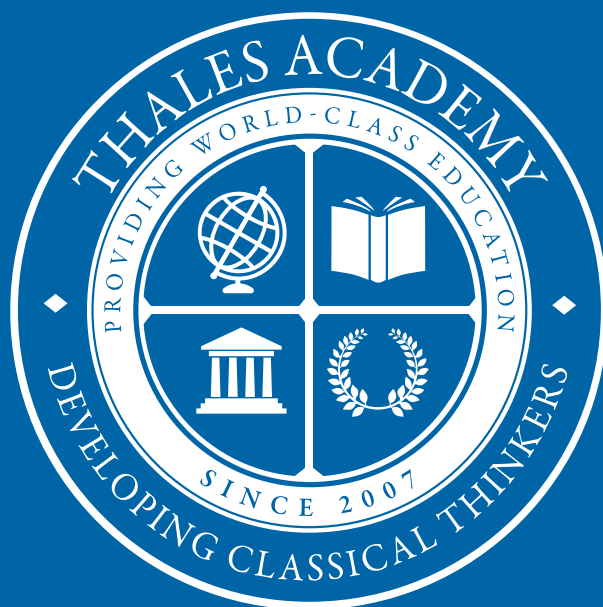


2025-2026



COURSE CATALOG

JUNIOR HIGH & HIGH SCHOOL

THALES FIRST PRINCIPLES

The mission of Thales (THAY-LEEZ) Academy is to provide the highest-quality education, offer the most affordable tuition, and cultivate students of excellence through the pursuit of truth and beauty, order and goodness.

This philosophical foundation gives rise to four different course strands that permeate the curriculum of Thales Academy in general and our history curriculum in particular.

- **Natural Order:** Teach students to recognize beauty in the order of the universe and the basic principles that govern it, both in the natural realm and the human realm.
- **Human Dignity:** Teach students to preserve the dignity and uniqueness of every individual in alignment with the imago dei and the attendant concept of natural law.
- **Moral Philosophy:** Educate students to cultivate practical wisdom (prudence) and the ability to make moral decisions in the Judeo-Christian and Aristotelian tradition.
- **Our Intellectual Inheritance:** Recognize that as teachers and students at a classical school, we have received as our inheritance the literary and historical treasures of the Western canon.

Accordingly, we hope that our classes may encourage students to admire this intellectual inheritance and appreciate its literary works, its figures, and its ideas of human dignity, individual rights, and the pursuit of truth, beauty, and goodness.

ACADEMIC POLICIES

CORE CLASSES

All students in grades 6 through 12 take seven classes each day, five of which are core classes. All core classes are year-long courses. In addition, students in 6th–9th grade rotate through a combination of PE, Vocational Arts, and Industrial Arts depending on the grade.

ELECTIVE OPPORTUNITIES

Thales Academy offers a limited number of elective courses in grades 6 through 12. These offerings vary by campus and are dependent upon faculty availability, scheduling, and enrollment. Both yearlong and semester-long courses are available to students.

EARNED CREDITS

A “credit” is given for the successful completion of a course. To receive a credit, the following criteria must be met:

- An A, B, C, or D earned as the final average grade in the course
- A minimum of 130 hours of instructional time per credit earned

GRADING SCALE

Students are evaluated on personal/social growth, work habits, and material outlined in the Thales Academy Classical Curriculum. Progress is evaluated on the following scale:

- A: 100–90
- B: 89–80
- C: 79–70
- D: 69–60
- F: 59–0

GPA SCALE

This scale was updated to reflect a more fair and equitable measurement of our Standard, Honors, and Advanced Placement courses offered in grades 9 through 12. They reflect the unique educational opportunities offered at a Classical school in general and at Thales Academy in particular, which places more emphasis on critical thinking and engagement with primary texts. GPAs are calculated by dividing the final course grade by the total number of quality points earned. This result is rounded to two decimal places.

NUMERICAL AVERAGE	LETTER GRADE	STANDARD WEIGHTING	HONORS & AP WEIGHTING	NUMERICAL AVERAGE	LETTER GRADE	STANDARD WEIGHTING	HONORS & AP WEIGHTING
100	A	4.55	5.55	79	C	2.90	3.90
99	A	4.50	5.50	78	C	2.80	3.80
98	A	4.45	5.45	77	C	2.70	3.70
97	A	4.40	5.40	76	C	2.60	3.60
96	A	4.35	5.35	75	C	2.50	3.50
95	A	4.30	5.30	74	C	2.40	3.40
94	A	4.25	5.25	73	C	2.30	3.30
93	A	4.20	5.20	72	C	2.20	3.20
92	A	4.15	5.15	71	C	2.10	3.10
91	A	4.10	5.10	70	C	2.00	3.00
90	A	4.00	5.00	69	D	1.90	2.90
89	B	3.90	4.90	68	D	1.80	2.80
88	B	3.80	4.80	67	D	1.70	2.70
87	B	3.70	4.70	66	D	1.60	2.60
86	B	3.60	4.60	65	D	1.50	2.50
85	B	3.50	4.50	64	D	1.40	2.40
84	B	3.40	4.40	63	D	1.30	2.30
83	B	3.30	4.30	62	D	1.20	2.20
82	B	3.20	4.20	61	D	1.10	2.10
81	B	3.10	4.10	60	D	1.00	2.00
80	B	3.00	4.00	59–0	F	0.00	0.00

CONCURRENT ENROLLMENT FOR HIGH SCHOOL COURSES

Concurrent enrollment is a program whereby a Thales Academy (TA) high school student can earn college credit simply by taking the classes that Thales already teaches. Enrollment does require a fee in order to participate as well as generate the college transcript. The fee for the program represents a significant savings per college credit hour when compared to college tuition.

Details will be shared each year with families during our course enrollment season. If you have any questions about the program, please contact your campus Head of School and/or college advisor.

ADVANCED PLACEMENT CREDIT (AP)

Thales Academy offers a limited number of advanced placement courses for high school students. These offerings are dependent upon faculty availability, scheduling and enrollment. AP classes are provided in a few disciplines that do not qualify for concurrent enrollment in particular Physics, Calculus, Latin and Spanish. Offerings will vary by campus based on the enrollment and interest of the course. The current AP teacher must recommend students who fulfill certain prerequisites before enrolling in a Thales Academy AP course. Therefore, students who are interested in taking an AP course are encouraged to discuss the possibility with current AP faculty members. All AP students must complete the AP exam for their respective courses. AP courses have the same GPA weight as Honors courses.

HONORS CREDIT

Thales Academy offers Honors options for many of the courses available in grades 9 through 12. These offerings depend on faculty availability, scheduling, and enrollment. These rigorous and demanding courses challenge students to complete robust coursework. Admission to Honors level courses is earned through teacher recommendation. Students who satisfactorily complete an Honors level course will receive 1.0 additional quality points to their standard GPA. The requirements for honors classes appear on page 5-6 of the course catalog.

HONORS AND AP RECOMMENDATION PROCESS

Teacher recommendations are required for students to enroll in an advanced-level course. Students seeking enrollment in an Honors or Advanced Placement must meet the following criteria in order to receive a recommendation for the course. Students will not be permitted to enroll in an Honors or Advanced Placement course without a teacher recommendation.

AP/HONORS CONSIDERATIONS

AP/Honors considerations will be based on a student's ability to do the following:

- Demonstrate consistent work completion and submission that reflects his or her own words, thoughts, and skills, as well as a high level of personal effort that results in proficiency in content knowledge
- Regularly participate in class activities and seek meaningful interactions with peers
- Consistently display behavior which demonstrates a desire to work collaboratively and to support a productive learning environment
- Submit assignments on or before the due date

- Independently read and analyze texts within that subject area
- Maintain an overall course average of 90% or above for quarters 1-3.

Honors Credit for math will only be applied for students working above grade level in their math coursework during high school. Above grade level math courses will be offered based on the determination of campus administration as they consider availability within the campus schedule and student needs.

All recommendations will be reviewed again by teachers at the conclusion of the school year. Students recommended for AP/Honors courses are expected to maintain their performance in order to maintain their recommendation.

GRADUATION REQUIREMENTS

In order to qualify as a candidate for graduation, seniors must earn 28 credits, as allocated by department listed below, by earning a passing final grade (60% or higher) in all courses taken within that department throughout their high school enrollment. In addition, all seniors must research, write and defend an original senior thesis prior to graduation:

- History (4 credits)
- Literature (4 credits)
- Foreign Language (4 credits of Spanish or Latin). Students may substitute foreign language courses with Dual Enrollment courses in their junior and senior years. The sum of all Foreign Language and Dual Enrollment credits earned during high school must total 4.
- Mathematics (Four high school years of mathematics coursework with a minimum requirement of Algebra I, Geometry, Algebra II, and Pre-Calculus)
- Science (4 credits)
- Humane Letters (3 credits)
- Physical Education, Industrial Arts, and Vocational Arts (1 credit)
- Electives (4 credits, student's choice)

In order to satisfactorily pass Senior Thesis, all seniors must research, write, and defend an original senior thesis prior to graduation.

THALES LEADING CITIZENS- HEALTHY MINDS, SPIRITS, AND PHYSICAL WELLNESS GRADUATION REQUIREMENT

Thomas More, 16th century Chancellor of England, and later Martyr, encouraged and emphasized the importance of leading citizens. These individuals are:

- Classically educated in literature, philosophy, history, mathematics, science, virtue, and rhetoric.
- Servant leaders to their families, communities, and businesses.

At Thales Academy, we desire that our students will be transformed by the renewing of their minds while taking excellent care of themselves as individuals. To accomplish this noble end, we submit the following as the goals of our educational practices to teach our students how to cultivate and maintain a healthy mind, body, and spirit.

Students enrolled in LIT are only required to take two years of a foreign language.

As we cultivate students to become excellent people in the pursuit of truth, beauty, and goodness, we find it necessary to help them develop appropriate habits. These habits are ultimately the habits of moral excellence more commonly known as virtue, which 'super habits' shape how you think, choose, and interact with the world around you, forming your character and influencing your whole life. This program encourages habits of physical health, personal responsibility, and service to others, each of which is an essential element of human flourishing.

Physical Health

- Participate in daily physical activity across grades K-9. Elective offerings are available for upperclassmen. Students will be required to engage in physical activity regularly throughout the school day by participating in required classes.
- PE classes offered on a semester basis in upper grade levels will focus on strength training, including activities like weight training, walking, aerobics, VO2 max approach to aerobic exercise.
- Practice the art of making healthy choices and filling our bodies with healthy foods. Understand how to make and plan nutritious meals. This includes creating and maintaining organic gardens.
- Understand the importance of quality sleep and how to cultivate better sleep habits in your daily life.
- Understand how the immune system functions and the ways to foster a healthy immune system.

Financial Health

- Throughout high school, students should develop skills to sustain a financially responsible lifestyle. They will get instruction in marketing, economics, and personal finance.
- Starting in freshman year, they will map out post-graduation plans to include analyzing different career paths that align with their personal goals.
- Students will understand the importance of budgeting, saving and investing, debt management, and financial stress reduction.

Mental Health

- Understand the value of making small, consistent choices compound over time, reshaping how we respond to stress, temptation, relationships, and goals.
- Promoting an environment where students have mental clarity and focus.
- Manageable workload to promote hobbies and healthy activities outside of school.

Service & Stewardship

- High school students will participate in a minimum of 5 hours of service on a project that promotes health or wellness in the community.
- Examples of activities include: volunteering at a local food pantry, coaching or mentoring a youth sports team, organizing a fitness or awareness event, assisting with school wellness initiatives
- These projects will be submitted as a project during their required freshman PE course.

Environmental Health

- All of our schools will create a learning environment free from distractions. No cell phones are allowed. Students are encouraged and taught to make valuable friendships with the people around them.
- All facilities must have fresh filtered (MERV 13) outside air to keep CO 2 levels below 800 PPM. Thales Academy facilities team will ensure this is maintained across all campuses.
- Campus life will illustrate order and beauty throughout all aspects of the day.
- These objectives will be met after students take their required courses listed below as part of their high school career.

Physical Education: Students in grades 6-9 will take a required PE class to improve physical fitness and overall health during the school day.

Vocational Arts: Students in grades 6-9 will take required courses to learn practical skills and trades to prepare them for a variety of careers. These courses include nutrition and culinary arts, sewing and textiles, and CPR and First Aid. Nutrition unit will be based off of The Whole Foods Diet by John Mackey.

Industrial Arts: Students in grades 6-9 will take required courses to teach practical engineering design processes and teach them to handle the tools and materials necessary to solve problems and create finished products.

Post-Graduation Planning: Starting in their ninth grade year, students will map their long term career goals and research post-graduation plans. They will explore a variety of career paths and opportunities so they can make an informed decision by their senior year about what they want to pursue after graduation.

By the end of their junior year, students will be prepared to begin applying for schools and post-graduate programs. Within these lessons, students will understand the cost of college, the importance of debt management, and how to manage their finances to pay for their future plans.

Thales Academy hopes to promote a feeling of community, citizenship, meaningful civic engagement, alongside a passion for lifelong learning, through this requirement.

BOARD OF VALEDICTORIANS SELECTION CRITERIA

Thales Academy will recognize the top 2% of students in each senior class as members of the Board of Valedictorians for their exemplary academic standing. The election of members to the Valedictorian Board is to be based primarily on cumulative weighted GPA calculated at the end of 3rd quarter of senior year. The calculation includes grades earned in years 9–11 and tracks 1–3 of senior year in *core Thales Academy classes only*.

Please note that all official transcripts will include a student's calculated GPA and class rank earned from *all classes* studied in high school. Therefore, for this and other reasons, the class rank and Board of Valedictorians may differ. The following list of specific criteria will determine the Board of Valedictorians:

- To be eligible, students will have attended Thales Academies all 4 years of high school.
- Cumulative weighted GPA will be calculated at the end of 3rd quarter of the senior year, but will only include grades earned in Thales Core Curricular classes of Foreign Language, History, Humane Letters, Literature, Science, and Math and using the Thales Academy GPA scale with equal Honors and AP weighting.

- Students will be ineligible if they have any documented instances of academic dishonesty during their high school tenure.
- Selection will be made early in the 4th quarter by administration.

PSAT

The PSAT is given at Thales Academy in mid-October each academic year. The Preliminary SAT/National Merit Scholarship Qualifying Test (PSAT/NMSQT) is a standardized test that provides firsthand practice of the SAT and measures a student's skills in reading, writing, language, and mathematics. The PSAT/NMSQT is an important first step toward college admission. Test results and their accompanying analysis are valuable tools that can help prepare students for the SAT and other educational opportunities beyond high school.

CLASSIC LEARNING TEST

The Classic Learning Test (CLT) will be administered to all students in grades 6–11. The CLT is a standardized assessment that measures a student's ability to reason. This assessment provides insights to colleges and universities to demonstrate the rigor of our classical curriculum.

MIDTERMS & FINAL EXAMS

Midterms will be given to all students in grades 9 through 12 at the end of the fall semester, and final exams will be given to high school students at the end of the spring semester. All exams count as two test grades in their respective course area. AP Exams are counted as final exams for any class but will not be factored into the final average. Some courses require exams tied to performances, long-term projects, and other non-traditional exam types. Any senior who has maintained an A average in each quarter in a course will be exempt from his or her final exam.

CONSEQUENCE FOR FAILING A COURSE

Thales Academy requires each student to have a passing grade in all courses of study if that student is to be promoted from one grade to the next. Thales Academy does not provide summer school opportunities to recover credit. Therefore, students who fail to complete a course will be asked to repeat the grade level.

SENIOR THESIS PROJECT

To graduate from Thales Academy, all seniors will write a cumulative paper of 10–20 pages in length (excluding addenda, bibliography, and endnotes). This cumulative paper is intended to provide space for the Thales Academy graduate to demonstrate his or her understanding of the Top 15 Outcomes, the Western Tradition, and the skills of scholarship attained through his or her education at Thales Academy.

DUAL ENROLLMENT WITH WAKE TECH**GRADES 9–12**

Students who are interested in Dual Enrollment at Wake Tech are entering the College and Career Preparation program (CCP). The CCP is made up of two Pathways: the Career and Technical Education Pathway (CTE) and the College Transfer Pathway (CTP). Students may only be enrolled in one pathway, and may only take courses that align with their chosen pathway.

- The **CTE** leads to trade certification and requires students to take a specified sequence of courses; students can enter the CTE Pathway in grades 9–12.
- The **CTP** is oriented towards students completing an associate's degree and transferring their courses into any school in the UNC system; this program requires students to take a certain number of hours from groups of courses (humanities, science, math, etc). Students can enter the CTP in grades 11–12.

Enrollment requirements for both programs include the student's GPA, the Head of School's recommendation, a written memo where the student attests to his or her maturity to take these courses, and PSAT scores. Courses are offered in online, hybrid, and in person; students can select their preferred format during registration.

Registration is relatively straightforward: Students will go to the website listed below, click "Step 4 - Complete CCP Application." From there, students will be guided through submitting their transcript, test scores, and other support documents. Students will need to work with their campus's College Advisor to coordinate uploading transcripts.

These courses are tuition-free to all North Carolina residents; as part of their application, students will need to show proof of residency. Parents, be aware that student records at Wake Tech are governed by FERPA, so students will need to grant parents and campus Head of School's permission to see grades and other student records (step 7 in the application process).

[Wake Tech CCP Information Page](#)

[Wake Tech Online Information Session](#)

[Wake Tech CCP Registration Page](#)

[Career and Technical Education Pathway](#)

[College Transfer Pathway](#)

CREDITS EARNED FOR DUAL ENROLLMENT

If a student is taking a dual enrollment course to meet a graduation requirement for Thales Academy, the title, credit earned, and final grade for the course will be listed on his or her transcript. Dual enrollment courses that are not fulfilling a graduation requirement for Thales Academy will not be placed on the high school transcript. A grading deadline will be provided at the beginning of the school year to the student so he or she can submit the final grade to administration and the approved class can be included on the student's transcript and meet the necessary promotion requirements for the grade level. Students will be asked to submit evidence of completion of the course before the course can be included on the transcript. Administration will share the deadline for course completion with each student at the start of the school year. If you have any questions about the dual enrollment process, please contact the College Advisor or campus Head of School.

COURSE DESCRIPTIONS

JUNIOR HIGH COURSE OF STUDY

SUBJECT	6TH GRADE	7TH GRADE	8TH GRADE
History	Ancient & Classical History	Western Civilization	American History & Government
Literature	Classical Literature and Composition	Western Literature and Composition	American Literature and Rhetoric
Mathematics	Course I Course II Pre-Algebra	Course II Pre-Algebra Algebra I	Pre-Algebra Algebra I Geometry
Science	Earth Science	Life Science	Physical Science
Latin	Introduction to Latin and Grammar	Latin and Grammar 1A	Latin and Grammar 1B
PE & Vocational Track	PE, Vocational Arts, & Industrial Arts 6	PE, Vocational Arts, & Industrial Arts 7	PE, Vocational Arts, & Industrial Arts 8
General Elective(s)	Band or Fine Arts Rotation	Student Choice	Student Choice

HIGH SCHOOL COURSE OF STUDY

SUBJECT	9TH GRADE	10TH GRADE	11TH GRADE	12TH GRADE
History	The Near East & the Greek World	Rome & the Medieval World	Western Civilization	American History & Government
Literature	Ancient Literature & Writing	Literature of Rome & the Medieval World	Western Literature	American Literature
Mathematics	Algebra I Geometry Algebra II	Geometry Algebra II Pre-Calculus	Algebra II Pre-Calculus AP Calculus AB	Pre-Calculus AP Calculus AB AP Calculus BC Statistics
Science	Earth Science	Biology	Chemistry	Physics or AP Physics
Humane Letters		Humane Letters: Logic & Writing	Humane Letters: Civics & Philosophy	Humane Letters: The Senior Thesis
Foreign Language	Latin II or Spanish I	Latin III or Spanish II	Latin IV or Spanish III	AP Latin or Spanish IV
PE & Vocational Track	PE, Industrial Arts, & Vocational Arts 9			
Luddy Institute of Technology	Fundamentals of Engineering Design	Principles of Engineering	Engineering Applications	Engineering Design Project
General Elective(s)	Student Choice	Student Choice	Student Choice	Student Choice

Thales Academy high school students have the opportunity to enroll in Thales College dual enrollment courses. Courses can be taken by seniors that are not pursuing a fourth year of a foreign language. Courses taken at Thales College will only count for elective credit and will not replace the core curriculum of Thales Academy high school. These courses are free of charge with transferable college credit offered to high school upperclassmen but students must pay a \$195 course enrollment fee and a \$15 transcript processing and handling fee to obtain a course transcript transferable to other colleges.

HISTORY

ANCIENT & CLASSICAL HISTORY

This course traces the history of Ancient Mesopotamia, Egypt, Greece, and Rome. The course begins with the world's first civilizations in Mesopotamia circa 4,000 BC to the fall of the Roman Empire in AD 476. This course will provide an in-depth look at the great historical figures and average people who helped shape and define these eras. The topics covered in Ancient and Classical History will include the first farmers; the first forms of writing; the first civilizations in Egypt and Sumer; and the histories of the ancient Israelites, the Medes, the Persians, the Greeks, and, at the end of the year, the Romans.

6TH GRADE

WESTERN CIVILIZATION

This course details the history of Europe from the fall of the Roman Empire to the breakup of the Soviet Union. The topics covered in Western Civilization include the end of the ancient world to the twentieth century and the fall of the Soviet Union. This course will also assess the impact of these events and other aspects of European history on today's world.

7TH GRADE

AMERICAN HISTORY & GOVERNMENT

This course contextualizes American culture as part of Western Civilization. This survey course will begin with the Colonial period and the founding of the nation and will extend into the present day. American History & Government provides an in-depth look at the United States Constitution and the Bill of Rights. Students will further examine the historical beginnings of our governmental framework and analyze the intentions of our Founding Fathers.

8TH GRADE

THE NEAR EAST & THE GREEK WORLD

This course details the history of the ancient Near East, Egypt, India, China, and Greece, from the rise of the world's first civilizations in Mesopotamia to the conquest of the known world by Alexander the Great in 323 BC. This course will trace the developments needed for complex civilizations to arise, including the immense agricultural productivity of riverine civilizations; the development of writing systems; the growth of commerce and industry; and the great historical figures that helped to shape and define these eras.

9TH GRADE

*1.0 Credit; Honors
Available*

ROME & THE MEDIEVAL WORLD

This course traces the expansive history from the classical world through the transition into the medieval world, focusing on the civilizations of Rome and the Germanic peoples of northern Europe. This course will examine the founding of the Roman Republic and Rome's

10TH GRADE

*1.0 Credit; Honors
Available*

expansion as an empire across the Mediterranean world and the political, commercial, cultural, and religious innovations in and surrounding these civilizations. The topics covered in this course include the end of the ancient world and the beginnings of Christianity to the beginning of the Renaissance.

WESTERN CIVILIZATION

This course details the history of Europe from the Renaissance to the 21st century. Through the year, this course will examine the political, economic, social, and cultural development across the European continent, with particular emphasis given to the reading and analysis of primary source documents relevant to the time period.

11TH GRADE

1.0 Credit; Honors Available

AMERICAN HISTORY & GOVERNMENT

This course contextualizes American culture in Western civilization. American History & Government provides an in-depth look at the United States Constitution and the Bill of Rights. Students will further examine the historical beginnings of our governmental framework and analyze the intentions of our Founding Fathers including their understandings of freedom, liberty, private property, and limited government.

12TH GRADE

1.0 Credit; Honors Available

LITERATURE

CLASSICAL LITERATURE & COMPOSITION

This course focuses on primary sources from the ancient world. This course examines creation stories, Greco-Roman mythology and history, Norse mythology, Aesop's fables, and the Old and New Testaments. As this course examines the strengths and weaknesses of great heroes long since past, it will provide students with the intellectual toolbox needed to resolve the great dilemmas they'll encounter in life. A preliminary study of the writing process will also begin in this course, preparing students for the rigors of middle school writing. Such skills include crafting thesis statements, constructing meaningful introductions and conclusions, incorporating evidence into body paragraphs, and improving the quality of their vocabulary.

6TH GRADE

WESTERN LITERATURE & COMPOSITION

In this course, students engage with the literature from the medieval and Renaissance periods of Western civilization, aligning with course material from their Western Civilization history classes. Material studied includes primary sources as well as secondary sources by C.S. Lewis and Roger Lancelyn Green, who wrote adaptations of well-known medieval and Renaissance works in the 20th century. Students will continue improving their writing as they focus on crafting strong thesis statements, improving the structure of their sentences, incorporating proper research citations.

7TH GRADE

AMERICAN LITERATURE & COMPOSITION

This course focuses on 19th and 20th century American literature, including American poetry, short stories, novels, biographies, and drama. Readings cover a wide range of eras, genres, settings, and themes, to allow for an understanding of the American classic. Throughout these readings, students will continue to work on their writing and rhetoric skills through a survey of classical rhetoric and American speeches.

8TH GRADE**ANCIENT LITERATURE & WRITING**

This course examines the works of ancient literature of the Near East and the Greek World, with a particular focus on the authors and the historical context of those works. The class integrates grammar lessons and practice exercises, writing lessons, and classroom presentations to provide students ample opportunities to write and create meaningful works of academic writing, speeches, and creative works. Students will read great works of literature and imitate the masters to compose essays and poems that advance ideas worth writing about." That way, students can read these works and imitate the masters in terms of composing an essay or a poem that advances an idea worth writing about.

9TH GRADE*1.0 Credit; Honors Available***LITERATURE OF ROME & THE MEDIEVAL WORLD**

This course focuses on classical and medieval literature of the Western tradition, beginning with the Golden Age of Rome and ending with the poetry of the Renaissance. As students read through epic poems like Virgil's *Aeneid* or Dante's *Comedy*, students will explore themes such as heroism, loyalty, sacrifice, forgiveness, piety, and love, enabling them to make sense of life's challenges and see the influence of poets and dramatists on the course of history.

10TH GRADE*1.0 Credit; Honors Available***WESTERN LITERATURE**

This course begins with the plays of William Shakespeare and traces the development of the Western canon into the 20th century. The course will investigate the major movements of Western literature, such as Elizabethan drama, Romanticism, and the Modernist movement, while noting the range of themes, characterizations, and literary genres of the Western canon.

11TH GRADE*1.0 Credit; Honors Available***AMERICAN LITERATURE**

This course seeks to introduce students to exemplary works of great American authors, poets, thinkers, and essayists. Students will explore great works from unique American voices that capture the American spirit and personality. Voices from periods of American history ranging from the colonial period through the modern age will be examined in pursuit of defining the American dream.

12TH GRADE*1.0 Credit; Honors Available*

MATHEMATICS

SAXON COURSE 1

This course requires students to work primarily with numerical expressions, including decimals, order of operations, LCM, GCF, reciprocals, factors, fractions, exponents, and ratio problems. Later in the course, algebraic expressions, equations, and inequalities are covered, along with aspects of geometry, including polygons, circles, area, and volume.

6TH GRADE

SAXON COURSE 2

Saxon Course 2 introduces students to topics such as exponents, probability, ratios and proportions, surface area and volume, multi-step equations, linear equations, sequences, inequalities, polynomials, and data analysis. Skills and concepts are built through critical thinking, to help students become more proficient and more confident problem solvers.

6TH–7TH GRADE

SAXON COURSE 3/PRE-ALGEBRA

Building on skills developed in Saxon Course 2, Course 3/Pre-Algebra guides students in solving algebraic equations and inequalities, graphing linear equations, and proportional reasoning. Additional topics of study include building on geometric concepts, a continuation of probability and data analysis, and continuing to explore concepts with fractions, decimals, and percents.

6TH–8TH GRADE

ALGEBRA I

This course covers the fundamentals of algebra and builds the algebraic foundation essential for solving increasingly complex problems. This course teaches higher-order thinking skills with real-world applications so that students master difficult connections through verbal and numeric representations. High school credit will be given starting in ninth grade. All students taking the course will be required to take the midterm and final exam.

7TH–9TH GRADE

1.0 Credit; Honors Available

GEOMETRY

In Geometry, there is an increased focus on students' visualization and problem-solving skills in the application of geometric ideas. After a review of geometric formulas, students will move on to studying proofs, triangle congruence, quadrilaterals, arcs and sectors, constructions, and circles. Students will be introduced to trigonometric ratios, transformations, and symmetry as well. High school credit will be given starting in ninth grade. All students taking Geometry will be required to take the mid-term and final exam.

8TH–10TH GRADE

1.0 Credit; Honors Available

ALGEBRA II

This course provides a review and extension of the concepts taught in Algebra I. Topics covered will include operations with real numbers, systems of linear equations and inequalities, factoring, algebraic fractions and fractional equations, quadratic functions and conic sections, exponential functions, complex numbers, and logarithms.

9TH–11TH GRADE

1.0 Credit; Honors Available

PRE-CALCULUS

This course continues to build upon a student's study of algebraic expressions, equations and inequalities. Pre-Calculus includes a study in linear, quadratic, and polynomial functions; rational functions; exponential modeling; logarithmic functions; trigonometric functions and their graphs; the Unit Circle; trigonometric identities; vectors; sequences and series; conics; and parametric and polar equations.

10TH–12TH GRADE

1.0 Credit; Honors Available

AP CALCULUS AB

This course explores the key concepts, methods, and applications of single-variable calculus including functions, graphs, limits, derivatives, integrals, and the Fundamental Theorem of Calculus. Students will become familiar with concepts, results, and problems expressed in multiple ways including graphically, numerically, analytically, and verbally. Technology will be used to help solve problems, experiment, interpret results, and support conclusions. Students will have the opportunity to earn AP credit for college at the completion of this course.

11TH–12TH GRADE

1.0 Credit

AP CALCULUS BC

This course details the key concepts, methods, and applications of single-variable calculus including all topics covered in AP Calculus AB (functions, graphs, limits, derivatives, integrals, and the Fundamental Theorem of Calculus) as well as additional topics in differential and integral calculus, such as parametric, polar and vector functions, and series. Students will become familiar with concepts, results, and problems expressed in multiple ways, including graphically, numerically, analytically, and verbally. Students will have the opportunity to earn AP credit for college at the completion of this course.

12TH GRADE

1.0 Credit

STATISTICS

This course for seniors will introduce students to theoretical and practical applications of statistics. In the first section of the course, students will focus on establishing patterns in data as well as the different ways data models vary from standard models. Students will also use probability and simulation to describe real-world mathematical scenarios, explore the simulations using both calculators and other tools, and use statistical modeling to test a hypothesis about a real-world problem using the skills they have learned within the course.

11TH–12TH GRADE

1.0 Credit; Honors Available

SCIENCE

EARTH SCIENCE

This course develops an awareness of Earth's systems. Broad topics covered in the course include the earth in the universe, earth systems, structures, and processes. This course will cover earth's systems like the lithosphere, the hydrosphere, the atmosphere, and the biosphere.

6TH GRADE

LIFE SCIENCE

This course is an introductory level course designed to enable students to explore basic biological concepts. Students focus on concepts that are shared by all living things such as cell structure, biochemical make-up, and inheritance. In addition, students examine the diversity of life as they classify the many different species of living organisms into kingdoms and other classification categories.

7TH GRADE

1.0 Credit; Honors
Available

PHYSICAL SCIENCE

8th Grade Physical Science is the study of matter and energy and includes chemistry and physics. This course develops an awareness of the non-living systems of our planet and throughout the universe along with humanity's interactions with those systems. The 8th grade course will provide a rich foundation for the continued study of chemistry and physics in high school.

8TH GRADE**ASTRONOMY & THE EARTH**

This course provides students a more in-depth understanding and awareness of the Earth's systems. This course will cover plate tectonics, rock and mineral formation, Earth's resources, Earth's origin, and cycles that circulate materials through Earth's systems. One of the main goals of this course is to provide the student with the means to understand the principles that govern the planet.

BIOLOGY

This course explores topics on cell biology, ecological relationships, genetics, organismal classification systems, biological molecules, structures and functions of living organisms, disease and living organisms, DNA technology, classification of species, molecular biology, and biochemistry. This class is designed to give students an opportunity to participate in hands-on activities and labs that focus on enhancing learning of basic biology.

10TH GRADE

1.0 Credit; Honors
Available

CHEMISTRY

This course introduces the study of the composition and properties of matter. Students will have problem-solving opportunities throughout the year. Broad topics covered in the course include atomic structure, electron structure, bonding, chemical nomenclature, chemical quantities, chemical reactions, stoichiometry, gas laws, thermochemistry, electrochemistry, solutions, and nuclear chemistry. Laboratory experiments are incorporated throughout the curriculum to enhance and reinforce chemistry concepts, as well as to learn and develop laboratory skills.

11TH GRADE

1.0 Credit; Honors
Available

PHYSICS

This course explores the mathematical and motion oriented study of matter and energy. This course provides an understanding of the scientific method as well as the physical principles and laws that deal with kinematics, mechanics, light, sound, waves, and electromagnetism. Students are provided with various laboratory experiences that are designed to enhance and reinforce the concepts and principles that they will study in this course.

12TH GRADE

1.0 Credit; Honors
Available

AP PHYSICS

AP Physics 1 is an algebra-based, introductory, college-level physics course. Students deepen their understanding of Physics through inquiry-based investigations as they explore topics such as Newtonian mechanics; work, energy, and power; mechanical waves and sound; and introductory, simple circuits. At the completion of the course, students will take the AP Physics 1 exam for an opportunity to earn AP college credit. Students are expected to have taken (or currently taking) Pre-Calculus while taking AP Physics.

12TH GRADE*1.0 Credit***HUMANE LETTERS****HUMANE LETTERS: LOGIC & WRITING**

Humane Letters: Logic and Writing integrates concepts in deductive and inductive logic with the writings of significant authors in the Western canon. These writings provide students the opportunities to analyze noteworthy arguments in philosophy, political theory, and economics, works that have shaped the course of Western civilization. Concepts in logic include categorical propositions, rules of equivalence, the square of opposition, and syllogisms, including the rules to evaluate categorical syllogisms and compound syllogisms.

10TH GRADE*1.0 Credit**Honors Available***HUMANE LETTERS: CIVICS & PHILOSOPHY**

Humane Letters: Civics and Philosophy examines the question, "What does it mean to be a virtuous citizen?" The term virtue refers to the habits of moral excellence, and citizenship to the duties and responsibilities Americans of all ages must exercise if we are to help the American republic to flourish. Students investigate this question through a study of significant texts in the Western tradition beginning with the writings of the Old and New Testament and continuing with the dialogues of Plato, the treatises of Aristotle, and seminal authors in political theory, philosophy, and economics in the modern age. Moreover, students also examine different types of government, the structure of ancient republics and the American republic, and parliamentary procedures.

11TH GRADE*1.0 Credit**Honors Available***HUMANE LETTERS: THE SENIOR THESIS**

This course guides students through the prewriting, writing, revising, and defending stages of the senior thesis. To graduate from Thales Academy, all seniors will write a cumulative paper of 10–20 pages in length (excluding addenda, bibliography, and endnotes). This cumulative paper is intended to provide space for the Thales Academy graduate to demonstrate his or her understanding of the Top 15 Outcomes, the Western Tradition, and the skills of scholarship attained through his or her education at Thales Academy. Students will also be required to present and defend their theses to a board composed of Thales faculty members. Throughout this course, students will also receive assistance in their post-graduation plans.

12TH GRADE*1.0 Credit**Honors Available*

LATIN

INTRODUCTION TO LATIN & GRAMMAR

This course introduces students to classical Latin and Roman civilization. Students will learn the fundamental building blocks of Latin grammar, the rules of Latin pronunciation, and the skills needed to read texts in Latin. Students will also learn about classical civilization, the contributions of Rome to world history and the present day, and Rome's foundational role in Western civilization. In conjunction with their rigorous study of Latin, students will be introduced to foundational grammar concepts including sentence diagramming and the skill of using prefixes, roots, and suffixes to engage with challenging vocabulary.

6TH GRADE

LATIN & GRAMMAR 1A

Building upon Introduction to Latin, Latin 1A will broaden and deepen students' understanding of, and their appreciation for Latin. Students will continue learning the building blocks of Latin grammar, gain new proficiency in speaking Latin, and read texts of greater length and difficulty in Latin. Students will study the Roman world, Rome's foundational role in Western civilization, and Rome's contributions to world history and the modern world.

7TH GRADE

LATIN & GRAMMAR 1B

Building upon Latin 1A, students will gain greater proficiency in the study and appreciation of the Latin language. In Latin 1B, students will learn advanced elements of Latin and gain greater proficiency in Latin texts of varying lengths and difficulty levels. They will also develop an appreciation for classical civilization, the contributions of Rome to world history and the present day, and Rome's role in Western civilization.

8TH GRADE

LATIN II

In this course, students will learn new grammatical and syntactical concepts needed to read Latin texts of greater length and difficulty. They will also reviewing the concepts covered in previous Latin courses to help students gain mastery in reading, speaking, and writing in Latin. Teachers will read appropriate Latin texts so students can study historical accounts of daily life in Rome, cultural themes in ancient Rome, and the stories of notable men and women from both the Roman Republic and the Roman Empire.

9TH GRADE

1.0 Credit; Honors Available

LATIN III

In this course, students learn new grammatical and syntactical concepts needed to read Latin texts of greater length and difficulty. That way, students will gain mastery in reading, speaking, and writing in Latin. Teachers will continue reading appropriate Latin texts so students can study historical accounts of daily life in Rome and the stories of notable men and women from both the Roman Republic and the Roman Empire.

10TH GRADE

1.0 Credit; Honors Available

LATIN IV

This course provides greater proficiency in language study as students master the rigors of Latin pronunciation, grammar, and translation. Students will continue reading texts in the original Latin. Authors include Ovid, Horace, Catullus, Cicero and Caesar.

11TH GRADE

1.0 Credit; Honors Available

LATIN V (HONORS)

This course provides greater proficiency in language study as they master the rigors of Latin pronunciation, grammar, and translation. Students will continue reading texts in the original Latin. Authors will include Virgil and Caesar, among authors.

12TH GRADE

1.0 Credit

AP LATIN

This course focuses on the in-depth study of selections from two of the greatest works in Latin literature: Virgil's *Aeneid* and Caesar's *Gallic War*. At the completion of the course, students have the opportunity to take the AP Latin exam to earn AP college credit.

12TH GRADE

1.0 Credit

SPANISH

SPANISH I

This course introduces the study of the Spanish language and culture of the Spanish-speaking world. By the end of this course, students will have acquired skills in basic communication, vocabulary, and grammar, and will have a beginning knowledge of Hispanic culture. Instruction will gradually change from English to Spanish, and by mid-year students will be expected to understand basic Spanish instructions for assignments and classroom tasks.

9TH GRADE1.0 Credit; Honors
Available**SPANISH II**

This course helps the student understand the Spanish language by integrating the four basic skills of reading, writing, listening, and speaking. The use and immersion of Spanish in the classroom will be the primary goal, and students should expect to use the language as much as possible in class. By the end of this course, students will have deepened their understanding of Spanish II, be able to recognize key vocabulary and sentence structures necessary for meaningful personal communication, and know how to communicate in a variety of tenses.

**9TH OR 10TH
GRADE**1.0 Credit; Honors
Available**SPANISH III**

This course continues the study of spoken and written Spanish. This fast-paced course includes advanced grammar structures and vocabulary, as well as extensive listening, speaking, reading, writing, and cultural activities. Instruction and assessment are almost entirely in Spanish, and students are expected to communicate in Spanish.

**10TH OR 11TH
GRADE**1.0 Credit; Honors
Available**SPANISH IV**

This course further continues the study of spoken and written Spanish, as well as the culture of the Spanish-speaking world and knowledge of Spanish literature. There are also extensive listening, speaking, reading, writing and cultural activities. Instruction and assessments are almost entirely in Spanish and students are expected to communicate in Spanish.

**11TH OR 12TH
GRADE**1.0 Credit; Honors
Available**AP SPANISH LITERATURE**

This course builds on the literary analysis skills learned in Spanish IV while expanding vocabulary and reading a variety of texts in Spanish. This is a year-long course. Students have the opportunity to take the AP Spanish Literature exam to earn AP college credit.

12TH GRADE

1.0 Credit

VOCATIONAL TRACK

PE, LUDDY VOCATIONAL ARTS, AND LUDDY INDUSTRIAL ARTS 6-9

The purpose of these courses is to give every student an introductory education in practical skills for the modern world that can increase material well being. These courses will expose students to the engineering design process and teach them to handle the tools and materials necessary to solve problems and create finished products. Students will be trained to persevere and build confidence that they are problem solvers. These courses will be one quarter in length each and will be required for all students in 6–9th grade.

PE focuses on a variety of activities to improve psychomotor (physical), cognitive (knowledge) and affective (personal/social behavior) abilities. PE will be two quarters in length.

6TH - 9TH GRADE

PERSONAL FITNESS

This course teaches basic concepts of fitness and methods of developing a personal fitness plan. Specifically, students implement fitness concepts and principles to improve cardiorespiratory endurance, muscular strength and endurance, flexibility, and body composition. Students are required to dress out for this course. This is a semester-long elective course..

8TH–12TH GRADE

LUDDY INSTITUTE OF TECHNOLOGY

FUNDAMENTALS OF ENGINEERING DESIGN

In this elective course, students learn the basics of various technological systems and engineering processes in a variety of engineering-related career fields. Students learn traditional drafting techniques as well as the industry-standard CAD software package, SolidWorks. Students will also learn how to create images of their designs and how to produce a portfolio to showcase their creative solutions.

9TH GRADE

1.0 Credit; Honors Available

PRINCIPLES OF ENGINEERING

This elective course explores various technological systems and engineering processes and introduces students to major concepts typically covered in a post-secondary engineering course of study. Topics include mechanisms, energy, statics, materials, and kinematics. Students must take Fundamentals of Engineering Design as a prerequisite.

10TH GRADE

1.0 Credit; Honors Available

ENGINEERING APPLICATIONS

In this elective course, students will study a variety of manufacturing, processing, and design theory related topics. They will also learn about the history of manufacturing, robotics and automation, manufacturing processes, computer modeling, manufacturing equipment, and flexible manufacturing systems. Students utilize CAD (Solidworks) and physical and virtual modeling concepts to construct and test models and collect and report data. Students must take Principles of Engineering as a prerequisite.

11TH GRADE

1.0 Credit; Honors Available

ENGINEERING DESIGN PROJECT

Students must complete the three prior classes of Luddy Institute of Technology prior to enrolling in this elective course. This course provides students the opportunity to practice the concepts and skills they have learned throughout the program. This class prepares students for engineering undergraduate programs at the university level. Students will develop and complete a year-long project involving design, fabrication, and testing of a device or machine.

12TH GRADE

*1.0 Credit; Honors
Available*

FINE ARTS

Elective offerings vary by campus and are dependent upon faculty availability, scheduling, and enrollment. Fine arts include the study of studio art, theatre, and music. Students must take a different elective each semester in order to engage in a variety of Fine Arts classes.

6TH GRADE FINE ARTS ROTATION

6th-grade students will take a required rotation of four fine arts classes over the course of one year. Each section below will last for one quarter and allows every student to be exposed to a full range of music, studio, and performance arts. The class will include the following quarter-long sections: Choral Performance, Studio Art, Musicianship, and Drama. Students enrolled in the year-long band elective will not participate in the fine-arts rotation.

6TH GRADE

Choir

CHORAL PERFORMANCE

This quarter-long required class introduces students to performance through singing. Students practice rhythm and harmony along with introductory sight reading of musical notation. The music of this class will focus on world folk music and traditional American pieces. Concert performances are mandatory.

6TH GRADE**7TH & 8TH GRADE CHOIR**

This semester-long elective class will build upon previous experience in sixth grade but that class is not a prerequisite. This course will incorporate more complex musical pieces. There will be an emphasis on building confidence in vocal performance by reinforcing ear training posture, pronunciation, breathing, tone, and resonance. Musical selections will focus on Medieval, Renaissance, and Western European music. Concert performances are mandatory.

7TH & 8TH GRADE**9TH & 10TH GRADE CHOIR**

This semester-long elective class will build upon previous experience in middle school, but these classes are not a prerequisite. This course will incorporate more complex musical dynamics. Musical selections will include classical, ecclesiastical, and Romantic chorus pieces. Concert performances are mandatory.

9TH & 10TH GRADE
0.5 Credit

11TH & 12TH GRADE CHOIR

This semester-long class will build upon previous experience in middle school, but these classes are not a prerequisite. This class will cover ear training, posture, breathing, tone, and resonance. The class will culminate in a semester performance that includes 3–4 part harmonies. Musical selections will focus on European, modern, and show choir choral pieces. Concert performances are mandatory.

**11TH & 12TH
GRADE** 0.5 Credit

Studio Art

In Studio Art, students study great works of art to find inspiration for projects they complete in class. Lessons focus on developing students' imagination alongside technical skills.

6TH GRADE ART

In 6th grade, students study and replicate works of art from Sumer, Egypt, Greece, and Rome, as well as areas outside the Mediterranean basin. Art projects will include imitating such works including portraits, sculptures in various materials, pottery, mask-making, calligraphy, and watercolors. This is a quarter-long required class.

6TH GRADE

7TH GRADE ART

In 7th grade, students learn about and imitate works of art from the medieval world, the Renaissance, and movements in art history from Baroque to Cubism. Art projects will include imitation of such works including portraits, sculptures in various materials, stained glass, calligraphy, landscapes, and watercolors. This class is a semester-long elective course.

7TH GRADE

8TH GRADE ART

In 8th grade, students learn about and imitate works of art from America's artistic heritage. Art projects include portraits, landscapes, sculptures in various materials, stained glass, calligraphy, and watercolors. This class is a semester-long elective course.

8TH GRADE

9TH GRADE ART

In 9th grade, students learn about and imitate works of art from Sumer, Egypt, India, and Greece, as well as areas outside the Mediterranean basin. Art projects include portraits, sculptures in various materials, mosaics and tessellations, pottery, mask-making, calligraphy, among others. This class is a semester-long elective course.

9TH GRADE 0.5
Credit

10TH GRADE ART

In 10th grade, students learn about and imitate examine works of art from the medieval world and the Renaissance. Art projects include portraits, mosaics, sculptures in various materials, stained glass, calligraphy, landscapes, among others. This class is a semester-long elective course.

10TH GRADE 0.5
Credit

11TH GRADE ART

In 11th grade, students learn about and imitate works of art from the Renaissance and movements in art history from the seventeenth to the twentieth century. Art projects include portraits, mosaics, sculptures in various materials, stained glass, calligraphy, landscapes, among others. This class is a semester-long elective course.

11TH GRADE 0.5
Credit

12TH GRADE ART

In 12th grade, students learn and imitate works of art from America's artistic heritage, and art projects include portraits, landscapes, sculptures with various materials, calligraphy, and watercolors. This class is a semester-long elective course.

12TH GRADE 0.5
Credit

Music**6TH GRADE MUSICIANSHIP**

This quarter-long required class provides 6th-grade students an introduction to music. This course will include musical notation and rhythm patterns, ear training for harmonic intervals, and the appreciation of classical music with its complex structure and exposure to orchestral structure and performance.

6TH GRADE

7TH GRADE MUSICIANSHIP

This one-semester elective class teaches 7th-grade students to play an instrument. Students will learn to understand and play basic scales, practice playing chords, learn strumming styles and patterns, pick out melody lines, play in different keys, increase their ability to read basic sheet music or tablature, and practice ear training to understand harmonies within a key. The class will culminate in a semester performance for ensembles and group demonstrations.

7TH GRADE

6TH GRADE BAND

This is a year-long elective or semester long course, depending on the location. It is open to all interested students in 6th grade. No prior experience playing a band instrument is required, but the course utilizes a strong fundamental approach for a student's selected instrument. Concert performances are mandatory.

6TH GRADE

7TH GRADE BAND

This is a year-long elective or semester long course, depending on the location. This elective course is open to students who have previous music instruction on their instrument or who have completed 6th-grade band. Students will continue learning the fundamentals of music as well as focus on tone production and advanced rhythms. Concert performances are mandatory.

7TH GRADE

ADVANCED BAND

This course is open to all 8th–12th grade students who have successfully completed 6th and 7th grade band or two years of band or private lessons elsewhere. This is a year-long or semester long elective, based on campus. Students continue to develop their knowledge of music theory, begin to analyze and evaluate music, use critical thinking skills to make refinements in their performance, and improve ensemble performance skills through musical expression and technical accuracy. Concert performances are mandatory.

8TH–12TH GRADE**MUSIC HISTORY**

Students will begin Music History with an overview of music theory, the underlying principles that allow students to understand a piece of music. Students listen to musical pieces from the seventeenth century to the twentieth century that showcase these principles. Lessons will focus on developing students' imagination and creativity alongside a deep and abiding appreciation for music in any form and genre. This is a semester-long elective class.

**11TH OR 12TH
GRADE** 0.5 Credit**Theatrical & Oratorical Arts****6TH GRADE THEATRE ARTS**

This course is structured around students preparing to stage a two-act play in the final week of the quarter. This class will improve students' ability to memorize lines, create characters, use contemporary clothing to create costumes, and stage a performance for a parent audience. Through this course, students will walk through the process necessary to develop a production for performance. All theater performances are mandatory.

6TH GRADE**7TH & 8TH GRADE THEATRE ARTS**

This course introduces students to the theatrical arts through performance. Over the course of the semester, students will develop a monologue, work through a series of improvisation exercises, and perform in a play. This course builds upon the skills introduced in 6th grade and prepares students interested in theatrical arts for high school performance. All theater performances are mandatory.

7TH OR 8TH GRADE**DEBATE & RHETORIC**

This course helps students experience Aristotelian rhetoric through the development of public speaking and debate skills. Students will spend a quarter on the formal study of rhetoric and argument through the development and performance of a formal platform speech. To receive an A in this course, students must compete in at least one tournament during the semester this course is taken. This requirement may be waived with administrative approval given extenuating circumstances. This is a semester-long elective course.

**9TH OR 10TH
GRADE** 0.5 Credit**POETRY**

This class is a one-semester survey spanning lyrical poetry from Shakespearean England to the present day. Students will read, discuss, and memorize the best of the western lyric tradition, learning to appreciate the beauty and elegance of the written word by identifying a variety of forms and formal techniques in poetry. This is a semester-long elective course.

**9TH OR 10TH
GRADE** 0.5 Credit

SHAKESPEAREAN DRAMA

This course introduces students to Shakespearean plays through performance. Over the course of the semester, students will develop a monologue, work through a series of improvisation exercises, and perform in a selected Shakespearean play. Students will prepare the play for performance, stage it, and then evaluate their performance. This is a semester-long elective course. All theater performances are mandatory.

**9TH OR 10TH
GRADE** 0.5 Credit

11TH OR 12TH GRADE THEATRE ARTS

This course introduces students to 20th–21st century plays through performance. This is a semester-long elective course. All theater performances are mandatory.

**11TH OR 12TH
GRADE** 0.5 Credit

Science Electives**ADVANCED CHEMISTRY**

Prerequisite: One semester of Chemistry ; Apex HS only

This course provides students with an in-depth explanation of foundational core chemistry concepts covered in 11th grade as well as an exploration of complex topics including thermodynamics, kinetics, equilibrium, electrochemistry, and organic chemistry. This course will highlight the works of foundational chemists such as Lavoisier, Dalton, Avogadro, and Mendeleev to emphasize mastery of first principles and their application to modern scientific inquiry. Further, this course will emphasize advanced laboratory techniques and hands-on-experience in experimental design to reinforce students' theoretical knowledge and refine their skills in precise measurement, observation, and logical deduction. The primary objectives of this course involve fostering both technical competence and philosophical reflection on the nature of matter.

ADVANCED BIOLOGY

Prerequisite: 11th grade Biology ; Apex HS only

This course provides students an in-depth perspective on many of the biological concepts they learned in 10th grade science. Utilizing that knowledge, students will explore specific aspects of biology more deeply, repeating or reverse-engineering many of the most significant achievements in the field. The ancient experiments of Aristotle and Galen will be adapted for the classroom, as will the experiments of Pasteur, Mendel, and Fleming. Students will study genetics, cell biology, biochemistry, anatomy and physiology, and the characteristics, behavior, and traits of the six kingdoms of life. The main goals of the course involve synthesizing the great scientific works of Western civilization with our current knowledge of the world around us, providing students with the hands-on expertise that will benefit them in their understanding of life and the biosphere that they inhabit.

