in the study of patterns. It is also used to express quantitative relations in other disciplines, which demands proficiency in mathematical skills and problem solving. At Veritas, we have a multilevel approach to learning mathematics. Students work with graphs, symbols and numbers. This provides them with a rich understanding of the symbols and the beauty of mathematics and at the same time emphasizes proficiency in mathematical skills.

Fundamental concepts and skills in graphs, symbols and numbers are developed in the sixth, seventh, eighth and first semester of ninth grade through the study of prealgebra, algebra and geometry. In these courses one viewpoint is studied at a time. Beginning with the second semester of the ninth grade through the end of the first semester of grade twelve, the viewpoints are integrated. In these courses—precalculus and calculus—the dynamic concepts of “function” and “transformation” form a type of backbone for the study of trigonometry, vectors, matrices, probability, derivatives and integrals. Many of these are used as tools in the science courses. Advanced topics are offered in the final semester of grade twelve, introducing students to structural mathematics.

Foreign Language.

- *Latin.* The study of a highly inflected language such as Latin enables students to understand the structure of any language and to develop and practice analytical skills that can be transferred to other areas of study. All students are required to

take Latin in grades six through nine, in order to gain the mastery needed to appreciate the power and beauty of original Latin texts.

- *Modern Language.* The study of a modern language at Veritas Academy offers the student a foundational understanding of a major foreign language. The focus of each course is twofold: the study of grammar and vocabulary, enabling the student to read and translate basic literature in the target language as well as providing experience with oral language, both speaking and listening.
- *Classics Track.* Students who would like to continue their study of classical languages may opt out of Modern Languages and take one additional year of Latin and two years of ancient Greek.

Fine Arts. The training of the aesthetic sensibilities is essential to the full development of the human person. The arts are a legacy of the human spirit. They are not mere cleverness or the raw expression of emotion. They are serious endeavors, aimed at clarifying our experience of ourselves and of the world around us. They have their own language of discovery and expression, every bit as profound as ordinary spoken language and the languages of mathematics and science. All these languages provide us with keys to reality. Through the arts, reality is re-created and expressed anew, enabling us to see, feel and understand things in new and deeper ways. The arts also provide beauty and refresh our souls.

At Veritas Academy, the goal of the fine arts program is to allow all students to learn to create as well as to appreciate beautiful things. This development of the aesthetic dimension of the whole person has three expressions: art (including art history), music and drama. The fine arts curriculum combines theory with performance. A study of theory and technique, rather than mere self-expression, undergirds all performances.

- *Music.* The music curriculum, including orchestra and choir, spans the sixth through tenth grades. Sixth graders will learn an orchestral instrument and participate in one of the school orchestras. Students in the seventh through tenth grade will continue the study of their instrument. They will also participate in choir and have one hour a week of music theory. The goal is to provide and promote a chamber culture for the entire school. A highlight of the year is the Fine Arts Festival, an opportunity for Veritas Academy students to perform for the community. Other musicians, from other schools or local professional groups, are invited to participate in the festival.
- *Art.* The art program begins in the seventh and eighth grades and concludes in the junior and senior years. Students begin with drawing skills in the seventh grade

and learn to use watercolor in the eighth grade, when they also study an American artist and reproduce one of that artist's works. The junior and senior years continue to focus on watercolor; there, the students study art history from prehistoric to modern times. Student work from each grade is on display in the school's Fine Arts Festival each spring.

- *Drama.* Students in the sixth grade will participate in a Public Performance course, which will include poetry memorization and recitation, interpretive reading, Readers Theater, oration and solo, duet, and ensemble acting. Students in both the junior and senior years take a drama class for one semester. Students are introduced to the fundamentals of acting and performance, including movement, voice and interpretation of the text and character. They stage a full-scale production of a dramatic work at the end of the course. Students are involved in all areas of the production: text and character interpretation, blocking, sets, music, costumes and props.

Junior/Senior Colloquia. Junior and Senior students take a one-semester colloquium. Topics might include:

- *International Conflict:* Students engage in an historical study of what causes wars and what shapes the way we fight them. Students move among a variety of subject areas: history, political science, military science/intelligence, and current events. Their geopolitical scope spans the globe. Their historical scope stretches from ancient Greece to contemporary Iraq.
- *Economics:* Students become familiar with the broad language and conceptual frameworks of economics. They learn the realms of inquiry germane to macro- and microeconomics respectively as well as the meaning of basic terms like inflation, deflation, globalization, free market, and interest rates. They read from competing schools of economic thought, among them the works of Keynes, Friedman, and Samuelson. In turn, students explore current problems of poverty and explore possible solutions.

Topics may also be chosen from areas of faculty expertise, such as a colloquium on writing poetry/creative writing. Each colloquium will culminate in a research paper presented for review and discussion.

Project Week. The first week of the second semester of every year is set aside for each student to pursue a major project. In the sixth, seventh and eighth grades this project involves reading, writing and construction. In high school it involves writing a research paper in biography, science or the humanities.

III. Curriculum According to Each Grade

SIXTH GRADE

Music I: Students begin their study of music by learning an orchestral instrument.

Math: Students work towards proficiency in the four operations—addition, subtraction, multiplication and division—with the following: whole numbers, decimals, fractions, ratios, proportions, and percentages. Students plan logically how to solve word problems. Students use the text *Math* by McDougal Littell.

Life/Earth Science: A course designed to help students develop the skills to see nature clearly and to record these observations. Topics include: what is life?, ecosystems and biomes, land and soil resources, air and water resources, forces and motion, electricity and magnetism. Students will be using the Prentice Hall “Science Explorer” Series.

Latin I: Students spend a few weeks in the opening chapters of *The Phenomenon of Language*—a study of language using Latin examples. Students begin their formal study of Latin using *Ecce Romani I*.

History: Ancient history, with emphasis on Greek and Roman history.

Literature/Composition:

Composition: A study of English grammar and composition including a study of parts of a sentence, parts of speech, sentence structure, agreement and diagramming sentences.

Literature: Reading includes *The Bronze Bow*, *The Railway Children*, *The Lion, the Witch and the Wardrobe* and *Rifles for Watie*. Students also read a selection of short stories and poetry. *See complete Reading List in Appendix D.

Public Performance: This course includes poetry memorization and recitation, interpretive reading, Readers Theater, oration and solo, duet, and ensemble acting.

SEVENTH GRADE

Studio Art: An introduction to art with emphasis on developing an aesthetic eye. Basic drawing skills are taught using primarily a pencil. Students also learn calligraphy.

Music II: An introduction to music theory including the study of notation, rhythm, major scales and an introduction to melodic writing. Students continue the study of their instrument. They participate in a school orchestra as well as a school choir.

Prealgebra: The study of whole numbers, decimals, fractions and their arithmetic operations along with the study of ratios, proportions and percents. Basic geometric concepts such as

properties of points, lines and planes are introduced. Students use the text *Prealgebra* by McDougal Littell.

Life/Earth Science: A course that is a continuation from the previous year. Using observation and classification, students study topics such as trees, insects, birds and mammals. Students will continue using the Prentice Hall “Science Explorer” Series.

Latin II: Continuing in the *Ecce Romani* series, students study Latin grammar, vocabulary and translation.

History: Students learn about the Middle Ages and its culture, including the study of art, literature and architecture. Periods of study include the fall of the Roman Empire up to the time of the Renaissance.

Literature/Composition:

Composition: Focuses on sentence construction—parts of speech, parts of a sentence, compound sentences and prepositional phrases—and introduces the concept of a five-part paragraph.

Literature: Reading includes examples of noble, heroic characters. Texts include *Shane*, *Tom Sawyer*, *Endurance: Shackleton’s Incredible Voyage* and *Watership Down*.*

EIGHTH GRADE

Studio Art: Focuses on developing awareness of color harmonies. Students copy master works of art using watercolor and pencil.

Music III: Students study the works of Mozart while learning about intervals, minor scales, two-part writing and chamber music. They continue to participate in a school orchestra and choir.

Algebra: A comprehensive study that includes topics such as linear and quadratic equations, systems of linear equations, polynomials, fractional equations and the study of the coordinate plane and graphing. Students use the text *Algebra* by McDougal Littell.

Life/Earth Science: A course that is a continuation from the previous years. Topics include the study of astronomy, weather and erosion. Students continue to hone their skills in observation and classification. Students continue to use the Prentice Hall “Science Explorer” Series.

Latin III: Students continue their study of grammar, vocabulary and translation using the *Ecce Romani* series.

History: Students study geography with an emphasis on how land and water formations shape political, economic and cultural life.

Literature/Composition:

Composition: Review and continuation of grammar study from 7th grade. Topics include phrases, clauses and the formulation of limited, specific and unified topic sentences in paragraph writing. By the end of the course, students will be writing paragraphs of 150-250 words.

Literature: Some of the reading complements the students' study of medieval history. Books include *Beowulf*, *The Chosen*, *The Hobbit*, *The Miracle Worker*, *A Christmas Carol*.*

NINTH GRADE

Music IV: Topics in music theory include triads, traditional harmony and four-part writing. The students continue to participate in a school orchestra and choir.

Geometry/Precalculus: The first semester is the study of geometry with emphasis on geometric relationships through constructions. The second semester begins the study of precalculus that continues through the 10th grade. This first semester focuses on the language of functions. Students use graphing calculators (TI-83's) to assist them in their study. Students use the text *Discovering Geometry* by Key Curriculum Press and *Precalculus: Graphical, Numerical, Algebraic* by Pearson/Addison-Wesley.

Biology: A full-year course that includes the study of cellular biology, genetics, the theory of evolution by natural selection, human anatomy and physiology. Students perform dissections of seven different organisms, moving from simpler life forms to more complex. Animals dissected include earthworm, crayfish, grasshopper, squid, shark, frog and fetal pig. Students will use the text *Modern Biology* by Holt, Rinehart and Winston.

Latin IV: Students complete the *Ecce Romani* series as well as translate from 38 *Latin Stories* in the first semester. Second semester students translate selections from Caesar's *First Oration against Cataline*, Cicero's *De Republica*, and Virgil's *Aeneid*.

Humane Letters Seminar: This is the beginning course in the high school study of humanities. The fields of literature, history and philosophy are integrated into a two-hour seminar in which ideas are explored through discussion. In the ninth grade Humane Letters course, the students study U.S. History from the position of political theory. Readings include *The Federalist Papers* (selections), *The Red Badge of Courage*, *The Narrative of the Life of a Slave*, *My Antonia*, *To Kill A Mockingbird*, *Our Town*, *The Old Man and the Sea*.* Students also learn to write a five-paragraph essay. Using the literature or history they are reading in class, the students learn to

formulate a sound thesis supported by three logical examples from the text and a simple conclusion.

TENTH GRADE

Music V: Students continue to study the rules composition and compose music according to these rules. They also participate in a choral ensemble and an orchestral ensemble.

Precalculus: A continuation of the study of functions. Topics include trigonometry, matrices, systems of linear equations, vectors, conic sections, exponents and logarithms. The students continue to use their graphing calculators (TI-83's). Students continue to use the text *Precalculus: Graphical, Numerical, Algebraic* by Prentice Hall.

Chemistry: Continuing the study of the biological sciences from the ninth grade, the chemistry course focuses upon physical chemistry and organic and biochemical chemistry. Topics include the periodic table, biochemistry of proteins, hydrocarbons, the citric acid cycle, photosynthesis, bonding stoichiometry, redox and acid-based reactions. Experimentation is an important element of study in this course. Veritas students use labs from small-scale chemistry. For more information on this, see Appendix F. Students will use the text *Fundamentals of General, Organic and Biological Chemistry*, by Ed McMurray.

Modern Language I: Students begin their study of a modern foreign language. The focus of the course is both the study of grammar and vocabulary, enabling the student to read and translate literature in the language as well as providing an experience with oral language.

Students may opt to be in a Classics Track; in tenth grade students in this track would pursue one more year of intensive Latin translation.

Humane Letters Seminar: Modern European history, literature and philosophy are the focus of this course. Topics include English history from Alfred I to the Stuart period, the French Revolution, Russian history from the early czars to the Bolshevik Revolution, and World Wars I and II. Readings include *A Tale of Two Cities*, *Pride and Prejudice*, *On the Origin of Inequality*, *The Communist Manifesto*, *Crime and Punishment*.*

ELEVENTH GRADE

Studio Art/Art History: Includes both studio art and the history of art from primitive ages through the early Christian era.

Drama: A semester-long acting workshop teaching the basics of voice, movement and interpretation. Students perform a dramatic work at the end of the semester.

Calculus: The first semester focuses on functions used in calculus, derivatives, slope of a tangent, and the limit of slopes of secants. The second semester includes the study of integrals, sequences and series, and differential equations. There is a heavy emphasis on graphs and the use of graphing calculators (TI-83's). Students use the text *Calculus from Graphical, Numerical and Symbolic Points of View* by Houghton Mifflin.

Physics I: Newtonian mechanics is the focus of this first year of physics. Study is enhanced by experimentation, problem-solving using algebra and calculus, and the use of MatLab, a computer program that can model physical behaviors based upon calculations of forces, energies and momentums in small steps of time. Students will use the text *Physics: Principle with Applications, Vol. 1, 6th edition* by Ed Giancoli.

Modern Language II: This course continues the study of the student's choice of language. If in the Classics Track, the students begin a study of ancient Greek.

Humane Letters Seminar: Writings from the ancient Greek period are the focus of the eleventh grade seminar. Rigorous discussion and reflective, disciplined writing are vital to this course. Readings include Homer's *The Iliad* and *The Odyssey*, Aeschylus' *Oresteia*, Plato's *Meno*, *Crito*, *Phaedo*, *Apology*, *Euthyphro*, *Gorgias*, *Republic*, Thucydides' *History of the Peloponnesian War*, Aristotle's *Ethics* and *Politics* (selections).*

Junior Colloquium: *International Conflict* Students engage in an historical study of what causes wars and what shapes the way we fight them. Students move among a variety of subject areas: history, political science, military science/intelligence, and current events. Their geopolitical scope spans the globe. Their historical scope stretches from ancient Greece to contemporary Iraq.

TWELFTH GRADE

Studio Art/Art History: Includes both studio art and the history of art from the Romanesque period to the present.

Drama: Reviews basic acting skills and implements them in a full-scale production that is typically drawn from the Shakespearean or Greek repertoire.

Calculus/Advanced Topics: This third semester of calculus focuses on the study of multidimensional calculus. Topics include directional derivatives, line and surface integrals, Green's Theorem and Stokes' Theorem. The second semester covers non-calculus math topics such as group theory, set theory, number theory, fractals and non-Euclidian geometry. Students use the text *Multivariable Calculus* by Houghton Mifflin.

Physics II: This course is a continuation from Physics I that incorporates the use of calculus. Focus of study is electro-magnetism, thermodynamics and modern topics. Students continue to learn to code in MatLab. Students will use the text *Physics for Scientists and Engineers with Modern Physics, Vol. 2, 3rd Edition*, by Ed Giancoli.

Modern Language III: Students continue their study in their chosen language.
Students in the Classics Track continue their study of ancient Greek.

Humane Letters Seminar: Students continue to refine their writing style while continuing to execute clear, substantial analysis of the texts. Readings are drawn from the medieval to modern periods in European history and literature. Readings include Thomas Aquinas' *Treatise on Law*, Dante's *Inferno*, Descartes' *Meditations*, Rousseau's *The Social Contract*, Hegel's *Reason in History*, Dostoyevsky's *The Brothers Karamazov*, Agee's *A Death in the Family*, and Canin's *The Palace Thief*.*

Senior Colloquium: Economics Students become familiar with the broad language and conceptual frameworks of economics. They learn the meaning of basic terms like inflation, deflation, globalization, free market, and interest rates. They read from competing schools of economic thought; in turn, students explore current problems of poverty and explore possible solutions.

IV. Overview of the Veritas Curriculum

The table below lays out the Veritas curriculum for grades six through twelve. “Hours” denotes how many times weekly a course meets. There is one exception: “2.5 hours” indicates that a course will meet 5 times weekly but for only one semester.

6 th	7 th	8 th	9 th	10 th	11 th	12 th
Literature and Composition 5 hours	Literature and Composition 5 hours	Literature and Composition 5 hours	Humane Letters American Studies 10 hours	Humane Letters Modern European Studies 10 hours	Humane Letters Ancient Greek Studies 10 hours	Humane Letters Medieval to Modern Studies 10 hours
6th Math 5 hours	Prealgebra 5 hours	Algebra 5 hours	Geometry/ Precalculus 5 hours	Precalculus 5 hours	Calculus 5 hours	Calculus/ Group Theory 5 hours
Life/Earth Science 3 hours	Life/Earth Science 3 hours	Life/Earth Science 3 hours	Biology 5 hours	Chemistry 5 hours	Physics I 5 hours	Physics II 5 hours
Public Performance 2 hours	Studio Art 2 hours	Studio Art 2 hours			Studio Art/ Art History 2.5 hours Drama 2.5 hours	Studio Art/ Art History 2.5 hours Drama 2.5 hours
Latin I 5 hours	Latin II 5 hours	Latin III 5 hours	Latin IV 5 hours	Modern Language I* 5 hours	Modern Language II* 2.5 hours	Modern Language III* 2.5 hours
Ancient history 5 hours	Medieval history 5 hours	Geography 5 hours			Junior Colloquium 2.5	Senior Colloquium 2.5 hours
Music I 5 hours	Music II 5 hours	Music III 5 hours	Music IV 5 hours	Music V 5 hours		

*Students may opt for a Classic Track in which they would continue one more year of Latin and two of ancient Greek.

V. Research-based program

Several schools in Indiana, Minnesota, Virginia and Arizona use the program we are proposing. These schools are recognized as some of the best schools in the country as is seen by the following evidence:

Tempe Preparatory Academy was founded in 1996 as a public charter school with an open admission policy. It serves a student population of up to 340 in seventh through twelfth grades. Its population is 15% non-white; 5% are identified as having special needs.³

- Since the inception of the AIMS test, Tempe Prep has ranked each year as one of the highest-achieving schools in the state among charters, traditional public schools, and magnet schools.⁴ It is currently ranked number 2 out of 310 high schools in Arizona.⁵
- Five year test scores⁶:

Test	Median Range	Median	# tested
SAT (CR + Math)	1140/1340	1280	158
ACT (Composite)	24/29	27	82

- Academic Honors⁷:
 - Class of 2007: 8 National Merit Finalists (out of class of 40)
4 National Merit Commended (out of class of 40)
 - One of only three schools in the state to receive the “Excelling” rating from the Arizona Department of Education during the first year ratings were awarded.
- College Attendance (classes 2002-2006)⁸:
 - 88% 4-year college
 - 8% 2-year college
 - 3% Gap year
 - 1% Military
- TPA graduates have been accepted at leading colleges and universities including Bryn Mawr, Cal Tech, Cornell, Carleton, Dartmouth, John Hopkins, the University of Chicago, and the military academies.⁹

³ <http://www.schooldigger.com/go/AZ/schools/0007000831/school.aspx>

⁴ <http://www.tempeprep.org>

⁵ <http://www.schooldigger.com/go/AZ/schoolrank.aspx>

⁶ <http://www.tempeprep.org>

⁷ <http://www.tempeprep.org>

⁸ <http://www.tempeprep.org>

⁹ <http://www.tempeprep.org>

Tempe Prep owes much of its success to the implementation of the award-winning curriculum developed by Trinity School.

Trinity School was founded in 1981 in South Bend, Indiana. It now has campuses in Minnesota and Virginia. These schools serve a population up to 450 in seventh through twelfth grades.

- Trinity School's core-curriculum was awarded the Blue Ribbon Award by the US Department of Education
 - Trinity School at Greenlawn: 1988-89; 1992-93; 2001-2002
 - Trinity School at River Ridge: 1996¹⁰

- On average, SAT scores of Trinity School students are consistently 190 to 250 points above the national average.
- Class of 2007 SAT averages:
 - Greenlawn Campus: 1231
 - River ridge Campus: 1255
 - Meadow View Campus: 1241¹¹

- In 24 years, Trinity School at Greenlawn has graduated 548 students: of these 53 were National Merit finalists, 3 Semifinalists, and 50 Commended Scholars

- In addition, 96% of Trinity School students enroll in colleges or universities after graduation.¹²

- Nonetheless, Trinity claims that *it's their ability to listen attentively, stick to the point, speak clearly, write effectively and read perceptively and critically that truly distinguishes Trinity School graduates.*¹³

Based on the success of these schools we are confident in our program. **However, since data on student demographics was not available for these schools, we have done further research on schools and programs that implement similar features as ours in districts of similar demographics and include this research as well.**

¹⁰ <http://www.trinityschools.org/about>

¹¹ http://www.trinityschools.org/about/achieving_success

¹² http://www.trinityschools.org/about/achieving_success

¹³ http://www.trinityschools.org/about/achieving_success

While there is no school using our exact model of education in a district of similar demographics, Veritas Academy has incorporated into its structure several key features that have been proven to be successful in education, and are specifically effective within the type of demographic found in the population of District 11. The following decision to implement a core curriculum that includes both Latin and music, to teach girls and boys separately, and to use Socratic seminars in the upper level humanities classes are all strategies that have been carefully researched.

Based on those findings, we are confident that Veritas Academy serves the needs of the students in this district by offering a rich education suited for any young person with curiosity and a desire to know.

Moreover, Veritas has done extensive research on closing the achievement gap. That research may be found in our section on At-Risk Students.

The Core Curriculum

ACT Research

ACT recommends a high-school core curriculum consisting of four years of English and three years each of mathematics, science, and social studies. ACT has found that:

- students who take at least this core achieve higher scores on the ACT than those who do not regardless of the students' gender, family income, and racial / ethnic background
- taking upper-level courses beyond this core improves the achievement of all students, again regardless of gender, family income, and racial / ethnic background.

ACT researchers also controlled their analysis to determine whether taking upper-level courses only benefited high-achieving students. They studied the scores of students in various grade levels with a broad range of grade-point averages who also took advanced mathematics and / or science courses (trigonometry, calculus, chemistry, and physics, for example). ACT concluded that:

- even when student's achievement levels are taken into account, all students gain from taking more rigorous courses
 - cumulatively, the potential score increase for those who take trigonometry, calculus, and at least one other advanced mathematics course beyond core is 5.6 score points, regardless of prior achievement

- o taking chemistry and physics can increase student scores on the ACT Science test by as much as 2.7 points over the scores of students taking only biology, regardless of prior achievement¹⁴

Core Curriculum Schools with Similar Demographics

The Chattanooga School for Arts and Sciences serves students in grades K-12 and the Chattanooga School for the Liberal Arts includes grades K-8. Both schools are public charter schools and were founded on the ideas set forth in the book, *The Paideia Proposal*, by Mortimer Adler.¹⁵ Adler asserted that democracy requires that all citizens receive the same quality education. He wrote that high-quality education ought to be provided for all students, not just the most eager. Adler suggested a rigorous, single-track curriculum at the center of a school that he envisioned as a “community of learners.”

This is the strategy adopted by the community that founded the two schools in Chattanooga. Like Veritas, their single-track curricula have been described as, “generalized, not specialized; liberal, not vocational; humanistic, not technical, with the only elective being a foreign language.”¹⁶ Students of varying levels of ability are grouped in the same classes, all students take classes in the fine arts, and all participate in Socratic seminars.

The 2007 statistics bulleted below give evidence of the schools’ success.¹⁷

The Chattanooga School for
the Liberal Arts (CSLA): K-8

The Chattanooga School for
Arts and Sciences (CSAS): K-12

- 37% minority students
- 25% economically disadvantaged

- 45% minority students
- 21% economically disadvantaged

MATH - % Proficient and Advanced	CSLA (K-8) 2007	STATE 2007		CSAS (6-8) 2007	STATE 2007	CSAS (9-12) 2007	STATE 2007
African-American	94%	82%		100%	82%	95%	71%
Economically Disadvantaged	92%	85%		100%	85%	86%	76%
Students with Disabilities	84%	61%		100%	61%	90%	56%
All Students	97%	90%		100%	90%	97%	85%

¹⁴ ACT, Inc. “Benefits of a High School Core Curriculum,” 2006.

¹⁵ Mortimer Adler. *The Paideia Proposal: an education manifesto*, New York, MacMillan. 1982.

¹⁶ Anne Wheelock. “Chattanooga’s Paideia Schools: A single track for all – And it’s working,” *The Journal of Negro Education*, Winter 1994.

¹⁷ Tennessee Dept. of Education website,

<http://edu.reportcard.state.tn.us/pls/apex/f?p=222:20:6501547292468741::NO> and

<http://edu.reportcard.state.tn.us/pls/apex/f?p=222:20:6501547292468741::NO::> downloaded June 27 2008.

READING/LANGUAGE WRITING - % Proficient and Advanced							
African-American	97%	85%		97%	85%	96%	86%
Economically Disadvantaged	96%	86%		96%	86%	93%	86%
Students with Disabilities	92%	70%		96%	70%	N/A	N/A
All Students	98%	90%		99%	90%	98%	91%

Music in the Core Curriculum

Throughout all of history, music has been one of the most powerful and compelling marks of human culture. Its appeal encompasses people of almost any age and ability. Research has long noted the correlation between the study of music and mathematical skills, but further research points out advantages in other academic areas as well.

- The American Music Conference claims that playing a musical instrument is linked to higher reading proficiency and SAT scores.
- Research has found a connection between musical thinking and spatial-temporal reasoning, a type of higher-order thinking used in chess, engineering, and mathematics.
- Pre-schoolers who took piano lessons scored 34% higher on tests measuring spatial-temporal skills than those who did not.
- Inner-city second graders' math scores soared two grade levels after 8 months of music training integrated with math.
- A KIPP elementary school in the South Bronx requires an hour of music training per day. In 2003, 80% of its students bested the national averages in math and 73% in reading.

See Appendix H for a complete study of the benefits of music in a core-curriculum.

Latin in the Core Curriculum

The study of Latin and the Greco-Roman world introduces students to a multi-racial, multi-cultural empire that stretched from the Middle East to Western Europe. That breadth is reflected today in the influence the Latin language has on the modern Romance languages, the vocabulary of politics and government, as well as the technical language of the sciences. The study of Latin is relevant to many disciplines and students who take it gain quantifiable advantages over those who do not.

- The study of Greco-Roman culture and language links students to 57 nations on 4 continents, uniting North and South Americans, Eastern and Western Europeans.
- Latin terminology is relevant in the studies of medicine, astronomy, civics, geography, biology, and mathematics.

- Latin students score higher on the SAT than students who take other languages or no foreign language at all.
- Latin boosts the performances of both remedial students and advanced students.
- Latin sharpens skills in critical thinking, problem solving, and attentiveness.
- Studying Latin has been shown to accelerate students' progress in reading, language, math, science, and spelling.

See Appendix I for a complete study of the benefits of Latin in a core-curriculum.

The Importance of Single-Sex Classes

Research confirms that students who study in classes with other students of the same gender perform better academically than their peers who study in mixed classes. These findings hold true for boys as well as girls, elementary and high school students, for students in private schools and public schools, for at-risk and for privileged students.

The Young Women's Leadership School

Established especially for girls in inner-city neighborhoods, these schools have succeeded in New York, Philadelphia, and Dallas.

The Irma Rangel Young Women's Leadership School in Dallas:

Grades: 6-11
 Demographic data: 57% Hispanic
 30% African-American
 62% eligible for free or reduced lunch¹⁸

State Ranking: 12th of 1306 public middle schools

2007 District Accountability Rating:¹⁹

TAKS Standardized Test Categories	School Average	District Average
Reading	89%	80%
Mathematics	74%	66%
Writing	92%	87%
Science	65%	58%
Social Studies	89%	84%

Studies on Boys in Single-Sex Classrooms

Comparisons of elementary school boys in classes with other boys versus boys at the same schools, but in mixed classes are striking. Boys in all-boys classes:

¹⁸ Schooldigger website, <http://www.schooldigger.com/go/TX/schools/1623010561/school.aspx>, downloaded June 27 2008.

¹⁹ Texas Education Agency 2006-2007 School Report Card

- Perform better on standardized tests
- Receive fewer discipline referrals
- Are more likely to excel in subjects like art, music, and drama
- Are more likely to have higher educational aspirations and to attend college and graduate school

See *Instructional Methods* below for a complete study of single-sex education.

Socratic Seminars

Although empirical research proving the effectiveness of the Socratic seminar at the high school level is difficult to come by, the Socratic method has been employed for generations in higher education. There is a good deal of narrative material on record from those who have conducted Socratic seminars or participated in them, claiming specific advantages to this technique of teaching over lecturing, even active lecturing that involves the students.

Socratic seminars sharpen:

- critical thinking
- analysis
- inferential reasoning and logic
- speaking and writing skills

Those who have conducted or observed Socratic seminars note that they afford the students the opportunity to reconsider their opinions as they incorporate the suggestions of their peers, and to change their minds in the face of stronger evidence. Students also develop an understanding of their own strengths and weaknesses, and learn to interact professionally with their classmates even as they may disagree on the issue at hand.

See *Instructional Methods* below for a complete study of the effectiveness of the use of Socratic seminars.

Conclusion

The founders of Veritas Academy believe that all young men and women deserve the same quality education, regardless of their ethnicity, gender, or socioeconomic background. All students, not only those wealthy enough to attend private schools or to earn places in specialized public schools, deserve to study the best that the Western tradition has to offer.

Veritas Academy hopes to offer just such an education to the students of District 11. We have adopted a core curriculum that will challenge, and benefit, all students. The study of Latin and music, worthwhile in themselves, are also proven to enhance academic achievement in other areas. Socratic seminars stimulate scholarly dialogue while engaging all students, and the single-

sex classrooms provide a safe forum for the freest possible exchange of ideas. We are hopeful that we will have the opportunity to serve the young people of this district with this effort.

VI. Instructional Methods

This application has discussed at length our fundamental approach, which is that of offering the same education to all via a core-curriculum. Unique within that curriculum is the use of **single-sex classrooms** within a coeducational school as well as the use of **Socratic seminars** in the high school. Necessary to a successful education at Veritas is diligent and consistent preparation for class; this section addresses **homework** expectations. This section also addresses the **study-skills training** we offer students at Veritas. At the end of this section is a narrative describing a “**day in the life**” of a Veritas student.

Why single-sex classes?

For more than a hundred years, private schools in the United States have used single-sex education to awaken and develop the young minds of boys and girls with high rates of success. Until recently, the choice of single-sex education has only been available to those parents with the means to send their children to private or parochial schools. However, in October of 2006, the United States Department of Education announced that public schools would be permitted to offer single-sex environments as long as they could prove that gender separation would lead to improved student achievement.

Case Studies:

Woodward Elementary School

DeLand, Florida

In 2004-2005 researchers from Stetson University partnered with administrators at Woodward Elementary School to create a three-year pilot program testing whether single-sex classrooms could improve academic performance.²⁰ Woodward administrators had become concerned by the persistent lag in the boys’ performance on academic achievement tests, and so the experiment was undertaken.²¹

Woodward parents were allowed to choose whether they wanted their children in the new, single-sex classrooms or the traditional co-ed settings. All of the students came from the same demographic population, attended school in the same building, studied the same curriculum, and were held responsible for the same content on the same achievement tests.

At the end of the pilot’s first year, the researchers compared the students’ scores on the Florida Comprehensive Assessment Test.

²⁰ <http://www.osba-ohio.org/Success/Jan08.pdf>

²¹ “Separating the boys and the girls.” *Chicago Tribune* November 18 2006. Editorial Section.

- 86% of the boys in single-sex classes scored proficient, compared to
- 37% in the co-ed classes
- 75% of the girls in single-sex classes scored proficient, compared to
- 59% in co-ed classes

In 2008, Professor Kathy Piechura-Couture of Stetson University reported on the performance of the Woodward boys – the population of concern at Woodward – at the end of the study.

85% of the boys in single-sex classes earned proficient scores on the FCAT, compared to 55% of boys in the co-ed classes.²²

Paducah Middle School

Paducah, Kentucky

In the 2001-2002 school year, Paducah Middle School implemented a nine-week pilot program that offered single-sex classrooms. The researchers compared the performance of students in the single-sex classes against their own previous work in co-ed classes, as well as against their peers who remained in co-ed classes. After seeing the results, Paducah Middle School made its entire sixth and seventh grades single-sex the following school year.

The results of the first nine-weeks of the pilot program for the single-sex classes:

- 94% of girls improved their grades in science
- 78% of girls improved their grades in math
- 64% of boys improved their grades in math and in science
- Boys' discipline referrals dropped from 48 incidents in nine weeks while in co-ed classes to 2 incidents in nine weeks in single-sex classes²³

Colorado

According to a May 31st article on denverpost.com, a service of the *Denver Post*, some Colorado schools are facing problems similar to those described in the case studies above.

²² <http://www.singlesexschools.org/research-singlesexvscoed.htm>

²³ Bill McCleery. "Single-sex classroom gaining in popularity," *Indianapolis Star* Posted on Jerry Moore's School Talk: Single-Sex Classrooms August 1 2002.

- On the Colorado Student Assessment Program reading tests, girls consistently outperform boys
- In the 2006-2007 school year, the graduation rate for girls was 78.6%, but only 71.5% for boys²⁴

In a July 29st article the discrepancy is stated with more urgency: "Boys are not remaining engaged in school. We're at a tipping point. We're losing the chance to engage our boys in a really fulfilling life."²⁵

District 11

The average composite ACT score for the district's eleventh graders in 2006 was 18.1. The minimum ACT scores required for guaranteed admission into the following Colorado universities are listed below:

	University Required Composite ACT Score
The University of Colorado, Colorado Springs	24
University of Colorado, Boulder	28
Colorado College	28-32*

*CC does not have an automatic cutoff score, but the middle 50% of the admitted fall class for 2008 scored in the 28-32 range on the ACT

By implementing single-sex classes, Veritas Academy hopes to provide a learning environment that will help students in District 11 to improve their test scores and gain them access to local institutions of higher learning.

Single-Sex Classes Benefit Boys

Given that boys in Colorado are experiencing a lag in academic performance and graduation rates as compared to girls, the single-sex classroom environment at Veritas Academy is an important feature. Broad research, both nationally and internationally, demonstrates the efficacy of separating boys and girls to boost academic achievement.

Research at the university level as well as by national foundations consistently points to the fact that boys in all-boys classes learn more, as evidenced by test results, in core subjects like reading, writing, English, and math. In addition, the single-sex classroom helps to break down subtle gender stereotypes. Here, boys are more likely to enjoy and excel in subjects like art,

²⁴ "Genders split up at more schools." Jeremy P Meyer denverpost.com, denver and the west

²⁵ <http://www.rockymountainnews.com/news/2008/jul/29/girls-still-top-boys-writing-reading/>

music, drama, and foreign language, often thought of in co-ed schools as more feminine areas of study. These boys are more likely to report that they see their academic courses as relevant and claim to enjoy the work of learning. They are also more likely to have higher educational aspirations than boys in co-educational settings. Within the private school setting, for example, one study found that boys in single-sex private schools were more likely to attend prestigious colleges and to make plans for attending graduate school than boys in co-ed private schools.²⁶

The two case studies mentioned above at Woodward Elementary and Paducah Middle School illustrate the improvement realized for boys in all-boys classes on standardized tests, grades, and behavior. Other case studies repeat the pattern, both in the United States and abroad, in public and in private schools.

Thurgood Marshall Elementary, Seattle, Washington

In 2000 the public elementary school adopted single-sex classes because of rising discipline problems, 80% of which involved boys. Principal Benjamin Wright reported an “overnight” change in the order of the school.

- Disciplinary incidents dropped from about 48 per day to about 2 per day
- Boys’ performance on the Washington Assessment of Student Learning soared
 - Boys’ overall scores jumped from the 10-30% listing to the 73% listing
 - Boys’ average scores on reading quadrupled from 20% to 66%
 - Boys doubled their writing mastery from 20% to 53%²⁷

The Fairhurst High School, Essex, England

This co-educational high school carved itself into two academies under the same roof: one for boys and one for girls. The students took the same courses from the same teachers, just separately. Three years later the results were concrete.

- There was a 26% increase in the number of boys with high scores on standardized tests²⁸

Manchester University, England

Researchers measured the outcomes of student performance in five public schools in which students had been assigned either to single-sex classrooms or co-ed rooms. The neighborhoods of these five schools ranged broadly and included rural, urban, suburban, and inner city areas, but the results were unambiguous.

²⁶ Valerie Lee and Anthony Bryk. Effects of single-sex secondary school experience on student achievement and attitudes. *Journal of Educational Psychology*, 78:381-395, 1986.

²⁷ <http://www.singlesexschools.org/research-singlesexvscoed.htm>

²⁸ <http://www.singlesexschools.org/research-singlesexvscoed.htm>

- 68% of boys in single-sex classes passed a standardized test on language, as compared to only 33% of the boys in the co-ed classrooms²⁹

Single-Sex Classes Benefit Girls

The data in Colorado demonstrate that while girls graduate from high school at higher rates and achieve higher standardized test scores than boys generally, girls fall behind in critical core subjects like math and science. This is part of a national phenomenon and the conversation about its possible causes has ranged widely. Some speculate that girls lack confidence in these fields, thus setting themselves up for mediocrity, while others claim that gender stereotypes play a role. Girls are subtly convinced to invest themselves in the arts and humanities, and may consider the hard sciences and mathematics to be disciplines in which boys are much more likely to succeed.

A recent study by Leonard Sax suggests that the *real gender gap today is not in ability, but rather in motivation*—girls don't want to pursue physics or engineering, not because they doubt their ability but they just don't want to. When he looked into this, he found that most AP physics courses begin with a unit on kinematics and momentum, illustrated by drag cars accelerating and football players colliding. "The boys think it's cool. The girls drop out of the course." A better approach with girls is starting with a riddle of the nature of things—is light a wave or a particle?³⁰

At Veritas Academy, both boys and girls will pursue the same rigorous course of studies, including advanced mathematics and physics at the high school level. Several decades of research on education has proven that placing girls in all-girls' settings leads to higher achievement, increased confidence, and more positive attitudes about learning, especially, but not limited to, subjects such as math and science.

Both the Woodward Elementary and Paducah Middle School case studies highlighted in the opening pages of this report offered empirical evidence that single-sex classes accelerate girls' progress in the target areas of math and science. Following are more examples and studies that confirm this observation.

The Young Women's Leadership School, Harlem, New York

The Young Women's Leadership School of East Harlem was founded for 7th – 12th graders in 1996 in order to give inner-city girls the chance to thrive in a single-gender environment that had otherwise been inaccessible to them.

- Since opening, 100% of its graduating seniors have been accepted to college

²⁹ Julie Henry. "Help for the boys helps the girls," *Times Educational Supplement* (London, UK), June 1 2001.

³⁰ http://www.edweek.org/ew/articles/2008/06/18/42sax_ep.h27.html

- 100% of its students passed all components of the New York State Regent Exams, including the tests in math, biology, and earth science in the 2006-2007 academic year
- The TYWLS Robotics Team won first place at the regional Young Science Achievers Program³¹

In an interview with *The New York Times*, T.Y.W.L.A. teacher Emily Wylie said that she believed the all-girls environment made for better teaching and better learning. “I think I’m giving girls a better education than I could have if there were guys in the room. I’m freer. I’m more able to be bold in my statements.”³²

The Fairhurst High School, Essex, England

This co-ed high school saw marked improvements in the boys’ test scores, but the girls’ scores also improved 22%. Though their improvement was four percentage points lower than the boys, the girls still had higher scores overall. Thus, the separation of the classes at The Fairhurst School served both boys and girls.³³

Manchester University, England

The same study that measured boys’ progress in single-sex classes and saw a 33% increase in passing scores on standardized tests found that the girls improved as well.

- 89% of the girls in all-girls’ classes passed the test, compared to 49% in the co-ed classes, an increase of 40%³⁴

National and International Studies

Cornelius Riordan, a sociology professor at Providence University in Rhode Island, studied Catholic high schools in the 1980’s and 1990’s, comparing the short and long-term outcomes of the graduates of co-ed versus single-sex Catholic high schools. In a whole range of areas, he found that girls in single-sex schools consistently outdid girls in co-ed schools, even though girls from lower socioeconomic backgrounds were more likely to attend the single-sex schools. In further research, Riordan concluded that the advantages of single-sex schooling were the most pronounced in math, science, reading, and civics for students of either sex who came from underprivileged backgrounds.³⁵

At least two studies in the U.S. compared co-ed and single-sex schools and came to the conclusion that even when both schools are private, girls perform better in science and in reading when they are in class exclusively with other girls. The same advantages mentioned above for boys apply here as well: girls in single-sex environments are more likely to attend serious

³¹ http://www.ywlfoundation.org/network_schl_harl.htm

³² Elizabeth Weil. “Teaching Boys and Girls Separately,” *The New York Times*, March 2 2008.

³³ <http://www.singlesexschools.org/research-singlesexvscoed.htm>

³⁴ <http://www.singlesexschools.org/research-singlesexvscoed.htm>

³⁵ Cornelius Riordan. *Girls and Boys In School: together or separate?* New York: Teachers College Press, 1990.

colleges and contemplate graduate school; they have more confidence in their abilities, and express a positive attitude toward learning.³⁶³⁷

The National Foundation for Educational Research in England conducted the largest study yet undertaken of students' academic preferences as a function of single-sex or co-ed environments. They found that single-sex settings increased the likelihood that girls would choose advanced science courses and that regardless of their level of academic ability, girls in single-sex classes achieved higher scores than their counterparts in co-ed settings.³⁸

In the spring of 2000, the Australian Council for Educational Research issued a press release on the findings from several extensive studies on single-sex education. Dr. Ken Rowe, Principal Research Fellow, reported that "the achievements of boys and girls in single-sex environments were, on average, 15-22 percentile TER (Tertiary Entrance Rank) ranks higher than the achievement of their counterparts in co-educational settings." He explained the findings, saying that the "reasons for such differences are complex, but understandings are emerging from the research evidence suggesting that co-educational settings are limited in their capacity to accommodate the large differences in cognitive, social and developmental growth rates of girls and boys between the ages of 12 and 16. In contrast, this evidence suggests that during these key adolescent years, single-sex settings better accommodate the specific developmental needs of students."³⁹

Conclusion

For several decades, research on single-sex education has documented benefits to both boys and girls: ***across socioeconomic levels, in elementary, middle, and high schools, and in both public and private school settings.*** Whether the schools are entirely single-sex, or co-ed with separate classes, the key to freeing students to achieve their full potential clearly involves allowing boys and girls to pursue knowledge with members of their own sex. In this environment, girls see the elegance of mathematics and physics and boys gain depth of insight into literature and poetry. The benefits are not only academic. Students in single-sex classes develop a greater love of learning and carry that with them into college and beyond.

These are the goals of Veritas Academy: to lead students – boys as well as girls – to mastery in a core curriculum that includes history, mathematics, science, literature, English, foreign language, and the fine arts; and to instill in them a lifelong love of learning. By adopting single-sex classes, Veritas Academy creates a rich setting in which those goals are most likely to be realized.⁴⁰

³⁶ <http://www.singlesexschools.org/research-singlesexvscoed.htm>

³⁷ <http://www.singlesexschools.org/research-singlesexvscoed.htm>

³⁸ <http://www.singlesexschools.org/research-singlesexvscoed.htm>

³⁹ http://web.archive.org/web/20040220135156/http://www.acer.edu.au/news/MR_pages/MR_singlesexschools+20.04.00.html

⁴⁰ Veritas Academy Overview

The benefits of Socratic seminars

What is a Socratic Seminar?

The Socratic seminar is based on Socrates' method of dialectic: the art or practice of examining opinions or ideas logically, often by the method of question and answer, so as to determine their validity.

In Socratic seminars, students engage in a disciplined, logical conversation about the content in a given text. The goal is not to debate for the sake of winning others to one's own position; rather, it is to arrive at the deepest possible understanding of the text by joint effort. Students relate to each other and to their teacher as colleagues: they listen carefully to whomever is speaking, press each other for clarification, raise further questions, point out apparent contradictions, and suggest corroborating textual evidence.

In this environment the class is seated around a table with the teacher, who is one of the participants in the conversation. The teacher is the first among equals, and as such fosters the discussion without being its principal speaker. He or she keeps the conversation focused on the text, asks follow-up questions, helps students to untangle their ideas when their interpretations become confused, engages reluctant students, and prevents vocal students from dominating.

Ultimately, as agents of their own education, the students carry the burden of responsibility for the quality of the seminar. A good seminar depends upon a careful reading of the text to be discussed, a willingness to propose ideas, to listen attentively, to question, and to change one's mind in the face of reasonable evidence.

Seminars also involve writing assignments on the text, either as a preliminary or a follow-up exercise to the discussion itself.

What are its advantages in the high school setting?

The Socratic seminar is based on the theory that it is more important that students learn to think critically than it is to present them with "correct answers." Obviously, basic ordered knowledge is necessary, but students must learn to analyze a text in its entirety, discerning its complexities, and testing plausible interpretations.

- Socratic seminars sharpen critical thinking skills as students:
 - Analyze text
 - Synthesize ideas suggested
 - Employ inferential reasoning
- Speaking and writing skills improve
- Students become excited about discussing meaningful ideas

- Seminars stimulate the thoughtful exchange of ideas as participants learn to suspend bias and prejudice, and to ask meaningful questions instead

A study on the experience of 8th grade students in a Socratic seminar found the following benefits⁴¹:

- Students learn to ground their comments in reason and logic
- The seminar afforded them opportunities to reconsider, re-evaluate, and adapt their comments in light of those put forward by their peers
- The seminar was a forum for them to understand their own strengths and weaknesses as learners
- Students learned more about each other by drawing one another out in an environment that was both respectful and curious
- This resulted in increased tolerance among the members of the class

Veritas Academy holds seminars in the humanities at the high school level. They are a vital component in the culture of the school as a community of learners. The teacher draws the students into a dialogue which is aimed at the deepest possible understanding of a text or an idea. All of the participants press their ability to think as they seek to understand and to explain their suggestions to each other. The small classes and single-sex configuration at Veritas Academy are essential to high-quality seminar discussion because they allow boys and girls the freedom to be bold in their questions and opinions. By fostering this free and disciplined flow of ideas, Veritas hopes to nourish a love of learning in its students along with all of the critical thinking skills and open-mindedness necessary to pursue knowledge in the broader world.

Homework.

Homework is an essential element in a Veritas Academy education. While homework is often assigned in order to review, test and improve student skills, it also lays the groundwork for the following day's instruction. Homework assignments are crucial to the progress of the student and to the teaching of each course.

Veritas students are to do their homework diligently and intelligently. They should apply their full mental powers to the task at hand, avoiding distractions and distracting environments. Further, they should use their time and energy wisely in order to complete assignments in a timely manner, with care and precision.

Parents can help by asking their child about the assignments and reviewing some of their work. They can also see to it that they have a quiet location in which to do productive homework.

⁴¹ <http://bctf.ca/uploadedFiles/Publications/TeacherInquirer/archive/2007-08/2007-12/Shea-SocraticSeminars.pdf>

Having discussions about their child's homework is also extremely helpful. Even if only somewhat familiar with the material their child is studying, parents can ask intelligent questions about their child's understanding of that material. These may be general ("Why is the First Amendment so important?" "What are you learning about weather prediction?") or specific ("When was the Peloponnesian War?"). As students mature, they will be able to bring their knowledge of history and philosophy into a discussion of current events and ethical issues. Dinner conversation can be a good setting for discussing what the student is learning.

What are the consequences of not doing homework? Students lose ground in the course, which impedes their intellectual growth. This is particularly true in the high school, where instruction and seminar discussion depend directly on the homework assignment. If students do not prepare the homework assignment, they cannot participate in the class. Thus, not only do they fail to benefit from the homework assignment itself, they also miss much of what goes on in class. Since the material in most courses builds incrementally on previous assignments, a student who fails to keep up with the homework may fall hopelessly behind.

Sometimes parents send notes asking permission to excuse a child for not completing a homework assignment. We know that there are many good reasons for such a request, such as unexpected illness or stress in the family, the child's own sickness or need for sleep. However, these requests cannot erase the consequences of losing ground and being unable to participate effectively in the class. We cannot excuse the students from their obligation to learn course material.

Veritas homework is assigned according to this schedule of maximums:

- Sixth, seventh and eighth grade students receive 20 minutes of homework for every hour of class;
- Ninth-twelfth grade students receive 30 minutes of homework for every hour of class, with the exception of junior and senior mathematics and science, which may assign up to 45 minutes of homework per hour of class.

Thus, a seventh or eighth grade student should receive a maximum of two hours of homework per night, a freshman or sophomore three hours, juniors and seniors three to three and a half hours. These figures are, of course, targets; they might not be hit precisely every night. Assignments will vary from these norms, but they should not vary a great deal.

Veritas will offer the following opportunities to ensure the success of students entering the school:

1. Study Skills/Remediation

- Veritas will give an initial placement test upon enrollment. The Head of School may recommend to parents that a student enter a lower grade level than planned to allow for the best chance at success within the curriculum.
- Veritas Academy will require all new students and at least one parent/guardian attend a series of study skills seminars. The first will be held before the first day of school. A follow up session will be held approximately three weeks into the school year. Returning students of course may choose to attend again; some returning students may be required to attend to address study skills deficiencies identified in the previous year.
- Veritas Academy will offer daily tutorials in reading, writing, and math within the course of the school day. Any student receiving a D or F in one of these subject areas must attend the corresponding tutorial in lieu of study hall.
- Faculty members will rotate after-school tutoring responsibilities.
- Students who do not pass the grammar or algebra diagnostic gateway-assessments at the end of the eighth grade (see pg 67) will take mandatory summer school. Passing the summer school course is necessary to moving into the ninth grade.
- The study of language is also cumulative. Students who do not pass (receive an F) language (Latin/modern language) will need to take summer school to move forward in their study of the language.
- Students who have taken advantage of the available remedial assistance and yet still are failing core subject areas such as reading, writing, and math may be held back to repeat the year of study again.
- Students who do not pass required courses to move on may be offered a place in the next year's class on a case by cases basis.

2. Transfer Students

Veritas will accept transfer students through the tenth grade. Students wishing to transfer into the program in grades 11 and 12 may be accepted on a case by case basis.

- **Language** A transfer Latin/modern language class will be mandatory for students coming in to the school after the sixth grade through the ninth grade. This class will be during school hours. A student may also choose to take summer school in order to continue the study of language with his or her class.
- **Mathematics** Any student transferring into the ninth grade must pass the diagnostic algebra test mentioned above.

3. Course of Study for Grades 7-9 during First Years of Operation

- **Mathematics:** A solid foundation in algebra is crucial to success in the Veritas high school math curriculum. Thus the first year of 9th graders will have at least a semester of algebra to ensure a sure footing for the rest of the program. A full tailoring of the program will be completed this first semester after the needs of further algebra review have been determined.
- **Latin:** Students in grades 6-8 will all begin their first year of Latin in the *Ecce Romani* Series. A decision will be made upon each class entering the 9th grade if they will continue in this series or move to the Wheelock. Students entering the first 9th grade will take one year of Latin out of Wheelock before continuing in modern language.
- **Music:** Students in grades 6-8 will all begin their first year of orchestral instruments the first year of operation. Grades 7 and 8 will focus on this the first year and will not have choir or theory until their second year of music. As students in grade 9 will only have two years of music, they will have a greater emphasis on choir the first year and may spend these two years learning to play the recorder. The plan for incoming 9th graders is still under discussion but will be decided by the time the charter is approved.
- **Studio Art:** 8th grade students will receive the first year drawing course. The art teacher has the discretion to move these students through the art program as he or she sees fit.

A day in the life of a Veritas student: the following is a narrative that gives you a glimpse into the day of a typical junior at Veritas Academy.

Mariah wakes up to the sound of her alarm clock and rolls out of bed, still sore from her winning basketball game two nights before. She showers, put on her uniform, eats some cereal, grabs her lunch out of the fridge, and zips up her hooded sweatshirt, all before heading out the door. When it's cold out she drives, and since school is not far away she's there in minutes, just as the Dean of Girls is opening the doors. Mariah says hello to friends, drops her book bag in her locker, and heads to Morning Assembly.

Mariah secretly loves Morning Assembly. It's like a class with everyone in it, and no homework. Plus, Mariah's not a morning person, so Morning Assembly always helps her wake up and collect her thoughts before she begins another busy day. The faculty takes turns leading the assembly and this morning it's Mrs. Norris, Mariah's 9th grade biology teacher, standing before the podium. Mrs. Norris is passionate about the natural world. She has a master's degree in neuroscience, and often her Morning Assembly reflections mention new scientific discoveries and how they relate to our lives, but today she decides to talk about Ralph Carr, a

former governor of Colorado. Apparently Governor Carr was one of the only national figures to vocalize opposition to the internment of Japanese-Americans during World War II. His courage was the ruin of his career, though: Mrs. Norris explains that public opinion was so wildly anti-Japanese that it was a death-knell to our former governor to speak against this injustice. He was so ostracized that Coloradans are only now recognizing his heroism. Wow, Mariah thinks—someone from our own state sacrificed his political career to stand up for what is right.

*After Morning Assembly, Mariah grabs her book bag and heads to Humane Letters. She finds her seat at the round table next to her best friend and pages through last night's reading, Plato's *Crito*. Finally, she finds her question scrawled in the margin on the last page. When Ms. Jones arrives the girls go around the room asking their questions one after another to get the ball rolling. Mariah's question is: "According to Plato, can a just man harm his enemies?" She's not the only one who was bugged by Socrates' seeming pacifism and Ms. Jones, the seminar leader, decides to start the discussion with Mariah's question. She's happy that her question was chosen, but the class is divided: some claim Socrates had to die in order to achieve his ends, while others feel strongly that he should have fled or even violently revolted. By this point in the year, Ms. Jones doesn't have to jump in all the time. The girls defend their arguments from the text and ask one another questions. Sometimes they get silly, other times tempers begin to flair, and Ms. Jones has to coach them, but just when it seems like they're getting somewhere it's time for a fifteen minute break. After break the discussion resumes and some of Socrates' defense is read aloud dramatically. Mariah loves drama so she offers to play Socrates, but Kezia gets the role and does a great job. Discussion days are fun, if tiring; they really force Mariah to go back to her text, and they help with her understanding which, in turn, helps with her depth of inquiry on essays. She learns a lot from her classmates and her teacher and she feels satisfied when they learn from her as well. She likes this whole "community of learners" thing.*

After two hours in Humane Letters Mariah is wide awake. She grabs a granola bar during passing period, chats with a friend, and heads to Physics. Mariah didn't think she would like Physics but MatLab is really growing on her. They're working in small groups to design a program that propels a rocket through the air. It's cool to see all of this abstract information applying to something in the real world. That's what Dr. Metheny is always stressing. He wants them to use their imaginations, not just to plug in formulas or lines of code. He wants them to imagine what would happen in the physical world first. That's really helpful. Mariah has to ask for help and backtrack a couple of times over the course of the hour but she's a lot closer than ever to haven written a working program.

After an hour in Physics it's time for Calculus. Mariah's been going to Math Lab at school and now she gets to a lot more of the more interesting problems on the homework. Instead of wanting help at the beginning she's asking questions on problems she's already got set up and almost solved. She never realized she could be so good at math. At her old school they almost never had homework and so she came to Veritas a little behind in math, but she can hardly tell it anymore. She likes having math with all girls, because she's not ever embarrassed about asking a question, and she likes that Mrs. Palmer, the math teacher, encourages them to work in groups because she learns a lot when she has to teach something to someone else.

After Calculus it's time for lunch. One of the seventh grade boys' string quartets is putting on a short recital while everyone eats. Mariah recognizes the minuet as Bach, but isn't sure which one it is. She does remember, though, the thrill of playing in the all-school Baroque Festival last spring. Since it's sunny, after the recital, Mariah goes outside with her friends to shoot some hoops.

In the afternoon, half of the juniors, boys and girls, go to Drama, where they're putting on Shakespeare's King Lear, while the other half go to Art which is one hour of Art History and one hour of Art Studio. One of Mariah's favorite things about Veritas is the arts program. She always considered herself just a jock at her old school but last quarter she played the role of the clown in Macbeth and brought the house down with her jokes and now she's loving Art and Art History, especially modern art. She's learned to draw and paint by imitating famous works of art and she's even done some original pieces that will be shown at Fine Arts Night. Her mom is so impressed. Plus, it's nice to end the day with the right brain after Physics and Calculus have tired out her left.

When she goes out to the parking lot after school she hears two girls from her class still arguing over Socrates. "Only at Veritas," she thinks, as she smiles, waves, and drives to practice.

VII. Supplemental Programs

Student Orientation

All students at Veritas will attend student orientation at the beginning of each year. This will include presentations on topics ranging from school culture to the expectations of conduct and discipline. In these presentations, we will try to give students a vision for why we do what we do, holding up a vision of greatness and community to them. Some talks will be given to the whole student body; others will be given according to age group. New students will have additional information given to them. These new students will also be required to attend two study skills seminars in the first month of school.

Morning Assembly

Veritas students will begin each day in the Morning Assembly. Some assemblies will be co-ed while others will be single-sex. This will be an opportunity to gather as a student body for practical matters such as attendance and announcements, but will be used primarily as another opportunity to build the community of learners. The assemblies will be the arena for performance (student or faculty), readings (from great books, poetry, or an appropriate topic), or exhortations to greatness (such as a series on important, noble figures in Colorado history). These assemblies usually will be faculty led, but upper classmen will take a more active role as well.

Saturday Morning Series

The founders of Veritas Academy envision a true community of learners, which necessitates the active involvement of parents. We do not just want parents to help with typical school volunteer activities, as important as those are. Rather, we hope to put on a regular Saturday Morning Series that could serve several functions. At one level, it could serve as further study skills seminars—specifically for parents to know how to help their children succeed in such a rigorous school. Depending on the demographics of families, this could branch out to a series of life/home management skill seminars. These could be parent-led or volunteers from the local community could support this program.

Beyond that, however, we envision a community in which parents are also learners—perhaps some parents would like to take two Saturdays to learn how to read and pronounce Latin. If interested, they could continue in a Saturday Morning Latin Series. Perhaps others will want to read a short story together and come to a Socratic seminar to experience what upper class Veritas students experience in such a seminar. Or perhaps parents would like to take a Saturday Series on the writing program, either to become better writers or to simply understand what their children are being asked to do.

We see endless opportunities for this Saturday Morning Series. We understand that this program depends both on available funding and parent interest and resources. We are excited, however, at the possibilities for real community that this could provide.

Character education

Veritas Academy states as its mission:

From the seminar to the science lab, from the music room to the playing field, Veritas Academy begins with the conviction that all human beings can know truth, create beauty and **practice goodness**. To that end, we expect students to develop

- basic tools of learning,
- ordered basic knowledge,
- **moral seriousness**,
- breadth and depth of imagination,
- artistic ability and sensitivity,
- and a sense of wonder.

The founders of Veritas Academy believe that the education of the whole person is primarily the responsibility of the parent(s). And yet, insofar as a school endeavors to educate the mind, this cannot be compartmentalized apart from the whole person. Intellectual honesty and integrity demand that one's actions reflect the habit of mind. So, for instance, moral seriousness can be achieved to a high degree through the moral imagination developed in reading and reflection

upon great literature, philosophy and history; a student can and should wonder at the ramifications of Achilles' wrath, a student must be stirred by Hegel's assertion that history is the "slaughter-bench" at which the happiness of peoples is sacrificed.

This morality is shaped as well by the entire arena in which learning is happening, the community of learners. Within this community students learn that their learning is not ultimately an individual achievement. Grades are de-emphasized; learning is not competitive. The boy who is talented in music gains intellectual humility by being challenged in his reading of a text in Humane Letters; the girl who excels in math gains intellectual maturity watching her classmate earn the lead in the senior play. Moreover, the discipline of hours of class, hours of homework, hours of instrument practice, and so on, in a rigorous curriculum demands and trains each student in what we call *the habitual vision of greatness*. This vision of greatness is instilled in the students as truth, goodness and beauty become woven in the daily discussions of important texts, understanding and achievement in worthwhile mathematics and science, and performance in the arts. The vision becomes *habitual* as students move through a core-curriculum together with their peers, over a long seven-year period. As students move up the *trivium*, they become more truly agents of their own learning, more genuinely members of the community of learners and more seriously invested in the vision of greatness put before them: they cannot be passive observers. They must choose what kind of life-long community they will join and create.

The founders of Veritas Academy do not see this community of learners as an island, however. The need for students to engage in the community outside of the school is crucial as well. Many schools address this in what they call "character education." Marvin Berkowitz stated:

*Recent findings show that effective character education supports and enhances the academic goals of schools: good character education promotes learning. Character education is a national movement creating schools that foster ethical, responsible, and caring young people by modeling and teaching good character through emphasis on universal values that we all are.*⁴²

The founders of Veritas take seriously the effectiveness of character education and appreciate the attempts at this seen in surrounding schools. We are not convinced, however, that the programs that are in place in some schools (character-of-the-month; mandatory service hours) are necessarily effective. We want to see Veritas students take part in meaningful action in the broader community. We recognize that we demand much of their time already. At this point in our charter process, we do not want to create a character program which may burden the students further. Moreover, we think that much meaningful service is a grassroots effort.

⁴² Berkowitz, Ph.D., Marvin, M. Bier, University of Missouri-St. Louis. (2005). What Works in Character Education: A research-driven guide for educators. Available online at: http://www.character.org/atf/cf/%7B77B36AC3-5057-4795-8A8F-9B2FCB86F3EB%7D/practitioners_518.pdf

The founders of Veritas Academy propose a Service Advisory Committee. This committee would, in the first few years of school operation, determine possible areas of service in the community. They, in consultation with parents and students, would propose to the Head of School what kind of service they think appropriate. For instance, perhaps a site visit to a homeless center could be incorporated into the colloquium on Economics. This would put a face to the study of acute poverty and might cascade into a service project outside of the colloquium. If after several years a mandatory hour requirement seems best, this committee would make that proposal to the Board.

Professional Development

Veritas Academy will ensure that all teachers are “highly qualified,” as required by the **No Child Left Behind Act**.

Professional Development Offerings

Veritas Academy administration and Board will maintain flexibility with professional development so that offerings can change as the staff’s needs change. The following includes ways in which we intend to deliver professional development and teacher support models:

- Much of our initial teacher training will be supported by Academy Project, including:
 - A one-week Teacher Institute will be mandatory in July 2009.
 - 72 mentor hours over the course of the year for the first three years.
 - Academy Project will designate two curricula managers: one for the humanities, one for the sciences. Over time, master teachers will develop in discrete areas.

- Mature master teacher program will require that a Master Teacher will supervise each teacher, new to a certain course. This Master teacher ensures both that the course is being taught according to the course guide, as well as that all sections of the course are being taught in similar fashion and timeline, so that all students are receiving equitable education.

- Faculty members are invited to sit in on each others’ classes, not specifically for peer review, but as members of the community of learners. Faculty meetings in which specific topics are addressed (directly related to daily operations, assessments, and the life of the school, etc.)

- In-service days twice yearly, to afford opportunities for master teacher meetings (grade level planning, sharing lesson ideas, effective instructional practices and information about students).

- The Head of School will lead Faculty Meetings every Thursday to discuss and plan school events and operations. The Head of School may also direct faculty to use this time for collaborative preparation.
- Faculty seminars will be mandatory four times a year. These will be in the evenings, hosted in a home. These are devoted to collective faculty study: a seminar on a text, the study of a composer, a lecture series on science, etc.
- Faculty will be encouraged to apply for studies offered in the summer. For instance the National Endowment for the Humanities gives scholarships for teachers to attend summer programs in various topics. Or teachers can apply to St. John's College Graduate Institute, which offers a graduate level degree in a curriculum much like our Humane Letters track. St. John's often reserves scholarships for teachers.
- Our budget allocates \$55,000 the first year to the training and support of faculty and staff, as well as \$16,750 for board training. Included in this budget is money towards Academy Project.
- The funds allocated to Professional Development are lower in years 4 and 5 of our projected budget. This is because we have a three year contract with Academy Project; part of the goal of our relationship with Academy Project is to train our faculty to be able to provide much of our professional development in-house. Moreover, we expect Title II funds to boost these figures, but have not attempted to guess how much we might be allotted.

Annual Calendar and Daily Schedule

The Veritas calendar attempts to parallel the district calendar, especially in terms of major holidays.

Student hours at Veritas Academy will be from 7:45 a.m. to 3:30 p.m., Monday through Friday. This is longer than the district day, which runs from 8:45-3:45 in the middle school and 7:45 to 3:00 in the high school. Our proposed schedule for 2009-2010 has 170 class days, with 1139 classroom hours. These well exceed the minimum guidelines stated in C.R.S. 22-33-104, which mandate a minimum of 160 days in session, with no fewer than 1056 hours of instructional time for secondary students. (These hours do not include passing time or lunch.) *See* proposed calendar in Appendix J and proposed schedule in Appendix K.

In addition to the traditional school day, Veritas has **additional requirements** of its students:

- All students will complete a project or paper in the week between semesters in which parent/teacher evaluations are taking place. Students will be required to spend an average of 30 hours on this project. See description of project week under *Curriculum*, page 31, as well as *Evaluations*, page 66.
- All students will take oral exams at the end of the year. For more information on these exams, see *Evaluations*, page 67.

Faculty Schedule

A full time faculty member will be expected to teach an average of 20 hours per week. In addition, he or she will need to be available for 7th hour tutorials as well after school tutoring upon request. Faculty members will sit on parent/teacher evaluation sessions for all students he or she teaches.

Oral Exams: faculty will not be responsible to administer orals for every student he or she teaches. High school Humane Letters and a Math or Science teachers are responsible for the respective orals for the students they teach. For instance, a teacher of Humane Letters 11 is responsible for the HL orals of his or her students, but these will probably be the only orals they need to attend. Only one faculty member need attend middle school orals; these are divided amongst the rest of the faculty.

Project Week: Faculty members will advise students on projects at a fairly equal ratio (1:15). This may vary depending on expertise.

Education is a painful, continual and difficult work to be done by kindness, by precept, and by praise, but above all, by example.

-John Ruskin