

St. Ambrose Academy Course of Study

The St. Ambrose curriculum is designed to provide an outstanding foundation in the critical academic disciplines of math, science, history, literature, logic, rhetoric, composition, and Latin, crowned by regular study of and growth in the Faith. Our approach to learning includes in-depth study of the classical works of the western world and the great works of Christendom. Our religion studies focus on the analysis and understanding of the Scriptures and significant Church documents (such as papal encyclicals and the Catechism). Our classes revolve around discussion, debate, presentations, and regular papers.

Our dedicated faculty uses a variety of methods to give our students the tools they need to master our curriculum with an enthusiasm that comes from true understanding of the profound ideas of the ages. Works are studied in an introductory manner suited to the intellectual capacity of the students; students are not expected to display exceptional ability or college-level understanding. One of the characteristics of "great books" is that they are accessible, like Sacred Scripture, on a wide variety of levels. One needs no specialized training to see their beauty and experience their power.

There are six core subject areas at St. Ambrose Academy: English, history, Latin, math, religion, and science. The topical studies that roughly follow a historical progression are taught in a four-year cycle (Cycle I, II, III, and IV). The historical topic for each cycle is integrated in these courses (history, English, and religion), with the other courses reinforcing these topics when possible, resulting in a unified and interdisciplinary approach to each historical period. The ninth and tenth graders alternate between Cycle I and Cycle II, while the eleventh and twelfth graders alternate between Cycle III and Cycle IV.

Students at St. Ambrose are enrolled in courses based on grade level, placement testing, and mastery of prerequisites. Certain courses may have prerequisites, such as an acceptable grade in the preceding course, which must be fulfilled for the student to progress in the course sequence.

	English	History	Latin	Math	Religion	Science
SH I		Ancients	Latin I	Algebra I	The Church in the Pagan World/Logic	Biology
SH II		Medieval / Renaissance	Latin II	Geometry	Scripture	Chemistry
SH III		America / Government	Latin III	Algebra II	Moral Theology, Liturgy & Sacraments	Physics
SH IV		Enlightenment / The Modern World	Latin IV Advanced Latin (advanced students)	Pre-Calculus Calculus (advanced students)	The Church in the Modern World	Advanced Science

The high school curriculum follows an historical matrix, studying the various subjects within the context of one given historical time period. The flow of this study brings the student through the course of western history: the classical world, early Christianity, medieval Europe, and the modern world. Each year of high school is devoted to one of the following time periods:

3100 B.C. - 400 A.D.	Ancient Greece and Rome
400 A.D. - 1650 A.D.	Medieval / Renaissance Europe
1500 A.D.- Present.	America / Government
1700 A.D.-Present.	Enlightenment / The Modern World

The objective of this division is to observe the birth, height, and decline of the civilizations that were dominant in the development of Western Civilization.

Major literary works form the core of the literary curriculum: *The Iliad* by Homer, *The Aeneid* by Virgil, *The Divine Comedy* of Dante Alighieri, and the works of Shakespeare. The story of the twentieth century is told by such works as Solzhenitsyn's *One Day in The Life of Ivan Denisovich* and John Steinbeck's *Grapes of Wrath*. Works such as these help the student begin to understand the human condition including its dignity and beauty as well as its social, political, and philosophical difficulties. While the study of literature is critical for development of writing, analysis, and rhetorical skills, it is the transcendent truth explored by each author that is the point of the composition and the object of its study.

Religion course material is also organized according to an historical framework, with Scripture, the writings of the Saints, and the history and content of dogmas all featured.

The History curriculum introduces the student to the great historical works, including the writings of Herodotus, Thucydides, Plutarch, Livy, Tacitus, and medieval chroniclers. The last two cycles feature an in-depth study of the formation and function of the American government and the events of modern times.

In Math, senior high students test into the level that is most appropriate for them. We recommend Algebra I, Geometry, Algebra II, and Pre-Calculus for most students. Advanced math students may take Calculus. All students are required to take at least three years of math.

In Science, senior high students take Biology, Chemistry, Physics, and Advanced Science. All students are required to take at least three years of Science. Teachers may provide additional instruction to help students prepare for the AP and other advanced science exams.

Latin is emphasized in Language studies at St. Ambrose Academy as it lays a grammatical foundation for the study of any language. Knowledge of Latin aids in the study of the Romance languages, enhances a student's ability to express himself well in English, hones logical and organizational thinking skills, and assists students who continue in science, medicine, and the humanities. All students are required to complete two years of Latin successfully.

Logic and rhetoric are covered in the Senior High Religion and English courses.

Given the opportunity to read, understand, and discuss the great works, the high school graduate is fully prepared to enter the work force or attend any college or university in the United States or abroad.

Advanced Placement

St. Ambrose Academy does not offer advanced placement courses as such. However, we recognize the value of these courses and will endeavor to offer preparatory guidance for certain AP exams for students who receive permission from the principal. The form this guidance takes each year will depend on student interest, faculty availability, and other factors, and may take the form of extra weekly meetings or independent study with a teacher or online courses. Depending on these factors, extra course credit may be granted for this extra work. St. Ambrose Academy will offer tests that are appropriate for interested students.

English

St. Ambrose English courses emphasize grammar, composition, logical thinking, analysis of the great literary works of the ages, genre studies, and topics from rhetoric such as memory, literary figures, style, and delivery. Students develop oral and written expression according to the principles of rhetoric. Literature is drawn from reading lists that are integrated with the history course.

St. Ambrose students learn composition by studying good writing. Students use a variety of examples from literature to study the *progymnasmata*, pre-rhetoric writing exercises from the ancient Greeks that familiarize the students with the elements of rhetoric: Fable, Narrative, Chreia, Proverb, Refutation, Confirmation, Commonplace, Encomium, Vituperation, Comparison, Impersonation, Description, Thesis, Defend or Attack a Law.

Senior high English students progress through the upper-level progymnasmata and a study of rhetoric.

Aristotle, *Poetics*

Classical Writing Series

Grade Level	Basic Course		Poetry/Fiction
9	Herodotus	Argumentation (judicial rhetoric)	Advanced Poetry Shakespeare
10	Plutarch	Biographical essay	
11-12	Demosthenes	Logic & rhetoric (uses Corbett)	

Sister Miriam Joseph, *The Trivium*

Harvey's *Grammar* or Warriner's *Grammar & Composition*

Moutoux *Diagramming*

Corbett, *Classical Rhetoric for the Modern Student*

English I, Ancients

Required

Sophocles, *Three Theban Plays*
Homer, *The Iliad*
Virgil, *The Aeneid*
Cicero, to be decided; on rhetoric
Shakespeare, *Julius Caesar* or *Troilus and Cressida*
Vaughan-Payne, Lucile, *The Lively Art of Writing* (essay writing)

English II, Medieval / Renaissance

Required

Beowulf
Middle English poetry, including *Sir Gawain and the Green Knight*
The Song of Roland
Chaucer, *The Canterbury Tales*
Aligheri, Dante, *The Divine Comedy*
More, Thomas, *Utopia*
Shakespeare, *Romeo & Juliet* or *Midsummer Night's Dream*

English III, America / Government

Cycle III, in addition to the study of American literature, includes a genre study of poetry and the creative writing of poetry.

Required

Hawthorne, Nathaniel, *The Custom House* and *The Scarlet Letter*
James, Henry, *Daisy Miller* and *Portrait of a Lady*
Dickinson, Emily, selected poems, including 964, 76, 31, 1718, 214, 95, 401, 986, 974, 989, 712, 1695
Poe, Edgar Allan, selected poems and short stories
Twain, Mark, *Huck Finn*
Whitman, Walt, selected poems, including "One's Self I Sing," "I Hear America Singing," "When Lilacs Last in the Dooryard Bloomed," and "O Captain, My Captain"

English IV, Modern

Required

Solzhenitsyn, *One Day in the Life of Ivan Denisovich*
Dostoyevsky, *Crime and Punishment* or *Brothers Karamozov*
Poetry from Alfred Lord Tennyson, Matthew Arnold, Gerard Manley Hopkins
Chesterton, *Ballad of the White Horse*
Chesterton, *The Man Who was Thursday*
Austen, Jane, *Pride and Prejudice* (1813)
Conrad, *Heart of Darkness*
O'Connor, Flannery, selected short stories

Additional Selections From:

Goldenberg, Phyllis, *Writing a Research Paper: A Step-by-Step Approach*
Aeschylus, *Oresteian Trilogy*
Homer, *The Odyssey*

Additional Selections From:

Anglo-Saxon poetry, including "The Dream of the Rood" and "The Wife's Lament"
Poetry from Petrarch
Erasmus, *Ten Colloquies*
Machiavelli, *The Prince*
Milton, John, *Paradise Lost*

Additional Selections From:

Whiting, *The Grammar of Poetry* and accompanying poems
Bradstreet, Anne, "Upon the Burning of Our House" and "The Author to Her Book"
Taylor, Edward, selected poems, including "Meditation 1," "Huswifery," and "Upon Wedlock and the Death of Children"
Wheatley, Phillis, selected poems, including "On Being Brought from Africa to America" and "To the University of Cambridge"

Additional Selections From:

Abrams, M.H. *A Glossary of Literary Terms*
Strunk, W., White, E.B. *The Elements of Style*
Perfecting the Art of the Essay Test (Trivium School)
Major Thesis
Creative Writing: Short Story, Literary Themes

Scott, Sir Walter, *Ivanhoe* (1819)
Lee, Harper, *To Kill A Mockingbird*
Steinbeck, *Grapes of Wrath*
Lewis, C.S., *Abolition of Man*
Pieper, Josef, *Leisure, the Basis of Culture*
Dickens, *Oliver Twist*
Eliot, T.S. "The Wasteland"
King, Jr., M. "Letter from a Birmingham Jail"
Excerpts from *The Diary of Anne Frank*
Wodehouse, P.G., *Joy in the Morning*
Remarque, *All Quiet on the Western Front*
Hemingway, *The Old Man and the Sea*
Lewis, C.S., *Out of the Silent Planet, Perelandra*
Buckley, *God and Man at Yale*

History

The history courses emphasize historical trends and especially the role of the Church in the world through the study of the great historical documents of the ages.

History I, Ancients

Required

Plato, *The Republic*
Aristotle, *Nicomachean Ethics*
Plutarch, *The Rise and Fall of Athens: Nine Greek Lives*
Thucydides, *History of the Peloponnesian War*, excerpts

Additional Selections From:

Hamilton, *The Greek Way*
Hamilton, *The Roman Way*

Herodotus, *The Histories* (tr. David Grene)
Xenophon, *The Persian Expedition*
Aristotle, *The Athenian Constitution*
Livy, *The War with Hannibal*
Tacitus, *The Histories*

History II, Medieval / Renaissance

Required

St. Benedict, *Rule of St. Benedict*
Early Christian Lives
Bernard of Clairvaux, *Selected Works* [selections]
Boniface VIII, *Unam sanctam* (on the singular character of the Church)
Leo X, *Exsurge Domine*
Luther, *95 Theses* and *On the Freedom of a Christian*

Additional Selections From:

The History of the Church, Didache series (Midwest Theological Press)

St. John of Damascus, *Three Treatises on the Divine Images*
Codex Iustinianus / Justinian Code [selections]
Gregory the Great, *The Pastoral Rule*, excerpts
St. Catherine of Siena, *Letters of Catherine Benincasa* (St. Catherine of Siena)
St. Thomas More, *Selected Writings* [selections]
St. Teresa of Avila, *The Way of Perfection*
Bonaventure, *Life of St. Francis*
Classics of Western Spirituality: Early Dominicans, including *The Early Dominican Constitutions* and miscellaneous texts on St. Dominic
Excerpts from *An Ecclesiastical History of the English People* by Bede
The Passion of Saints Perpetua and Felicity

History III, America / Government

Uses the first half of Paul Johnson's *History of the American People* as a spine, supplemented by historical and literary documents from our country's history, including a close study of the Constitution and other documents crucial to the formation of our government.

Required

Johnson, P. *A History of the American People*, selections
Lincoln, Abraham, "House Divided" Speech, The Gettysburg Address, The Emancipation Proclamation
Declaration of Independence, 4 July 1776
The Constitution of the United States
The First 10 Amendments to the Constitution as Ratified by the States
Hamilton, Alexander, et. al. *Federalist Papers* (including 1, 10, 51, 78)
Washington's Farewell Address 1796
Alexis de Tocqueville, *Democracy in America*, selections

Additional Selections From:

Ferrier, R., Seeley, A. *Declaration Statesmanship*
Winthrop, John, "A Model of Christian Charity" and "On Liberty"
The Mayflower Compact
Jefferson, Thomas, *A Summary View of the Rights of British America*
Paine, Thomas, *Common Sense*
Franklin, Benjamin, "Information to Those Who Would Remove to America"
Missouri Compromise (1820) and version abridged by Henry Clay
Transcript of Monroe Doctrine (1823)
Emerson, Ralph Waldo, *The American Scholar*
Dred Scott case: the Supreme Court decision
Stanton, Elizabeth Cady et al, Seneca Falls Declaration (1848)

History IV, Enlightenment / The Modern World

This course begins by tracing some of the early development of relativism from the time of the Enlightenment and then continues with Johnson's *Modern Times* for an overview of modern history.

Required

Johnson, P. *Modern Times*
The History of the Church, Didache, Chapters 16-18 as background to the Enlightenment
Solzhenitsyn, Alexander, "A World Split Apart"

Additional Selections From:

Karl Marx, *The Communist Manifesto*
Woodrow Wilson, *Fourteen Points* and *War Message*
Adolf Hitler, *Mein Kampf*
Franklin D. Roosevelt, "Day of Infamy"
Addams, Jane, "Why Women Should Vote," 1915
Coolidge, Calvin, Inaugural Address
Roosevelt, Franklin D., First Inaugural
Roosevelt, Franklin D., Potsdam Conference of July 17, 1945, "The Four Freedoms," "Day of Infamy"
Truman, Harry S., The Truman Doctrine
Marshall, John, The Marshall Plan
Eisenhower, Dwight D., Farewell Address
MacArthur, Douglas, "Thayer Award Acceptance Address" and "Farewell Address to Congress"
Faulkner, William, Speech Accepting the Nobel Prize in Literature
Kennedy, John F., Inaugural Address and "Cuban Missile Crisis Speech"
Johnson, Lyndon B., "The Great Society"
King, Martin Luther, "I Have a Dream"
Nixon, Richard M., "The Silent Majority"
Malcom X, "The Ballot or the Bullet"
Reagan, Ronald, "Remarks at the Brandenburg Gate"

Latin

The study of an inflected language such as Latin lays a grammatical foundation for the study of any language. A knowledge of Latin aids in the study of the Romance languages, enhances a student's ability to express himself well in English, hones logical and organizational thinking skills, and assists students who continue in science, medicine, and the humanities. All students are required to complete two years of Latin successfully.

Latin I - IV

The four-year Henle Latin series is used, with students moving slowly and thoroughly through the first year grammar-intensive Latin textbook, adding the second-, third-, and fourth-year textbooks, which focus on readings of Caesar, Cicero, and Virgil, as students become prepared.

Oerberg, *Lingua Latina* and selections from *Colloquia* or Henle, R. J. *Latin* and *Latin Grammar Books I-IV*
Simpson, D. P. *Cassell's Latin Dictionary*

Advanced Latin

This course is for students who have completed Latin I-IV and are preparing for the Latin AP or other advanced exam. This course will be offered on-line or with a teacher, depending on teacher availability.

Virgil, *Aeneid*
Cicero: excerpts from Henle IV and *De Amicitia* (Gould & Whitely)
Catullus: *The Student's Catullus* (Garrison)

Math

The Academy's math courses help students learn to solve problems by providing them with computational skills and an understanding of the ideas underlying those skills. Advanced math courses also help students understand and engage in formal reasoning. Students will be placed based on prior performance and placement testing.

Pre-Algebra

Dolciani, M. P., Sorgenfrey, R., Graham, J. *Mathematics: Structure and Method*, Course 2 and math drills

Algebra I

Foerster, P. *Algebra I: Expressions, Equations, and Applications*

Geometry

Jacobs, *Geometry*

Algebra II

Foerster, P.A., *Algebra and Trigonometry: Functions and Applications*, Chapters 1-12

Pre-Calculus

Foerster, P.A., *Pre-Calculus*

Calculus

This rigorous course, offered to those who are prepared for it, is taught at the college level from a three-semester college textbook.

Gillett, P. *Calculus and Analytic Geometry*

Religion

Religion is, of course, not just a subject at St. Ambrose Academy, but the golden thread tying all the courses and lives of the faculty and students together. All courses rely on:

The Holy Bible, RSV 2nd edition

Catechism of the Catholic Church

The Baltimore Catechism, Catholic Book Publishing Company

Each cycle will address prayer and apologetics. Apologetics is the basic perspective of our theological training at St. Ambrose; all topics are addressed in light of evangelization and apologetics. Prayer also is in all that we do. The theology staff incorporates prayer into every possible area of the course materials, so there is no disconnect between prayer and theology. Senior High courses make frequent reference to the Bible and the *Catechism of the Catholic Church*. The texts mentioned below are illustrative of those covered.

Given the *Catechism's* presentation of "an organic synthesis of the essential and fundamental contents of Catholic doctrine, as regards both faith and morals" (CCC 11), as well as Pope John Paul II's exhortation that it be used as "a sure and authentic reference text for teaching Catholic doctrine (Pope John Paul II, *Fidei Depositum*), the Senior High religion courses make frequent reference to the teaching found in the *Catechism*. By reading select passages of the Catechism, our students are given the proper theological foundation to engage the primary texts they encounter not only in their religion courses, but in all areas of study.

SH Religion I – The Church in the Pagan World	Relevant Topic
• Prologue (CCC 1-25)	Intro to the Catechism
• Man’s Capacity for God (CCC 26-49)	Natural/Supernatural Realms
• God, Trinity, and Creation (CCC 199-354)	Trinitarian Theology
• Christ (CCC 422-483)	Christological Theology

SH Religion II – Scripture	Relevant Topic
• God Comes to Meet Man (CCC 50-141)	CCC on Revelation
○ The Revelation of God (CCC 50-73)	History of God’s Revelation
○ Transmission of Divine Revelation (CCC 74-100)	Tradition & Scripture
○ Sacred Scripture (CCC 101-141)	Scripture

SH Religion III – Moral Theology / Liturgy & Sacraments	Relevant Topic
• Life in Christ (CCC 1691-2557)	Moral Theology
• Celebration of the Christian Mystery (CCC 1066-1689)	Liturgy & the Sacraments

SH Religion IV – The Church in the Modern Period	Relevant Topic
• The Human Community (CCC 1877-1948)	Rerum Novarum
• The Love of Husband and Wife (CCC 2331-2400)	Humanae Vitae
• Freedom, the Moral Act, Conscience (CCC 1730-1802)	Veritatis Splendor
• Sin (CCC 1846-1876)	Veritatis Splendor
• Law and Grace (CCC 1949-2051)	Veritatis Splendor

For Use in Every Cycle
• Christian Prayer (CCC 2558-2865)

Religion I, The Church in the Pagan World

Much like Cycle IV, The Church in the Modern World, this cycle studies the emergence of the Church in the early centuries: its struggle to understand and define itself, and its interaction with the pagan world around it. It addresses apologetics, as the problems of our secular world are so very similar to the pagan. The student studies early Christological heresies (learning the Creed) and early struggles with the Christian way of life (Augustine, Boethius). How does the Christian way of love and the Beatitudes challenge the reigning pagan worldview of power and pleasure? How does the incarnation challenge the ancient philosophy of deity?

Also included within Cycle I Religion is a study of Aristotelian Logic via *Traditional Logic* (formal logic) and *Material Logic* (Trivium Core Studies). Supplementary selections may be taken from the 1999 encyclical letter *Fides et Ratio* (Faith and Reason). After an eight week study of Logic, students will be familiar with basic logical principals, the logical syllogism, and Aristotelian categories. While knowledge of Logic is essential for the study of Systematic Theology, Logic is itself a philosophical discipline. The ability to reason strikes at the heart of who the person is—a logical being with a rational soul created in the image and likeness of God—and as such provides insight into what it means to be human.

Required

Boethius, *Consolation of Philosophy*
 Augustine, *Confessions*
 Ignatius of Antioch, *Letters*
 Irenaeus, *Adversus Haereses*
 Fathers of the Church: Didache, Clement of Rome, Ambrose, Chrysostom,
 Jerome, Cyril of Jerusalem

Additional Selections From:

Belloc, Hilaire, *The Great Heresies*
 Flood, Emmet, *Introduction to Catholicism*, Midwest Theological Forum
 (Didache)
 Augustine, *On True Religion, City of God*

Religion II, Scripture

This course covers Sacred Scripture: the basic narrative of the Old and New Testaments, the Church’s method for reading Scripture, and Scriptural texts.

Required

Dei Verbum
 Pope Leo XIII, *Providentissimus Deus, Encyclical on the Study of the Holy Scripture*

Additional Selections From:

Hahn, Scott, *Understanding the Scriptures*
 Cavins, Jeff, *The Great Adventure: A Journey Through the Bible*

Religion III, Moral Theology / Liturgy & Sacraments

This class focuses on moral theology and the Sacraments and through each encounter the theology of Thomas. The Church's moral system and its sacramental system borrow heavily from the language and systematization of Aquinas. This is a natural way to teach the Thomistic method, via specific topics, but without staying limited to Aquinas. For both moral theology and sacraments the teacher can begin with the basic premises of the Summa and then move into other texts, including Church teaching, particularly in the Catechism, and rudimentary principles of ecclesiology.

Required

Thomas Aquinas, *Summa Theologiae* (excerpts)

Additional Selections From:

Kreeft, Peter, *The Summa of the Summa* (elements of Thomist theology)
Gray, Tim, *Sacraments in Scripture*
Our Moral Life in Christ, Midwest Theological Forum
Sheed, F. J. *Theology for Beginners*

Religion IV, The Church in the Modern World

This course explores the history of the Church from the late 19th century to the present day, focusing on important writings of Popes, ecumenical councils, and theologians of this time. By studying these texts in depth, we will come to understand more fully the role of the Church in the modern world.

Required

Vatican I, *Dei Filius*, 1870
Pope Leo XIII, *Rerum novarum*, 1891
Pope Pius X, *Pascendi dominici gregis*, 1907
Vatican II, *Lumen Gentium*, 1964, or *Gaudium et Spes*, 1965
Pope Paul VI, *Humanae Vitae*, 1968
Pope John Paul II, *Veritatis Splendor*, 1993

Additional Selections From:

Arthur Hippler, *Citizens of the Heavenly City* (excerpts)
Audi and Wolterstorff, *Religion in the Public Square* (excerpts)
Code of Canon Law [selections]
Pope Benedict XVI, *Deus Caritas Est*, 2005
John Paul II, *Centessimus Annus*
John Paul II, *Magnum Matrimonii Sacramentum*
John Paul II, *Mulieris Dignitatem*
John Paul II, "Letter to Women"
John Paul II, *Ex corde ecclesiae*
John Paul II, *Christifideles Laici*
Gregory XVI, *Mirare vos*
Pius IX, *Syllabus of Errors*

Collections of Joseph Ratzinger Material (excerpts)
- *Introduction to Christianity*
- *Truth and Tolerance*
- *Spirit of the Liturgy*
- *Called to Communion*
- *The Ratzinger Report*
- *Christianity and the Crisis of Cultures*

Science

The St. Ambrose Science program helps students understand and marvel at the natural world while preparing for college and life in a technologically and scientifically advanced culture. The Academy's science courses help students appreciate the scientific method and learn what a scientist means in making a claim about the nature of the world. Guided by the Catechism's assertion that "there can never be any real discrepancy between faith and reason" (#159), our courses seek to resolve any apparent conflict between science and Catholic teaching. Throughout their study of science, students study writings that put science in the context of faith.

Teachers may provide additional instruction to help students prepare for the AP and other advanced science exams.

Biology

The course treats the study of life, ecology, life of the cell, genetics, the history of life, and an overview of the classification of life ranging from viruses and bacteria to the human body.

Glencoe, *Biology*

International Theological Commission, "Communion and Stewardship: Human Persons Created in the Image of God," 2004, 62-70 (Church teaching on faith and science)

The topic of human reproduction is covered in the Glencoe textbook. Catholic schools come to different conclusions on how to teach human sexuality when considering documents such as the one published in 1995 by the Pontifical Council on the Family, *The Truth and Meaning of Human Sexuality: Guidelines for Education within the Family*. St. Ambrose Academy was privileged to meet with Bishop Robert Morlino to discuss how we can best serve the local Church in approaching this topic. Our conclusions follow.

At St. Ambrose Academy, Senior High Biology covers human reproduction. We assert that it is important for students to know who they are and how they were made in the lovingly providential design of their Creator. God has ordered the human body to work in a

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particular way, and by learning as much as they can about exactly how the body works, students are given insight into the Creator. Moreover, knowledge about embryonic and fetal development is important when engaging in dialogue with the culture, particularly in reference to life issues such as abortion, contraception, embryonic stem-cell research, in-vitro fertilization, and cloning.

Biology class must teach that:

- The fertilized egg is a unique individual of the human species with a unique genetic map
- There is no difference between an “individual of the human species” and a “human being”
- Whatever dignity is ascribed to the human being is therefore necessarily ascribed to the fertilized egg, regardless of age.

The biology teacher aids in providing an integral education by noting important questions raised but unanswered by scientific reasoning so that these questions can be addressed in religion and philosophy class (for example, on the nature of human dignity, the nature of marriage, etc.). References to the other disciplines encourages a humble view of science and what it really can answer. It is critical that students believe in the existence and accessibility of truth.

Chemistry

The course studies atomic structure and the properties of atoms, molecules, and matter during physical change and chemical interactions; forces within atoms, molecules, and matter; the exchange of energy involved in physical changes and chemical interactions; how substances interact with one another to produce new substances; patterns in chemical and physical properties; chemical reactions; and laboratory skills including writing formal lab reports.

Glencoe, *Chemistry, Concepts and Applications*

Physics

The course studies motion, forces, gravitation, momentum and its conservation, energy, work, and simple machines, energy and its conservation, thermal energy, states of matter, vibrations and waves, sound, fundamentals of light, reflection and mirrors, refractions and lenses, interference and diffraction, static electricity, electric fields, current electricity, series and parallel circuits, magnetic fields, electromagnetic induction, electromagnetism, quantum theory, the atom, solid-state electronics, and nuclear physics.

Glencoe, *Physics*

Barr, Stephen, “Retelling the Story of Science,” summary lecture of *Modern Physics and Ancient Faith*

Advanced Chemistry

Topics for fourth-year senior high science students will be determined based on teacher availability. In the past, advanced chemistry has been offered to help students prepare for national exams in this area.

Kotz & Treichel, *Chemistry and Chemical Reactivity* ISBN 0-03-033604X

Electives

Art

Art studies include historical and modern works of art, medium technique study, basic anatomy, 3-dimensional study, and cultural art. Influencing each of these areas of study is the beautiful “Letter to Artists” of Pope John Paul II.

Band / Orchestra

These elective courses include individual instrument lessons, group lessons, end-of-semester performances, and other opportunities for playing publicly. Students in these programs also prepare for Solo/Ensemble competitions. These courses are offered depending on student interest.

Music and Drama

This elective course focuses on choral, solo, and ensemble singing and dramatic performance. Past performances include:

Theatrical Pot-Pourri
Fiddler on the Roof

Into the Woods, Junior Edition
Wilde, *Importance of Being Earnest*

Physical Education

The “good, true and beautiful” can be learned through physical exercise and sport as well as in the academic courses. Physical education classes are held once a week at local facilities, such as the Bishop O’Connor Center gym, pool, and playing fields, the Keva Sports Center, SwimWest, Harbor Athletic Club, and Capitol Ice Arena.

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