



CURRICULUM GUIDE 2019-2020

INTRODUCTION

Public schools in the State of Michigan must follow the Michigan Merit Curriculum, which outlines minimum requirements for earning a high school diploma as well as standards for content areas.

For a detailed description of the Michigan Merit Curriculum please see:

http://www.michigan.gov/documents/mde/Complete_MMC_FAQ_August_2014_467323_7.pdf

Curriculum in Michigan is guided by the content standards. Our state has adopted the Common Core State Standards (CCSS) for English and Mathematics and the Next Generation Science Standards (NGSS) for Science. For information about CCSS and NGSS, please see:

http://www.michigan.gov/documents/mde/FAQ_4.10.13_418299_7.pdf

<http://www.nextgenscience.org/>

For all other content areas, the Michigan Merit Curriculum standards apply. For more information, please see:

http://www.michigan.gov/mde/0%2C4615%2C7-140-28753_64839_65510---%2C00.html

At New School High, students' placement in courses is based on abilities and goals rather than age or grade level. Individualized projects and courses may be designed in collaboration with teachers and families, keeping the student's interests and goals in mind. Students are also encouraged to explore original ways they can demonstrate proficiency in the standards.

It is important to note that the MMC requires credit to be awarded "based on a student's demonstration that he or she has successfully met the content expectations for the credit area." Students may earn credit in various ways, including but not limited to: a traditional course setting, work-based learning programs, integrated sequences, project-based learning, independent teacher-guided study, and testing out.

GRADUATION REQUIREMENTS

Content Area	Michigan Merit	New School High
English	4 credits	4 credits
Math	4 credits	4 credits
Social Studies Includes .5 Government, .5 Economics	3 credits	3 credits
Science	3 credits	3 credits
PE/Health Includes .5 Michigan Model Health	1 credit	4 credits
Arts/World Language	3 credits	3 credits
Technology	0 credits	1 credit
Advisory .25 per semester	0 credits	2 credits
TOTAL	18 credits	24 credits

ENGLISH LANGUAGE ARTS

All English courses are standards-based and aligned with the Common Core State Standards (CCSS). Note that these standards are not designed to be specific to individual courses; they are imbedded throughout the 9-12 program, with attention to increasing complexity and skill.

World Literature Semester 1 (.5 credit), Semester 2 (.5 credit)
Students explore theme, character, vocabulary, and storytelling through analytic reading of world literature, focusing on non-European texts of fiction and nonfiction including, but not limited to, *Things Fall Apart*, *A Long Way Gone*, *I Am Malala*, *Hiroshima*, as well as early examples of poetry, religious writing, and song from cultures around the world. Writing includes formal analytical and argumentative essays, informal reflections, and informational writing. Grammar and conventions are emphasized independently and through composition. Students will research, develop plans, write and present information collaboratively and individually through project-based learning. ELA skills used in other classes apply to the standards for this course.

American Literature Semester 1 (.5 credit), Semester 2 (.5 credit)
This course expands on World Literature concepts in depth and breadth of knowledge. Students read and analyze examples of American Literature as well as relevant historical documents. Readings include works such as *The Autobiography of Benjamin Franklin*, *The Autobiography of Frederick Douglass*, *The Scarlet Letter*, *Walden*, *Huckleberry Finn*, *Of Mice and Men*, *The Great Gatsby*, *Death of a Salesman*, *A Streetcar Named Desire*, *A Raisin in the Sun*, and others that reflect the history and diversity of the United States. Writing includes formal analytical and argumentative essays, informal reflections, and informational writing. Grammar and conventions are emphasized independently and through writing. Students will research, develop plans, write and present information collaboratively and individually through project-based learning. ELA skills used in other classes apply to the standards for this course.

Identity in Literature Semester 1 (.5 credit), Semester 2 (.5 credit)
This course allows students to explore their own—and other writers’—definitions of identity, reflecting upon the many factors that impact one’s identity. Each quarter focuses on a factor, with an anchor text to allow students to analyze. Students will develop grade-level vocabulary and reflect upon grammatical instances found within texts, as well as through their revision of their own varied narrative, expository, and argumentative compositions.

Expository Composition Semester 1 (.5 credit), Semester 2 (.5 credit)
Students analyze a wide variety of analytical and argumentative expository texts and produce an effective formal research paper on topics of their choosing. Development of vocabulary, style, grammar and mechanics are priorities.

Genre Studies Semester 1 (.5 credit), Semester 2 (.5 credit)
The genre studies class gives upperclassmen a greater chance to create in a variety of genres, exploring in new ways, while still reading broadly and participating in seminar discussions during class. Students will spend each

quarter of the school year reading model texts as anchors to the genre and then creating their own examples of the genre. They will experiment by mimicking the model text's style as well as attempting to find their own voice. The first quarter will examine nonfiction (articles and full length research), the second quarter will address poetry and memoir, the third quarter will explore short and full length fiction, and the quarter four will focus on classic and modern drama.

AP Language and Composition

Semester 1 (.5 credit), Semester 2 (.5 credit)

AP English Language and Composition requires students to become skilled readers of prose written in a variety of rhetorical contexts and skilled writers who compose for a variety of purposes. Both their reading and their writing should make students aware of interactions among a writer's purposes, reader expectations, and an author's propositional content, as well as the genre conventions and the resources of language that contribute to effectiveness in writing. At the heart of an AP English Language and Composition course is the reading of various texts. Reading facilitates informed citizenship and thus increases students' capacity to enter into consequential conversations with others about meaningful issues. Also contributing to students' informed citizenship is their ability to gather source materials representing particular conversations and then make their own reasonable and informed contributions to those conversations. Students' ability to engage with outside sources in their reading, writing, and research is an important measure of their intellectual growth.

AP Literature

Semester 1 (.5 credit), Semester 2 (.5 credit)

The AP English Literature and Composition course aligns to an introductory college-level literary analysis course. The course engages students in the close reading and critical analysis of imaginative literature to deepen their understanding of the ways writers use language to provide both meaning and pleasure. As they read, students consider a work's structure, style, and themes, as well as its use of figurative language, imagery, symbolism, and tone. Writing assignments include expository, analytical, and argumentative essays that require students to analyze and interpret literary works.

Publications

Semester 1 (.25 credit), Semester 2 (.25 credit)

Students design and produce the school yearbook or student handbook. Students practice writing, editing, design, photography, management, computer research, fundraising, and teamwork skills as they learn steps necessary to publish, market, and distribute the yearbook or student handbook. This class may require time outside of school to ensure that deadlines are met.

Priority Standards - CCSS

Language 9-12

1. Demonstrate command of the conventions of Standard English grammar/usage when writing or speaking.
 - a. 9-10 focus: parallel structure; phrases and clauses
 - b. 11-12 focus: conventions change; contested usage
2. Demonstrate command of the conventions of Standard English capitalization, punctuation, and spelling when writing.
 - a. 9-10 focus: semicolon and colon
 - b. 11-12 focus: hyphenation conventions
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading/listening.
 - a. 9-10 focus: conform to style guidelines like MLA formatting
 - b. 11-12 focus: vary syntax for effect

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade level reading and content, choosing flexibly from a range of strategies.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Speaking and Listening 9-12

1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used.
4. Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.
5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
6. Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.

Writing 9-10

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Editing for conventions should demonstrate command of language standards.
7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Writing 11-12

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Reading Informational Text 9-10

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.
4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper).
8. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.

Reading Informational Text 11-12

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
2. Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.
3. Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.
4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text.

5. Analyze and evaluate the effectiveness of the structure an author uses in his or her exposition or argument, including whether the structure makes points clear, convincing, and engaging.
6. Determine an author's point of view or purpose in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness, or beauty of the text.
7. Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem. addresses).
10. By the end of grade 11, read and comprehend literary nonfiction in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literary nonfiction at the high end of the grades 11–CCR text complexity band independently and proficiently.

Reading Literature 9-10

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
2. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.
3. Analyze how complex characters develop over the course of a text, interact with other characters, and advance the plot or develop the theme.
4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the cumulative impact of specific word choices on meaning and tone.
6. Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.
10. By the end of grade 9, read and comprehend literature, including stories, dramas, and poems, in the grades 9-10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 9-10 text complexity band independently and proficiently.

Reading Literature 11-12

1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.
2. Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.
3. Analyze the impact of the author's choices regarding how to develop and relate elements of a story or drama.
4. Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings or language that is particularly fresh, engaging, or beautiful.
6. Analyze a case in which grasping point of view requires distinguishing what is directly stated in a text from what is really meant.
10. By the end of grade 11, read and comprehend literature, including stories, dramas, and poems, in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 12, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 11–CCR text complexity band independently and proficiently.

ADVISORY

Advisory Grades 9-12

Semester 1 – 8 (.25 credit each)

Being successful academically is the major goal of high school; however, there are many other qualities and skills needed to be successful. Advisory is the place to address many of the skills that fall outside of the academic realm. In addition, this is also the time and place to address any issues that may come up in our school community so as not to miss any teachable moments. Students practice communication skills including listening, speaking, and writing throughout the year. As students advance in grade level, advisory topics are adjusted to reflect changing needs and goals. Activities are based on the Michigan Career and Employability Skills Standards (MCESS) and the expectations of New School High (NSH) for its students.

Priority Standards – MCESS, NSH

MCESS-1: Apply basic communication skills (e.g., reading, writing, speaking, and listening), apply scientific and social studies concepts, perform mathematical processes, and apply technology in work-related situations.

MCESS-2: Acquire, organize, interpret, and evaluate information from career awareness and exploration activities, career assessment, and work-based experiences to identify and to pursue their career goals.

MCESS-3: Demonstrate the ability to combine ideas or information in new ways, make connections between seemingly unrelated ideas, and organize and present information in formats such as symbols, pictures, schematics, charts, and graphs.

MCESS-4: Make decisions and solve problems by specifying goals, identifying resources and constraints, generating alternatives, considering impacts, choosing appropriate alternatives, implementing plans of action, and evaluating results.

MCESS-5: Display personal qualities such as responsibility, self-management, self-confidence, ethical behavior, and respect for self and others.

MCESS-6: Identify, organize, plan, and allocate resources (such as time, money, material, and human resources) efficiently and effectively.

MCESS-7: Work cooperatively with people of diverse backgrounds and abilities, identify with the group's goals and values, learn to exercise leadership, teach others new skills, serve clients or customers, and will contribute to a group process with ideas, suggestions, and efforts.

MCESS-8: Communicate ideas to support a position and negotiate to resolve divergent interests.

MCESS-9: Understand, monitor, and improve complex systems, including social, technical, and mechanical systems, and work with and maintain a variety of technologies.

MCESS-10: Integrate employability skills into behaviors that prepare one for obtaining, maintaining, advancing, and changing employment.

NSH-1: Understand and effectively participate in restorative practice.

NSH-2: Identify one's emotions; know and use effective stress management techniques.

NSH-3: Identify one's preferred learning modes and advocate for what is needed to succeed.

NSH-4: Identify post-secondary educational/career options; develop and implement plan of action.

NSH-5: Provide service to the community.

Topics Grade 9

Stress Management -- Mindfulness NSH 2

Strategies for Conflict Resolution – Restorative Practice MCESS 4, NSH 1, NSH 2
Personal Strengths -- Myers-Briggs Type Indicator Personality Inventory, ASVAB NSH 3
Personal Finances – Budgeting, Banking, Credit MCESS 6
Careers – Application, Resume, Interview MCESS 1, MCESS 2, MCESS 10, NSH 4
Character – Perseverance MCESS 4, MCESS 5

Topics Grade 10

Communication Skills MCESS 1, MCESS 8
College Planning -- Research post-secondary education options, campus visits MCESS 9
Personal Finances – Saving, Investing MCESS 6
Careers – Job shadowing MCESS 2, MCESS 10, NSH 4
Character – Collaboration MCESS 4, MCESS 5, MCESS 7, MCESS 8, NSH 5

Topics Grade 11

Community Engagement – MCESS 7, NSH 5
College Planning -- Campus visits, application, essay MCESS 1, MCESS 9
Personal Finances -- Financial Aid, Scholarships, Loans MCESS 6
Careers – Internship MCESS 2, MCESS 10, NSH 4
Character – Gratitude MCESS 5

Topics Grade 12

Community Engagement – MCESS 7, NSH 5
College Planning -- Campus visits, application, essay MCESS 1, MCESS 9
Personal Finances -- Financial Aid, Scholarships, Loans MCESS 6
Careers – Internship MCESS 2, MCESS 10, NSH 4
Character – Responsibility MCESS 4, MCESS 5, MCESS 6

MATHEMATICS

Algebra I

Semester 1 (.5 credit), Semester 2 (.5 credit)

Algebra I focuses on the foundational elements of Algebra, particularly pertaining to expressions, functions and equations. The majority of the first half is concerned with building comfort thinking mathematically: this includes practice translating patterns into algebraic expressions and deriving expressions from the properties of a system. Late in the first half students begin looking at functions: what they are, how they are related to expressions, and some basic Power functions. This is the first in a series of math courses looking at and understanding different functions as an exercise to practice logically analyzing systems.

Over the second half of the course students look at Power functions, Quadratic functions, and Exponential functions as well as evaluating, manipulating, noticing patterns, graphing and solving (inverse functions).

There is also a short introduction to inequalities. The capstone is a full summary presentation of the properties, inverses, and graphing of each class of function.

Priority Standards -- CCSS

- N.RN.1 - Explain how rational exponents follow from integer exponents, allowing for a notation for radicals. *Ex: $5^{1/3}$ is cube root of 5 because $(5^{1/3})^3 = 5^{(1/3)3} \rightarrow (5^{1/3})^3 = 5$*
- A.SSE.1a - Interpret parts of an expression, such as terms, factors, and coefficients.
- A.SSE.1b - Interpret expressions by viewing some of their parts as a single entity. *Ex: $P(1+r)n$ is the product of P and a factor not depending on P .*
- A.SSE.3a - Factor a quadratic expression to reveal the zeros of the function it defines.
- A.SSE.3b - Complete the square to reveal the maximum or minimum value of the function it defines.
- A.CED.1 - Create equations and inequalities in one variable, use them to solve problems. *(Linear/Quadratic)*
- A.CED.4 - Rearrange formulae to highlight a chosen quantity. *Ex: Rearrange Ohm's law to highlight resistance*
- A.REI.1 - Explain each step in solving as following from the previous step's equality. Justify a soltn method.
- A.REI.3 - Solve linear equations/inequalities in one variable, include equations with letter coefficients.

Algebra II

Semester 1 (.5 credit), Semester 2 (.5 credit)

Algebra II builds on the foundation of Algebra I. Students start by examining the properties and inverses of even more functions: polynomial, periodic (trig, etc.), piecewise, rational, radical, and logarithmic. In addition to their previous strands of inquiry, they also look at inequalities and modeling. With the extensive base of function types they've built, applications and modeling are fundamental elements of the middle of the course. The second half of the course introduces new number systems and coordinate systems, along with alternate interpretations of functions the students have already worked on. Topics include complex numbers, vector numbers, polar coordinates, parametric functions, and algebraic/geometric series and sequences.

Priority Standards - CCSS

- N.Q.2 - Define appropriate quantities for the purpose of descriptive modeling.
- A.SSE.1b - Interpret expressions combining some parts as a unit. *Ex: $P(1+r)^n$ is P times a factor not depending on P .*
- A.SSE.2 - Use structure of an expression to rewrite it. *Ex: $x^4 - y^4$ is $(x^2)^2 - (y^2)^2$, thus it is a difference of squares.*
- A.APR.1 - Understand that polynomials form a system like to the integers; add, subtract, and multiply polynomials.
- A.APR.2 - Know/apply the Remainder Theorem: Polynomial $p(x)$, number a , the remainder on division by $x - a$ is $p(a)$.
- A.APR.3 - Identify zeros of polynomials when suitable factorizations are available, use the zeros to construct a graph.
- A.APR.6 - Rewrite rational expressions in different forms; write $q(x)+r(x)/b(x)$, use inspection or long division.
- A.CED.2 - Create eq.s in two/more variables to represent relationships; graph on coordinate axes with labels and scales.
- A.CED.3 - Represent constraints by systems/equations or inequalities, interpret solutns as viable in a context.
- A.REI.11 - Explain why x where graphs intersect are solutions of the equation $f(x) = g(x)$; find approximate solutions
- F.IF.7b - Graph root, and piecewise-defined functions, including step functions and absolute value functions
- F.IF.7c - Graph polynomial functions, identifying zeros when factorizations are available, and showing end behavior
- F.IF.7d - Graph rational functions, id'ing zeros and asymptotes when factorizations available, showing end behavior
- F.BF.1b - Combine function types using arithmetic. *Ex: A cooling body by adding a constant function to decaying exp.*
- F.BF.4d - Produce an invertible function from a non-invertible function by restricting the domain.
- F.LE.1a - Prove linear functions grow by equal differences, and exponential functions grow by equal factors.
- F.LE.1b - Recognize situations in which one quantity changes at a constant rate per unit interval relative to another
- F.LE.1c - Recognize when a quantity grows or decays by a constant percent rate per unit interval relative to another.
- F.LE.2 - Construct exponential functions, given a graph, description of a relationship, or two input-output pairs.
- F.LE.4 - For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where the base b is 2, 10, or e .
- F.LE.5 - Interpret the parameters in a linear or exponential function in terms of a context.
- F.TF.1 - Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.
- F.TF.5 - Choose trigonometric functions to model periodic phenomena with given amplitude, frequency, and midline

Geometry

Semester 1 (.5 credit), Semester 2 (.5 credit)

The focus of Geometry is proof. In typical geometry classes there is tremendous emphasis on theorem memorization and proof formatting, but the key to proof is systematic logic. We emphasize systematic logic with the use of flowcharts, traditional t-proofs, and descriptive writing. To practice the distinction between one-case coincidences and general proof, we start the course with construction. We use tools for construction including but not limited to compass, straight edge, computer software and geometrical animations. From there we address the geometric property of congruence and similarity as a weakened form of congruence. The second semester covers coordinate transformations, circles, area and volume, scaling, geometric trigonometry, and computer-aided design.

Priority Standards -- CCSS

- G-CO.1 - Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.
- G-CO.2 - Represent transformations, describe transformations as functions taking points in the plane as inputs and give other points as outputs. Compare transformations preserving distance/angle to those that do not.
- G-CO.5 - Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure. Specify a sequence of transformations that will carry a given figure onto another.
- G-CO.9 - Prove theorems about lines and angles. *Ex: vertical angles congruent; alternate interior angles congruent and corresponding angles congruent; points on a perpendicular bisector are equidistant from the endpoints*
- G-CO.12 - Make formal geometric constructions with a variety of tools. *Ex: Copying a segment; copying an angle; bisecting a segment/angle; constructing perpendicular lines.*
- G-GMD.1 - Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments.
- G-MG.2 - Apply concepts of density in area and volume for modeling *Ex: persons per square mile, BTUs per cubic foot.*
- G-SRT.3 - Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar
- G-SRT.5 - Use congruence and similarity criteria for triangles to solve problems and prove relationships in figures.
- G-SRT.8 - Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems
- G-C.2 - Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; the radius of a circle is perpendicular to the tangent.
- G-GPE.1 - Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.
- G-GPE.2 - Derive the equation of a parabola given a focus and directrix.
- G-GPE.7 - Use coordinates to compute perimeters and areas of polygons, e.g., using the distance formula.

Pre-Calculus

Semester 1 (.5 credit), Semester 2 (.5 credit)

Pre-Calculus lays the groundwork for AP Calculus by refining the concepts explored in Algebra and Geometry until students have the expertise to use the concepts to manipulate expressions in a way that is useful for Calculus, that is, abstractly. Topics refined include functions and inverses, domain, range, polynomial roots, polynomial division, interval notation, symmetry, geometric proof, rotation, Cavalieri's Principle, trigonometric identities, slope, and fundamental theorem of algebra. New topics like multivariable (vector) functions, sequences and series, limits, more trigonometric identities, the binomial theorem, and complex numbers serve to formalize some previously informal mathematical reasoning and prepare students for their experience with AP mathematics.

Priority Standards - CCSS

- F-TF.6 - Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
- F-TF.9 - Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.
- N-CN.3 - Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers
- N-CN.4 - Represent complex numbers on the complex plane in rectangular and polar form, and explain why the rectangular and polar forms of a given complex number represent the same number.
- N-VM.1 - Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., v , $|v|$, $\|v\|$, v).
- N-VM.4 - Add and subtract vectors.
- N-VM.5 - Multiply a vector by a scalar
- N-VM.8 - Add, subtract, and multiply matrices of appropriate dimensions.
- N-VM.10 - Understand the zero and identity matrices play a role in matrix arithmetics similar to 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.
- N-VM.12 - Work with 2×2 matrices as transformations of the plane, interpret absolute value of the determinant as area.
- A-SSE.1b - Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P .
- A-SSE.2 - Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.
- A-APR.6 - Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system.
- A-APR.7 - Understand rational expressions form a system like to rational numbers, closed under addition, subtraction, multiplication, and division; add, subtract, multiply, and divide rational expressions.
- A-CED.2 - Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
- A-CED.4 - Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law $V = IR$ to highlight resistance R .
- G-SRT.1 - Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).
- G-GPE.3 - Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

Financial and Statistical Principles

Semester 1 (.5 credit), Semester 2 (.5 credit)

In the first semester of this yearlong course we cover financial and microeconomic topics (including income tax, budgeting, saving, investment, and credit) and the associated mathematical structures, which extend into the realm of actuarial mathematics. Mathematical structures covered include simple exponential growth and decay due to interest and inflation; time value of money calculations for loans, perpetuities, annuities and bonds; credit reports and scores, credit card payoff amounts and other topics. The second semester emphasizes probability, insurance, and entrepreneurship. Much of the semester looks at insurance through a lens of probability, incorporating the "law of large numbers" as a central topic. All basic probability and set-theory concepts are covered, including Bayes' theorem and the principle of inclusion-exclusion. Entrepreneurship involves guest speakers and discussion of different types of businesses. Also included is a budgeting simulation by Community Financial Credit Union.

Priority Standards - CCSS

- FSP01 - Consider career paths and their income. Consider budget, lifestyle goals, tax brackets and education.
- FSP02 - Understand taxes
- FSP03 - Articulate effect of inflation, how governments control it. Calc. spending power given inflation rates.
- FSP04 - Understand compound interest.
- FSP05 - Calculate "present value" of an investment using the Fisher Equation to identify the "real" interest rate.
- FSP06 - Recognize that investment value doubles over a period. Calc. doubling period using the "rule of 72".
- FSP07 - Understand the "Time Value of Money" with respect to annuity style financial structures.
- FSP08 - Apply "Time Value of Money" calculation to loans and regular deposits like 401Ks and Roth IRAs.
- FSP09 - Explain why a person might take on a loan, and what financial benefit they provide.
- FSP10 - Identify an annual deposit sufficient for a people of different ages to meet given IRA or 401K goals.
- FSP11 - Utilize the TVM functions of a calculator to easily identify missing values in TVM situations.
- FSP12 - Use the vocabulary of loans and banking to describe debt arrangements. *Ex: collateral, deferment.*
- FSP13 - Explain student loan arrangements, and how they differ from private loans.
- FSP14 - Understand basic credit.
- FSP15 - Use the law of large numbers to justify the probabilistic models that the insurance industry uses.
- FSP16 - Explain the need for insurance, the people and financial structures involved, and its history.
- FSP17 - Look at the role psychology plays in the finance industry. Explain specific types of bias/fallacies.
- FSP18 - Describe behavioral economics and its influence on finance. Explain economics through that lens.
- FSP19 - Participate in a simulated budgeting/lifestyle activity.
- FSP20 - Make sense of challenging finance-related topics in context, and their impact on one's personal life.
- F-LE.2 - Construct exponential functions given a description of a relationship.
- F-LE.5 - Interpret the parameters in a linear or exponential function in terms of a context.
- S-ID.6 - Represent data of two quantitative variables on a scatter plot. Describe how the variables are related.
- S-ID.8 - Compute (using technology) and interpret the correlation coefficient of a linear fit.
- S-CP.2 - Show events are independent if the prob. of both is the product of prob.s, use this to test dependence.
- S-CP.3 - Show conditional probability A given B is $P(A \text{ and } B)/P(B)$, different if dependent/independent.
- S-CP.5 - Recognize/explain conditional-probability/independence w/ everyday language for everyday situations
- S-CP.6 - Find conditional probability $A|B$ as fraction of B that also belongs to A, interpret answer in real terms.
- S-CP.7 - Apply Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$. Interpret the answer in terms of model.
- S-CP.8 - Apply the general Multiplication Rule $P(A \text{ and } B) = P(A)P(B|A) = P(B)P(A|B)$, interpret in real terms.
- S-MD.2- Calculate $E(x)$ of a random variable; interpret it as the mean of the probability distribution.
- S-MD.5- Weigh outcomes of a decision by assigning probabilities to payoff values and finding expected values

S-MD.7 - Analyze decisions using probability concepts *Ex: product testing, medical testing, etc.*

HISTORY

World History

Semester 1 (.5 credit), Semester 2 (.5 credit)

World History is a survey of the history and geography of the world from ancient times to present day. Studies focus on world events, processes, and interactions among the world's people, cultures, societies, and environment. Approaches to the topics in world history include both close-ups and wide-angles to see history through different viewpoints and to make connections between time and space. Activities will include map work, research, writing, simulations, and projects.

Priority Standards - – SS-HSCE

F1 Explain and use key conceptual devices including major turning points, cultural calendars, and different spatial frames.

F2 Use the following to explain difference between hunter-gatherers, nomads, civilizations, empires, the agricultural revolution: two ancient river civilizations and Classical China or India, Classical Greece or Rome.

F3 Explain the way that world religions grew.

4.1.1 Crisis in the Classical World - Explain forces leading to collapse of classical empires and results of collapse.

4.1.2 World Religions - Use maps and documents to analyze spread of major world religions 300-1500 CE.

4.1.3 Trade Networks and Contacts - Analyze development/importance of trading systems within/between societies.

5.1.1 Emerging Global System - Analyze impact of increased oceanic travel compared to previous era.

5.2.1 European Exploration/Conquest and Columbian Exchange - Analyze consequences of European conquest and the Columbian Exchange 1400-1500.

6.2.1 Political Revolutions - Analyze age of revolutions by comparing/contrasting causes and consequences of 3.

6.2.3 Industrialization - Analyze origins, characteristics, consequences of industrialization.

6.2.4 Imperialism - Analyze causes and effects of imperialism by using maps/evidence and comparisons.

7.1.3 Twentieth Century Genocide - Use various sources to analyze causes and consequences genocides.

7.2.1 World War I - Analyze causes and consequences of WWI including impact at home and Treaty of Versailles.

7.2.3 World War II - Analyze causes and consequences of WWII including Nazism, turning points, atomic age.

8.1.1 Origins of the Cold War - Describe factors contributing to Cold War including ideologies, struggles.

8.1.2 Cold War Conflicts - Describe Cold War conflicts including expanding power, competition, arms/space race.

Big History

Semester 1 (.5 credit), Semester 2 (.5 credit)

This course uses the Big History Project as a guide through history. Big History covers the same content as World History, but also includes extensions into science. Big History starts with the beginning of the universe before moving forward to the existence of humans. Being an honors-level course, this class requires substantial

research and writing, as well as group discussion and debate. For more information on this program, see <https://school.bighistoryproject.com/bhplive>.

Priority Standards – SS-HSCE

- F1 Explain and use key conceptual devices including major turning points, cultural calendars, and different spatial frames.
- F2 Use the following to explain difference between hunter-gatherers, nomads, civilizations, and empires; Agricultural revolution, two ancient river civilizations, Classical China or India, Classical Greece or Rome.
- F3 Explain the way that world religions grew.
 - 4.1.1 Crisis in the Classical World - Explain forces leading to collapse of classical empires and results of collapse.
 - 4.1.2 World Religions - Use maps and documents to analyze spread of major world religions 300-1500 CE.
 - 4.1.3 Trade Networks and Contacts - Analyze development/importance of trading systems within/between societies.
 - 5.1.1 Emerging Global System - Analyze impact of increased oceanic travel compared to previous era.
 - 5.2.1 European Exploration/Conquest and Columbian Exchange - Analyze consequences of European conquest and the Columbian Exchange 1400-1500.
 - 6.2.1 Political Revolutions - Analyze age of revolutions by comparing/contrasting causes and consequences of 3.
 - 6.2.3 Industrialization - Analyze origins, characteristics, consequences of industrialization.
 - 6.2.4 Imperialism - Analyze causes and effects of imperialism by using maps/evidence and comparisons.
 - 7.1.3 Twentieth Century Genocide - Use various sources to analyze causes and consequences genocides.
 - 7.2.1 World War I - Analyze causes and consequences of WWI including impact at home and Treaty of Versailles.
 - 7.2.3 World War II - Analyze causes and consequences of WWII including Nazism, turning points, atomic age.
 - 8.1.1 Origins of the Cold War - Describe factors contributing to Cold War including ideologies, struggles.
 - 8.1.2 Cold War Conflicts - Describe Cold War conflicts including expanding power, competition, arms/space race.

United States History

Semester 1 (.5 credit), Semester 2 (.5 credit)

This course begins with the Industrial Revolution at the turn of the century and continues to the present day. Topics are studied in depth, with a focus on major events and movements in the 20th century. Activities will include map work, debates, research, writing, simulations, and projects.

Priority Standards – SS-HSCE

- F1 Review of political and intellectual transformations of America to 1877
- F2 Review of geographic, economic, social, and demographic trends in America to 1877
 - 6.1.1 Factors in the American Industrial Revolution
 - 6.1.3 Urbanization
 - 6.1.4 Population changes

- 6.2.1 Growth of U.S. global power
- 6.2.2 World War I
- 6.3.2 Causes and consequences of Progressive Reform
- 6.3.3 Women's suffrage
- 7.1.2 Causes and consequences of the Great Depression
- 7.1.3 The New Deal
- 7.2.1 Causes of World War II
- 7.2.2 U.S. and the course of World War II
- 7.2.4 Responses to genocide
- 8.1.1 Origins and beginnings of the Cold War
- 8.1.3 End of the Cold War
- 8.3.1 Civil Rights Movement
- 8.3.3 Women's rights
- 9.3.1 Policy debates (Compose a persuasive essay on a public policy issue.)

Economics

Semester (.5 credit)

This course will give the students a greater understanding of economics ranging from the viewpoint of the individual consumer or small business owner to the global economy. The course will study the law of supply and demand, forms of business, entrepreneurship, government finances and influence on the economy, money and prices, inflation and deflation cycles. The course relates history and politics to the study of economics when applicable utilizes the use of articles to demonstrate the relevance of concepts to the real world.

Priority Standards - HS-HSCE

- 1.1.1 Scarcity, Choice, Opportunity Costs, and Comparative Advantage
- 1.1.2 Entrepreneurship
- 1.2.2 Price in the Market
- 1.2.3 Investment, Productivity and Growth
- 1.3.1 Law of Supply
- 1.3.2 Law of Demand
- 1.3.3 Price, Equilibrium, Elasticity, and Incentives
- 2.1.2 Circular Flow and the National Economy
- 2.1.3 Financial Institutions and Money Supply
- 2.1.4 Money Supply, Inflation, and Recession
- 2.1.5 Gross Domestic Product (GDP) and Economic Growth
- 2.1.7 Economic Indicators
- 2.2.4 Federal Reserve and Monetary Policy
- 2.2.5 Government Revenue and Services
- 3.1.1 Major Economic Systems
- 3.1.3 International Organizations and the World Economy
- 3.2.1 Absolute and Comparative Advantage
- 3.2.3 Exchange Rates and the World Trade
- 4.1.1 Scarcity and Opportunity Costs
- 4.1.3 Personal Finance Strategy
- 4.1.4 Key Components of Personal Finance

4.1.5 Personal Decisions

Government

Semester (.5 credit)

Government is a study of the structure and workings of American government. Students will examine the origins of government and different governmental systems around the world to gain a greater appreciation and understanding of American government. This understanding will extend to personal freedoms, and the political and electoral process. Students will learn the impact government has on their daily lives and have material reinforced by the inclusion of current political events to supplement classroom instruction.

Priority Standards - HS-HSCE

- 1.1.2 Explain and provide examples of the concepts “power,” “legitimacy,” “authority,” and “sovereignty.”
- 1.1.3 Identify and explain competing arguments about the necessity and purposes of government (such as to protect inalienable rights, promote the general welfare, resolve conflicts, promote equality, and establish justice for all). (See USHG F1.1; F1.2; 8.3.2)
- 1.2.1 Identify, distinguish among, and provide examples of different forms of governmental structures including anarchy, monarchy, military junta, aristocracy, democracy, authoritarian, constitutional republic, fascist, communist, socialist, and theocratic states
- 1.2.3 Compare and contrast parliamentary, federal, confederal, and unitary systems of government by analyzing similarities and differences in sovereignty, diffusion of power, and institutional structure. (See USHG F1.1; F1.2)
- 1.2.4 Compare and contrast direct and representative democracy.
- 2.1.1 Explain the historical and philosophical origins of American constitutional government and evaluate the influence of ideas found in the Magna Carta, English Bill of Rights, Mayflower Compact, Iroquois Confederation, Northwest Ordinance, Virginia Statute for Religious Freedom, Declaration of Independence, Articles of Confederation, and selected Federalist Papers (the 10th, 14th, 51st), John Locke’s Second Treatise, Montesquieu’s Spirit of Laws, Paine’s Common Sense.
- 2.1.2 Explain the significance of the major debates and compromises underlying the formation and ratification of American constitutional government including the Virginia and New Jersey plans, the Great Compromise, debates between Federalists and Anti-Federalists, debates over slavery, and the promise for a bill of rights after ratification.
- 2.2.2 Explain and evaluate how Americans, either through individual or collective actions, use constitutional principles and fundamental values to narrow gaps between American ideals and reality with respect to minorities, women, and the disadvantaged. (See USHG 6.1.2; 6.3.2; 7.1.3; 8.3)
- 3.1.1 Analyze the purposes, organization, functions, and processes of the legislative branch as enumerated in Article I of the Constitution.
- 3.1.2 Analyze the purposes, organization, functions, and processes of the executive branch as enumerated in Article II of the Constitution.
- 3.1.3 Analyze the purposes, organization, functions, and processes of the judicial branch as enumerated in Article III of the Constitution.
- 3.1.5 Use case studies or examples to examine tensions between the three branches of government (e.g., powers of the purse and impeachment, advise and consent, veto power, and judicial review).
- 3.3.1 Describe limits the U.S. Constitution places on powers of the states (e.g., prohibitions against coining money, impairing interstate commerce, making treaties with foreign governments) and on the federal government’s power over the states (e.g., federal government cannot abolish a state, Tenth Amendment reserves powers to the states).
- 3.3.2 Identify and define states’ reserved and concurrent powers.

- 3.3.5 Describe the mechanisms by which citizens monitor and influence state and local governments (e.g., referendum, initiative, recall).
- 3.5.1 Explain how political parties, interest groups, the media, and individuals can influence and determine the public agenda.
- 3.5.2 Describe the origin and the evolution of political parties and their influence. (See Grade 5 SS; USHG 9.1.2)
- 4.1.2 Describe the process by which United States foreign policy is made, including the powers the Constitution gives to the president; Congress and the judiciary; and the roles federal agencies, domestic interest groups, the public, and the media play in foreign policy.
- 5.1.1 Using examples, explain the idea and meaning of citizenship in the United States of America, and the rights and responsibilities of American citizens (e.g., people participate in public life, know about the laws that govern society, respect and obey those laws, participate in political life, stay informed and attentive about public issues, and voting).
- 5.3.5 Explain considerations and criteria commonly used in determining what limits should be placed on specific rights.
- 5.3.6 Describe the rights protected by the First Amendment, and using case studies and examples, explore the limit and scope of First Amendment rights.
- 5.3.7 Using the Fourth, Fifth, Sixth, Seventh and Eighth Amendments, describe the rights of the accused; and using case studies and examples, explore the limit and scope of these rights.
- 6.2.9 Evaluate the claim that constitutional democracy requires the participation of an attentive, knowledgeable, and competent citizenry.

Psychology

Semester (.5 credit)

Psychology is the study of the mind and behavior. This introductory course gives an overview of the field and its many subcategories, including personality, memory, neuropsychology, clinical, cognitive, and development. Particular attention is paid to social psychology, the study of the effects of the situational context on behavior.

Priority Standards - National High School Psychology Standards

Introduction

- 1.1 Define psychology as a discipline and identify its goals as a science.
- 1.2 Describe the emergence of psychology as a scientific discipline.
- 1.3 Describe perspectives employed to understand behavior and mental processes.
- 1.4 Recognize the evolving nature of psychology as a scientific discipline

Sociocultural Context Domain

- 1.1 Describe attributional explanations of behavior.
- 1.2 Describe the relationship between attitudes (implicit and explicit) and behavior.
- 1.3 Identify persuasive methods used to change attitudes.
- 2.1 Describe the power of the situation.
- 2.2 Describe effects of others' presence on individuals' behavior.
- 2.3 Describe how group dynamics influence behavior.
- 2.4 Discuss how an individual influences group behavior.
- 3.1 Discuss the nature and effects of stereotyping, prejudice, and discrimination.
- 3.2 Describe determinants of prosocial behavior.
- 3.3 Discuss influences upon aggression and conflict.
- 3.4 Discuss factors influencing attraction and relationships.

SCIENCE

All Science Courses at New School High are Standards-based, grounded in Next Generation Science Standards (NGSS). Course Units and order roughly match that of Standard Categories, unless otherwise noted. Scientific and Engineering Practice Standards are incorporated throughout all science courses. Structure and Function Standards are incorporated throughout units as a crosscutting concept.
https://www.michigan.gov/documents/mde/K-12_Science_Performance_Expectations_v5_496901_7.pdf

Earth and Space Science

Semester 1 (.5 credit), Semester 2 (.5 credit)

This course looks at our amazing planet and the stars above. We will study ocean currents, the formation of mountains and the life cycle of stars. We will analyze the changing climates to see what has happened in the past and try to predict possibilities for the future and how life on this planet affects the look and feel of Earth. Students' interests, as well as the development of scientific thinking and practices, are highly valued in this course.

Priority Standards for High School Earth and Space Science - NGSS-HS-ESS

HS-ESS1-1. Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy that eventually reaches Earth in the form of radiation.

HS-ESS1-2. Construct an explanation of the Big Bang theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.

HS-ESS1-3. Communicate scientific ideas about the way stars, over their life cycle, produce elements.

HS-ESS1-5. Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.

HS-ESS1-6. Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.

HS-ESS2-1. Develop a model to illustrate how Earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features.

HS-ESS2-3. Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection.

HS-ESS2-4. Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.

HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.

HS-ESS2-7. Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.

HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

HS-ESS3-5. Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.

HS-ESS3-6. Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.

HS-ESS3-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

Biology

Semester 1 (.5 credit), Semester 2 (.5 credit)

This course looks at the biological systems of plants, animals, and decomposers and how they grow, survive and evolve. We focus on how carbon is used in most life and how it moves through the atmosphere, biosphere, lithosphere, and hydrosphere. Students' interests, as well as the development of scientific thinking and practices, are highly valued in this course.

Priority Standards for High School Life Science - NGSS- HS-LS

HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

HS-LS1-4. Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.

HS-LS1-5. Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.

HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.

HS-LS2-1. Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales.

HS-LS2-2. Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.

HS-LS2-4. Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.

HS-LS2-5. Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.

HS-LS2-6. Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.

HS-LS3-1. Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.

HS-LS3-2. Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.

HS-LS3-3. Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.

HS-LS4-1. Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.

HS-LS4-2. Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of

individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment .

HS-LS4-3. Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.

HS-LS4-4. Construct an explanation based on evidence for how natural selection leads to adaptation of populations.

HS-LS4-5. Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.

HS-ESS2-4. Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.

HS-ESS2-6. Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.

HS-ESS2-7. Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.

HS-ESS3-5. Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.

HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.

HS-PS1-7. Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.

HS-PS3-1. Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.

Physical Science

Semester 1 (.5 credit), Semester 2 (.5 credit)

This course looks at physics and chemistry concepts through an in-depth analysis of questions that arise in everyday life:

“Why do some clothes stick together when they come out of the dryer?”

“How does a small spark start a huge flame?”

“What powers a hurricane?”

“Why is the temperature of 107F deadly?”

By understanding and applying the principles of chemistry and physics, the students will be able to thoroughly answer these questions. We will also explore the electromagnetic spectrum and examine radioactive equations to see how waves move and shake.

Priority Standards for High School Physical Science NGSS-HS-PS

HS-PS1-1. Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.

HS-PS1-2. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.

HS-PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.

HS-PS1-4. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.

HS-PS1-5. Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.

HS-PS1-8. Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.

HS-PS2-4. Use mathematical representations of Newton's Law of Gravitation and Coulomb's Law to describe and predict the gravitational and electrostatic forces between objects.

HS-PS2-5. Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current.

HS-PS3-3. Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.

HS-PS3-4. Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).

HS-PS3-5. Develop and use a model of two objects interacting through electric or magnetic fields to illustrate the forces between objects and the changes in energy of the objects due to the interaction.

HS-PS4-1. Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.

HS-PS4-2. Evaluate questions about the advantages of using a digital transmission and storage of information.

HS-PS4-3. Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.

HS-PS4-4. Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.

HS-PS4-5. Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.

Integrated Science

Semester 1 (.5 credit), Semester 2 (.5 credit)

This course is a culmination of the ideas from the previous courses to understand how the sciences interact. From physics, we look at how to safely drop items from a great height and how to build a rocket that can travel a large distance. From biology, we learn how our bodies are able to stay healthy by keeping its systems in balance. From earth and space science, we study the effects of humans on our environment and how human life can be sustainable on our planet.

Priority Standards for High School Integrated Science - NGSS -HS-PS

HS-PS2-1. Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration.

HS-PS2-2. Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system.

HS-PS2-3. Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.

HS-PS2-5. Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current.

HS-PS2-6. Communicate scientific and technical information about why the molecular-level structure is important in the functioning of designed materials.

HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

HS-LS2-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.

HS-LS2-6. Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.

HS-LS2-8. Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.

HS-LS4-4. Construct an explanation based on evidence for how natural selection leads to adaptation of populations.

HS-LS4-5. Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.

HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.

HS-ESS1-4. Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.

HS-ESS3-1. Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

HS-ESS3-2. Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.

HS-ESS3-3. Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.

HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

PHYSICAL EDUCATION AND WELLNESS

Functional Fitness

Semester 1 (.5 credit), Semester 2 (.5 credit)

In Functional Fitness we'll use exercise to prepare the body for real life activities and movements. Also known as Functional Training or Functional Movement, this program "trains your muscles to work together and prepares them for daily tasks by simulating common movements you might do at home, at work, or in sports." (Mayo Clinic) Integrating functional fitness into our exercise routine will make movements such as squatting, reaching, pulling, and lifting easier day-to-day.

Priority Standards

(NSHS.A.3.PA.1) Accumulate time in physical activities that are moderate to vigorous in intensity level (i.e., a minimum of 60 minutes per day for 7 days a week while maintaining 75%% of target heart rate) while participating primarily in physical activities that focus on combining locomotor and manipulative skills.

(NSHS.A.4.AN.1) Analyze and evaluate the effects of physical activity and nutrition on the body.

(NSHS.A.4.HR.6) Develop and implement a plan for improving or maintaining health-related fitness.

(NSHS.A.4.HR.7) Self-assess and evaluate health-related fitness for muscular strength and endurance, flexibility, and body composition.

(NSHS.A.4.HR.8) Apply the principles of training (frequency, intensity, type, time, overload, specificity).

Foundations of Fitness

Semester (.5 credit)

Foundations will challenge the student differently each day and includes a large range of exercise forms. This course mixes calisthenics and bodyweight exercises with cardio and strength training and incorporates yoga, cardio walking, jump roping, Plyometrics, Pilates, and stretching.

Priority Standards – PE - HSCE

PE9-12-C1-16: Explain the methods of monitoring the levels of intensity during aerobic activity.

PE9-12-C1-23: Apply appropriate technology and analyze data to evaluate, monitor, and improve performance.

PE9-12-L1-1: Participate in a variety of physical activities to meet the recommended number of minutes of moderate to vigorous physical activity beyond physical education on five or more days of the week.

PE9-12-L1-2: Participate in a variety of activities that promote cardio-respiratory fitness, muscular strength and endurance, flexibility, and body composition.

PE9-12-L1-3: Participate in a variety of activities that promote effective stress management.

PE9-12-L1-6: Utilize knowledge of the risks and safety factors that may affect physical activity throughout life.

PE9-12-M1-5: Apply strategies for self-improvement based on individual strengths and needs.

PE9-12-M1-14: Utilize selected technology to assess, enhance, and maintain health and skill-related fitness levels.

PE9-12-M15: Select and apply sports/activity specific warm-up and cool-down techniques.

PE9-12-M35: Select proper equipment and apply all appropriate safety procedures necessary for participation.

PE9-12-R1-2: Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.

PE9-12-R1-3: Demonstrate responsible behaviors during physical activities.

PE9-12-R1-4: Maintain appropriate personal, social, and ethical behavior while participating in a variety of physical activities.

PE9-12-R1-5: Demonstrate appropriate etiquette, care of equipment, care of facilities, and safe behaviors while participating in a variety of physical activities.

PE9-12-R2-3: Explore the role of games, sports and/or physical activities in other cultures.

Team Sports

Semester 1 (.5 credit), Semester 2 (.5 credit)

Team Sports is designed for students interested in the learning skills and strategies of competitive team sports. This course will include daily skill instruction and implementation of those skills in a competitive game setting. Sports may include, but are not limited to basketball, flag football, soccer, ultimate frisbee, disc golf, baseball, and volleyball. This course will also include daily cardiovascular fitness.

Priority Standards – PE-HSCE

LA9-10-1.6.1: The student will use new vocabulary that is introduced and taught directly.

PE9-12-C.1.9: Explain the precautions to be taken when exercising in extreme weather and/or environmental conditions

PE9-12-C.1.20: Know various ways in which physical conflict can be resolved appropriately.

PE9-12-C.1.21: Diagram, explain, and justify the use of offensive, defensive, and transition strategies and tactics.

PE9-12-C.1.23: Apply appropriate technology and analyze data to evaluate, monitor, and improve performance.

PE9-12-C.1.25: Analyze and evaluate the risks, safety procedures, rules, and equipment associated with specific course activities.

PE9-12-C.1.28: Interpret and apply the rules associated with specific course activities.

PE9-12-L.1.6: Utilize knowledge of the risks and safety factors that may affect physical activity throughout life.

PE9-12-M.1.5: Apply strategies for self-improvement based on individual strengths and needs.

PE9-12-M.1.15: Select and apply sports/activity specific warm-up and cool-down techniques.

PE9-12-M.1.23: Demonstrate proficiency of critical elements when striking with an object/implement.

PE9-12-M.1.32: Apply sport-specific skills in a variety of game settings.

PE9-12-M.1.33: Practice complex motor activities to improve performance.

PE9-12-M.1.35: Select proper equipment and apply all appropriate safety procedures necessary for participation.

PE9-12-R1-2: Develop strategies for including persons of diverse backgrounds and abilities while participating in a variety of physical activities.

PE9-12-R1-3: Demonstrate responsible behaviors during physical activities.

PE9-12-R1-4: Maintain appropriate personal, social, and ethical behavior while participating in a variety of physical activities.

PE9-12-R1-5: Demonstrate appropriate etiquette, care of equipment, care of facilities, and safe behaviors while participating in a variety of physical activities.

PE9-12-R2-3: Explore the role of games, sports and/or physical activities in other cultures.

HEALTH

Michigan Model for Health

Semester 1 or 2 (.5 credit)

The Michigan Model for Health is included in SAMHSA's National Registry of Evidence-based Programs, CASEL, and rated as a Promising program by the National Institute of Justice. The program is implemented in 40 states, including Michigan. "The Michigan Model for Health is based on the Adapted Health Belief Model, which merges several behavior change theories and maintains the principle that a health education program is more likely to impact behavior change if it incorporates knowledge, skills, self-efficacy, and environmental support.." (<http://www.nrepp.samhsa.gov>) Semester curriculum includes: Social and

Emotional Health; Nutrition and Physical Activity; Safety; Alcohol, Tobacco, and Other Drugs; and Personal Health and Wellness. Skills for Health and Life include: Accessing information; Analyzing influences; Goal setting; Decision making; Self management; Advocacy; and Interpersonal communication including effective listening, responding to the emotions of others, assertive communication, asking effective questions, negotiation, and collaboration. (<http://www.michigan.gov/mdhhs>)

SPANISH

Spanish 1

Semester 1 (.5 credit), Semester 2 (.5 credit)

Geared to high school students new to the language, this course is an introduction to the Spanish language and aspects of culture. In order to stimulate language acquisition, instead of just memorization, the class will be taught through stories that will give life to these foreign words. All language will be comprehensible except for a few new expressions in each tale. These phrases will be carefully chosen based on how frequently they are used by native speakers and will be repeated in the stories until they are also easily understood. With the ever-increasing quantity of useful words, students will build their abilities through reading and listening. A novel, written specifically for Spanish 1 levels, will be read by the end of the year. Speaking and writing will be slowly developed since these skills take more input to evolve past the fear that can discourage tentative learners. Hands-on, active learning will be emphasized and students must engage in class and complete homework to thrive. Stories and vocabulary come from the SOMOS curriculum by Martina Bex. Grades will be based on proficiency in the MMC standards.

Priority Standards – WL-HSCE

STRAND 1: COMMUNICATION Communicate in World Languages

Standard 1.1 Interpersonal Students engage in conversations, provide and obtain information, express feelings and emotions and exchange opinions.

SPEAKING: Ask and answer basic questions about the weather, health/physical conditions, self, family and friends

Standard 1.2 Interpretive Students understand and interpret written and spoken language on a variety of topics.

READING: Understand main idea of simple accessible written materials in the target language such as, textbook passages, age appropriate magazine and newspaper articles/ads, websites/internet, poetry or stories

WRITING: Ability to write will increase over the year. In the first semester they will have to write a minimum of 25 words in 5 minutes. By the end of the year they will be writing at least 50 to show how quickly they are processing the language.

GRAMMAR: Recognize the present and the immediate future tense in all subjects.

VOCABULARY: Targeted Story Structures: Recognize and translate vocabulary used in stories throughout year and be able to write story using required vocabulary

LISTENING: TPR Gestures: Demonstrate understanding of oral classroom language in the target language including directions, commands, and requests

LISTENING: Weekend Talks: Understand interpersonal communication on topics of personal interest such as preferences, family life, friends, leisure and school activities, and everyday occurrences

READING: NOVELS: Literacy: Leveled Readers (Level Appropriate Novels): Read and comprehend complex literary and informational texts

SPEAKING: Present songs, poems or stories in the target language. The level expected will increase over time, starting at Novice Low Level.

Spanish 2 - Novice Mid Level - Present songs, poems or stories in the target language
Spanish 3 - Novice High Level
Spanish 4 - Intermediate Low Level

STRAND 2: CULTURE Gain Knowledge and Understanding of Other Cultures

Standard 2.1 Practices and Perspectives Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied. In particular at the Spanish 1 level, students will be able to identify countries and their capital city where Spanish is spoken

Spanish 2, 3 and 4

Semester 1 (.5 credit), Semester 2 (.5 credit)

The advanced levels follow a similar format as Spanish 1, building on all previous knowledge and skills obtained in that level. This multi-level class benefits the students since the higher level students can do more of the communicating and the lower level students ask grammar questions that the higher level students can answer. Just as older siblings influence and challenge younger children's language acquisition, higher level Spanish students assist in others' learning. The upper levels explain and interpret the language when necessary. While Spanish 1's stories are in the present tenses, these levels begin with past tenses. The conditional, future, perfect tenses and the subjunctive mood are explored every year. Tests are tailored to each level. Everyone is exposed to the grammar; however, only the upper levels are responsible to reproduce them in their writing. More difficult vocabulary structures are also acquired in the advanced levels and worked into the stories and readings. In this advanced multi-level class, students will read two novels written for their level by the end of the year and will complete 2 conjugation charts per month. Students must engage in class and complete practice in homework to succeed. Stories and vocabulary come from the SOMOS curriculum by Martina Bex. Grades will be based on proficiency in the MMC standards.

Priority Standards – WL-HSCE

STRAND 1: COMMUNICATION Communicate in World Languages

Standard 1.1 Interpersonal Students engage in conversations, provide and obtain information, express feelings and emotions and exchange opinions.

SPEAKING: Ask and answer advanced questions about their childhood and interests, weather, health/physical conditions, self, family and friends

Standard 1.2 Interpretive Students understand and interpret written and spoken language on a variety of topics.

READING: Understand main idea of simple accessible written materials in the target language such as, textbook passages, age appropriate magazine and newspaper articles/ads, websites/internet, poetry or stories

WRITING: Ability to write will increase over the year. In the first semester they will have to write a minimum of 25 words in 5 minutes. By the end of the year they will be writing at least 50 to show how quickly they are processing the language.

GRAMMAR: Recognize the different tense in all subjects.

Spanish 2 - present, imperfect, preterite, present and past participle, future, conditional

Spanish 3 - all above + present and past subjunctive moods, future and conditional perfect tenses

Spanish 4 - all above + present and past perfect subjunctive

The upper levels will have the accuracy of their grammar in timed writings corrected

VOCABULARY: Targeted Story Structures: (Structures change every year to challenge students) Recognize and translate vocabulary used in stories throughout year and be able to write story using required vocabulary

LISTENING: TPR Gestures: Demonstrate understanding of oral classroom language in the target language including directions, commands, and requests

LISTENING: Weekend Talks: Understand interpersonal communication on topics of personal interest such as preferences, family life, friends, leisure and school activities, and everyday occurrences

READING: NOVELS: Literacy: Leveled Readers (Level Appropriate Novels): Read and comprehend complex literary and informational texts independently and proficiently.

SPEAKING: Present songs, poems or stories in the target language.

Spanish 2 - Novice Low Level. to Novice Mid Level

Spanish 3 - Novice Mid Level to Novice High Level

Spanish 4 - Novice High Level to Intermediate Low Level

STRAND 2: CULTURE Gain Knowledge and Understanding of Other Cultures

Standard 2.1 Practices and Perspectives Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied.

HUMANITIES

The interdisciplinary Humanities courses are designed to meet the Visual and Performing Arts requirement for graduation. Drawing from world literature, religion, philosophy, theater, art, music, and dance, students learn and practice the creative process; perform/present/produce artistic work they or others have created; respond to the artistic work that they or others have created; and connect their knowledge and experience to make art/connect it to the experiences of others.

Introduction to Humanities

Semester 1 (.5 credit), Semester 2 (.5 credit)

Students explore the essential questions of philosophy: What is real? What is true? What is good? What is beautiful? by examining the philosophies, religions, and cultures of Western and Eastern civilizations.

Introduction to the Arts

Semester 1 (.5 credit), Semester 2 (.5 credit)

This is a survey of the arts, including the various art forms (painting, sculpture, architecture, music, dance, theater, film), historical movements, and the individuals who had profound impact.

Studies in Shakespeare

Semester 1 (.5 credit), Semester 2 (.5 credit)

Students will study two plays by the greatest writer in the English language, William Shakespeare, and learn about Elizabethan times and the Globe theater to provide context to the plays. Students will study the conventions of poetry and participate in close readings to help them understand and interpret the text.

Aesthetics

Semester 1 (.5 credit), Semester 2 (.5 credit)

This course addresses the following questions: What is art? How can art be evaluated? Students will study elements of design and composition, as well as the major schools of thought on the topic of aesthetics.

Priority Standards -- National Arts Standards

Creating

#1. Generate and conceptualize artistic ideas and work

#2. Organize and develop artistic ideas and work

#3. Refine and complete artistic work

Performing/Presenting/Producing

#4. Analyze, interpret, and select artistic work for presentation

#5. Develop and refine artistic work for presentation

#6. Convey meaning through the presentation of artistic work.

Responding

#7. Perceive and analyze artistic work,

#8. Interpret intent and meaning in artistic work.

#9. Apply criteria to evaluate artistic work.

Connecting

#10. Synthesize and relate knowledge and personal experiences to make art.

#11. Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding.

COMPUTERS

Computers

Semester 1 (.5 Credit), Semester 2 (.5 Credit)

Students learn how to use various computer programs to build 21st century skills. They will make an online presence that is healthy, productive and safe. They will also explore possible career paths and how technology is incorporated in every aspect of our lives. This sequence of courses is guided by the Michigan Merit Curriculum Technology Standards. Students demonstrate proficiency in the standards of their choice in the order they choose, based on the students' individual needs and interests. In collaboration with the teacher, the student develops an individualized scope and sequence of the course. For example, students interested in web design may prioritize this area of study and devote more time to it. At the conclusion of the sequence, students will produce evidence of proficiency in all technology standards.

Priority Standards – TECH - HSCE

Creativity and Innovation

9-12.CI.1. apply advanced software features (e.g. built-in thesaurus, templates, styles) to redesign the appearance of word processing documents, spreadsheets, and presentations

9-12.CI.2. create a web page (e.g., Dreamweaver, iGoogle, Kompozer)

9-12.CI.3. use a variety of media and formats to design, develop, publish, and present projects (e.g., newsletters, web sites, presentations, photo galleries)

Communication and Collaboration

9-12.CC.1. identify various collaboration technologies and describe their use (e.g., desktop conferencing, webinar, listserv, blog, wiki)

9-12.CC.2. use available technologies (e.g., desktop conferencing, e-mail, videoconferencing, instant messaging) to communicate with others on a class assignment or project

9-12.CC.3. collaborate in content-related projects that integrate a variety of media (e.g., print, audio, video, graphic, simulations, and models)

9-12.CC.4. plan and implement a collaborative project using telecommunications tools (e.g., ePals, discussion boards, online groups, interactive web sites, videoconferencing)

9-12.CC.5. describe the potential risks and dangers associated with online communications

9-12.CC.6. use technology tools for managing and communicating personal information (e.g., finances, contact information, schedules, purchases, correspondence)

Research and Information Literacy

9-12.RI.1. develop a plan to gather information using various research strategies (e.g., interviews, questionnaires, experiments, online surveys)

9-12.RI.2. identify, evaluate, and select appropriate online sources to answer content related questions

9-12.RI.3. demonstrate the ability to use library and online databases for accessing information (e.g., MEL, Proquest, Infosome, United Streaming)

9-12.RI.4. distinguish between fact, opinion, point of view, and inference

9-12.RI.5 evaluate information found in selected online sources on the basis of accuracy and validity

9-12.RI.6. evaluate resources for stereotyping, prejudice, and misrepresentation

9-12.RI.7. understand that using information from a single internet source might result in the reporting of erroneous facts and that multiple sources must always be researched

9-12.RI.8. research examples of inappropriate use of technologies and participate in related classroom activities (e.g., debates, reports, mock trials, presentations)

Critical Thinking, Problem Solving and Decision Making

9-12.CT.1. use digital resources (e.g., educational software, simulations, models) for problem solving and independent learning

9-12.CT.2. analyze the capabilities and limitations of digital resources and evaluate their potential to address personal, social, lifelong learning, and career needs

9-12.CT.3. devise a research question or hypothesis using information and communication technology resources, analyze the findings to make a decision based on the findings, and report the results

Digital Citizenship

9-12.DC.1. identify legal and ethical issues related to the use of information and communication technologies (e.g., properly selecting and citing sources)

9-12.DC.2. discuss possible long-range effects of unethical uses of technology (e.g., virus spreading, file pirating, hacking) on cultures and society

9-12.DC.3. discuss and demonstrate proper netiquette in online communications

9-12.DC.4. identify ways that individuals can protect their technology systems from unethical or unscrupulous users

9-12.DC.5. create appropriate citations for resources when presenting research findings

9-12.DC.6. discuss and adhere to fair use policies and copyright guidelines

Technology Operations and Concepts

9-12.TC.1. complete at least one online credit, or non-credit, course or online learning experience

9-12.TC.2. use an online tutorial and discuss the benefits and disadvantages of this method of learning

9-12.TC.3. explore career opportunities, especially those related to science, technology, engineering, and mathematics and identify their related technology skill requirements

9-12.TC.4. describe uses of various existing or emerging technology resources (e.g., podcasting, webcasting, videoconferencing, , online file sharing, global positioning software)

9-12.TC.5. identify an example of an assistive technology and describe its potential purpose and use

9-12.TC.6. participate in a virtual environment as a strategy to build 21st century learning skills

9-12.TC.7. assess and solve hardware and software problems by using online help or other user documentation

9-12.TC.8. explain the differences between freeware, shareware, open source, and commercial software

9-12.TC.9. participate in experiences associated with technology-related careers

- 9-12.TC.10. identify common graphic, audio, and video file formats (e.g., jpeg, gif, bmp, mpeg, wav, wmv, mp3, avi, pdf)
- 9-12.TC.11. understand and discuss how assistive technologies can benefit all individuals
- 9-12.TC.12. demonstrate how to import/export text, graphics, or audio files
- 9-12.TC.13. proofread and edit a document using an application's spelling and grammar checking functions

VideoTech

Semester 1 (.5 credit), Semester 2 (.5 credit)

This course will provide a glimpse into the world of filmmaking. Students will learn filming techniques, editing, lighting and sound. They will learn how to use our professional grade cameras and audio equipment to make films.

Independent Study and Seminar Courses

In addition to the prescribed curriculum, Independent Study (individual) and Seminar (small group) courses may be created to meet the individual goals and interests of the student. These courses may serve as either core or elective courses, depending on the student's individual needs. Course work and timelines are designed collaboratively by the teacher and student(s). All courses will address specific Common Core State Standards (CCSS), Next Generation Science Standards (NGSS), and Michigan Merit Curriculum (MMC) standards in the content area, through a topic that is of high interest or need for the student. In some cases, the Independent Study or Seminar course may be inter-departmental, which allows the student to earn credit in more than one content area. Typically, Independent Study and Seminar courses are one semester in duration for .5 credit towards graduation.

Examples of previous Independent Study courses:

- World Drama: Women, Power, and Tragedy
- Classic Science Fiction and the 21st Century
- Contemporary Literature: Sports and Identity in America
- Computer Coding
- Medieval History
- Filmmaking
- Studies in Film
- Poetry
- Studies in Law
- Ecology

Accelerated Learning

Test Out

An assessment may be taken, usually a final exam, to demonstrate proficiency in the course standards. High performance allows the student to be awarded credit in the class without having to take the class. In some cases, if there were a small number of standards that were not met in the testing, the student may choose to demonstrate proficiency on these at a later date. The expectation is that the student works independently to be able to meet these standards when tested later.

Honors

Students with an overall score of 3.2 or more in any class will have an Honors designation for the course on the transcript for the semester.

Independent Study

Students may propose an idea for an individualized course based on their interests/needs and design a curriculum and timeline with the content area teacher. This may reflect advanced work agreed upon by the teacher and student, including preparing for an Advanced Placement exam.

Advanced Placement

Advanced Placement courses are offered in English and computers at New School High. Courses not offered at our school may be accessed through Michigan Virtual School (MVS), an online partner with the Michigan Department of Education. AP designation is reflected on the student's transcript for successful completion.

Dual Enrollment

Dual enrollment allows students to gain high school and college credit. Students must work with the school guidance counselor to determine if they meet the requirements to enroll in a university or community college course. Students may take only classes that are not offered by the high school and not of an "activity" nature. Transportation is the responsibility of the family. The course must be able to integrate into the student's schedule at school. The cost may be met by the high school, however, students who do not pass the class must reimburse the school for the cost of the course.