

COURSE GUIDE

2018-19

MATH AND SCIENCE ACADEMY

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COURSES, ELECTIVES, AND ENRICHMENT COURSES

ENGLISH

English 6 (6th grade)
 English 7 (7th grade)
 English 8 (8th grade)
 Literature & Composition (9th grade) Algebra III (9th grade) British World
 Literature (10th grade) Pre-calculus (10th grade) American Literature (11/12th
 grade) Calculus (11/12th grade)
 Research Writing (10-12th grade) AP Calculus AB (10-12th grade) EL
 Composition (10-12th grade) AP Calculus BC (11/12th grade) EL Study Skills (6th grade)
 AP Statistics (10-12th grade) EL
 Study Skills (7-9th grade) Math Skills (6th grade) teacher recommended Alternative Literature (9-12th grade)
 EL Personal Finance (9-12th grade) EL
 Speech (9-12th grade) EL

Poetry (7-8th grade) EC

Speech (7-8th grade) EC

Young Adult Literature (7-8th grade) EC

Literature & Comp (11/12th grade) EL PE 8 (8th grade)

ART

Art & Creativity (6th grade) EC

Art 8 (8th grade)

Art & Technology (7-8th grade) EC *SOCIAL STUDIES* Drawing (9-12th grade) EL

MN History (6th grade)

Painting (9-12th grade) EL

Digital Visual Communications I (9-12th) EL

Digital Visual Communications II (9-12th) EL

Sculpture & Craft (9-12th grade) EL Modern World History and Human Geography (10th) Ceramics (9-
 12th grade) EL American History (11/12th grade) AP Studio Art (10-12th grade) EL Political Science
 (12th grade)

PERFORMING ARTS

Concert Band (6th grade) EC

Wind Band (7-8th grade) EL

Wind Ensemble (9-12th grade) EL

World of Music/Drumming (6th grade) EC

Choir for credit (9-12th grade) zero hour EL

Symphony for credit (9-12th grade) zero hour EL

Wind Ensemble online for credit (9-12th) EL

SPANISH

Intro to Spanish (teacher recommendation)

Spanish 6 (6th grade)

Spanish 7 (7th grade)

Spanish I (8th grade) Engineering I (9-12th grade) EL Spanish II (9th grade) Engineering

II (9-12th grade) EL

Spanish III (10th grade)

MATH

Pre-algebra (6th grade)

Algebra I (7th grade)

Algebra II (8th grade)

Algebra III (9th grade)

American Literature (11/12th

grade) Calculus (11/12th grade)

AP Calculus AB (10-12th grade) EL

AP Calculus BC (11/12th grade) EL Study Skills (6th grade)

AP Statistics (10-12th grade) EL

Math Skills (6th grade) teacher recommended

Alternative Literature (9-12th grade)

EL Personal Finance (9-12th grade) EL

Speech (9-12th grade) EL

Poetry (7-8th grade) EC

Speech (7-8th grade) EC

Young Adult Literature (7-8th grade) EC

Literature & Comp (11/12th grade) EL PE 8 (8th grade)

PE 9 (9th grade)

Health 7 (7th grade)

Health 9 (9th grade)

SOCIAL STUDIES Drawing (9-12th grade) EL

US Studies (7th grade)

Global Studies (8th grade)

Ancient World History and Geography (9th grade)

Modern World History and Human Geography (10th) Ceramics (9-

12th grade) EL American History (11/12th grade) AP Studio Art (10-12th grade) EL Political Science

(12th grade)

Introduction to Economics (12th grade)

Sociology (10-12th grade) EL

AP Psychology (11th/12th grade) EL

SCIENCE

Life Science (6th grade)

Earth Science (7th grade)

Physical Science (8th grade)

Biology (9th grade)

Chemistry (10th grade)

Physics (11th/12th grade)

Engineering (8th grade) EC

Anatomy & Physiology (10-12th grade) EL

Bio-engineering (9-12th grade) EL

Engineering I (9-12th grade) EL Spanish II (9th grade) Engineering

II (9-12th grade) EL

Taste of Science (9-12th grade) EL

Spanish IV (11/12th grade)

AP Spanish Language (11/12th grade) EL

AP Biology (9-12th grade) EL

AP Chemistry (11-12th grade) EL

AP Physics (11-12th grade) EL

EL: Elective class for high school students. High school students choose electives.

EC: Enrichment course for middle school students. Middle school students are assigned enrichment courses.

HIGH SCHOOL GRADUATION REQUIREMENTS AT MSA

ENGLISH — Requirements: 4 years of English

- Literature and Composition (Grade 9)
- World/British Literature (Grade 10)
- American Literature (grade 11)
- Research Writing (1 semester)
- Composition (1 semester)
- AP Literature and Composition

MATH — Requirements: Progression through Calculus I

- Algebra II with Geometry
- Algebra III with Geometry and Trigonometry
- Pre-Calculus
- Calculus
- AP Calculus AB
- AP Calculus BC
- AP Statistics

SCIENCE — Requirements: 1 year each of Biology, Chemistry and Physics

- Biology (Grade 9)
- Chemistry (Grade 10)
- Physics (Grade 11)
- AP Biology
- AP Chemistry
- AP Physics

SPANISH — Requirements: 3 years of high school Spanish

- Basic Spanish (recommendation by teacher)
- Introduction to Spanish (recommendation by teacher)
- Spanish I
- Spanish II
- Spanish III
- Spanish IV
- AP Spanish Language and Culture

SOCIAL STUDIES — Requirements: 4 years of Social Studies

- Ancient World History and Geography (Grade 9)
- Modern World History and Human Geography (Grade 10)
- American History (Grade 11)
- Political Science (1 semester)
- Introduction to Economics (1 semester)
- AP Psychology

FINE/VISUAL ARTS — Requirements: 2 semesters of Fine Arts

- Band

- Choir
- Symphony
- Wind Ensemble
- Drawing
- Painting
- Digital Photography I & II
- Sculpture & Craft
- Ceramics
- AP Studio Art

HEALTH/P.E. — Requirements: 1 semester of P.E. & 1 semester of Health

- Health (1 semester)
- P.E. (1 semester)

GRADING, CREDITS AND TESTING

Grading Procedure

All students at MSA must earn at least a D- or better in each of the required courses (except where it is noted in the math program). No credit will be given for a portion of a dropped course. A student must successfully complete the course to be awarded a credit. If a student does not complete a core course or receives a failing grade, he/she must repeat it in order to fulfill the graduation requirements. If it is necessary to remove a student from a class during the term for disciplinary reasons, the student may not receive credit for work completed in that course.

Grade Appeal Process

A parent may contest a failing grade to the Assistant Director by filing a written appeal. If they are not satisfied with the decision of the Assistant Director, they may appeal to the Director.

Dropping a Course

Students may drop a course within the first two weeks of the school year (for year-long courses) or the first two weeks of the semester (for semester-long courses) providing there is another viable course option available for the student.

Enrichment and Elective Courses

Students in grades 6-8 have the opportunity to take enrichment courses. Students in grades 6-8 will not necessarily have the opportunity to select elective courses, but will instead be put into a selection of enrichment courses according to their course schedule and progression. Students in grades 9-12 have the opportunity to select from various elective courses. Both elective and enrichment courses will be visible on the student’s transcript and a grade will be provided.

Incomplete Grades

An incomplete letter grade of “I” may be issued by the teacher only for the following reason:

- An excused absence the last week of the semester (up to five school days before the semester end).
No other absences will be granted an incomplete prior to the last week of the semester.

An incomplete grade of “I” will not be issued for the following reasons:

- The student has an F in the class.
- No excused absences the last five days of the semester.
- Unexcused absences the last five days of the semester.
- Ten or more excused or unexcused absences for the semester, unless the student has an ongoing health condition and documentation is in the student’s health file.

Criteria that should be met when a student is issued an incomplete:

- The student has five school days beginning the first school day after the end of the semester to complete any missing assignments or tests. The five school days applies to the end of the school year. (Semester 2)
- If the student does not complete the missed coursework within five school days, the missed work will be given a zero and the incomplete will now become the letter grade.

Grading Scale & Class Rank:

The Math and Science Academy does not weight Advanced Placement or PSEO grades and uses a 4.00 grading scale. The Math and Science Academy does not officially recognize student class rank or Valedictorian status. Due to small class sizes and the academic rigor of our course work, we believe that class rank does not depict an accurate assessment of our student’s potential.

Grading Scale:

A 93-100% = 4.00	A- 90-92.9% = 3.67	B+ 87-89.9% = 3.33
B 83-86.9% = 3.00	B- 80-82.9% = 2.67	C+ 77-79.9% = 2.33
C 73-76.9% = 2.00	C- 70-72.9% = 1.67	D+ 67-69.9% = 1.33
D 63-66.9% = 1.00	D- 60-62.9% = 0.67	F Below 60% = 0.00

* No Grade (NG)/Repeated (R) and transferred courses not included in GPA

Graduation Requirements:

English	4 years
Social Studies	4 years
Science	Biology, Chemistry & Physics
Math	Progression through Calculus I
Spanish	3 years of high school Spanish
Fine Arts	1 year (2 semesters)
Physical Education	Health and P.E. (1 semester each)

State and Scheduled Tests

PSAT (Preliminary Scholastic Aptitude Test)

All 9th – 11th grade students will take the Preliminary Scholastic Aptitude Test (PSAT). The 11th grade students take the test as part of the National Merit Scholarship Competition.

MCA (Minnesota Comprehensive Assessments)

Minnesota Comprehensive Assessments (MCAs) are given to grades 6, 7, 8 and 10 for Reading and 6, 7, 8, 11 for Math and grades 8 and 9 for Science during April. As stated on the Minnesota Department of Education's website: "The MCAs and alternate assessments (MCA-Modified and MTAS) are the state tests that help districts measure student progress toward Minnesota's academic standards and meet the requirements of the Elementary and Secondary Education Act (ESEA)." Students take one test in each subject. Most students take the MCA, but students who receive special education services and meet eligibility criteria may take the MCA-Modified or the MTAS. All students are required to take these tests.

ACT

All 11th grade students will have the opportunity to take the ACT plus writing at MSA during the school day on a designated and state decided date in the Spring.

MSA COURSE CREDIT RECOVERY OPTIONS AND PROCEDURES

Credit Recovery is a term used to describe a wide variety of educational strategies and programs that give high school students who may have failed a course the opportunity to redo a course or retake a course, sometimes through alternative means. MSA believes very strongly in student success and achievement and works hard to ensure that all students receive the educational content needed to be successful in life and in their postsecondary endeavors. The following definitions and procedures are intended to inform students and families of the credit recovery options available at MSA. **Credit Recovery should only occur if a student has failed a course and only if the failed course impedes the student's expected graduation date at MSA.**

Credit Recovery Options for MSA students:

MSA Course Repeat

A student who has received a final grade of an F in a course at MSA will repeat the same course the following year to relearn and master course content and standards. Courses in the subjects of English, History and Science can be taken concurrently.

For example: A student who has failed Ancient World History at MSA in 9th grade, will be required to complete the same course in 10th grade. The student may also take another History course in 10th grade simultaneously.

Summer School Course

A student who has received a final grade of an F in a course at MSA may have the option to take an equivalent course through the family's home district and outside of MSA during the summer months. This option should only be used if the equivalent course is offered and only when the failed course impedes the student's expected graduation date at MSA.

For example: Because Calculus is required to graduate from MSA and Math courses cannot be taken simultaneously, a student who has failed Algebra II in 9th grade at MSA can attend a summer school course in the home district which is equivalent to Algebra II. After confirmed successful completion of the summer course, the student may enter 10th grade in Algebra III at MSA.

Postsecondary Enrollment Options (PSEO)

A student who is behind a year in a required subject course at MSA may seek out course equivalent options through PSEO. Through the PSEO option, students may take the equivalent of a 1-year MSA course in a semester, potentially allowing for 2 courses to be completed in a school year.

Students may take a maximum of 2 Summer School courses through their home district to meet the MSA graduation requirements and receive an MSA high school (grade 9-12) diploma.

Courses through Summer School or PSEO must be pre-approved by the MSA Academic Counselor to ensure the courses taken will meet MSA's course standards and requirements.

Any grades received from a summer course will not be included in the calculation of MSA's GPA. The course will be labeled on the MSA transcript with a Pass/Fail grade and as a transfer course. The failed MSA course will remain on the student's MSA transcript.

MSA must receive a transcript or official completion grade from the school the course was taken from upon completion of the summer school course.

In the case of a course being repeated at MSA, the failed MSA course will continue to appear on the MSA transcript. Once the failed course is successfully repeated at MSA, the GPA will be calculated from the repeated course grade rather than the initial course grade and the initial course grade will be changed to a NG (no grade).

If you are still unsure of the options available to you, please contact MSA's academic school counselor for more information.

POSTSECONDARY ENROLLMENT OPTIONS (PSEO) & ADVANCED PLACEMENT OPTIONS (AP)

Postsecondary Enrollment Options (PSEO)

PSEO allows 10th, 11th and 12th grade student to earn both high school and college credit while still in high school, through enrollment in and successful completion of college-level coursework. Most PSEO courses are offered on the campus of the postsecondary institution; some courses are offered online.

There is no charge to participate in PSEO courses. Each participating postsecondary institution has their own admission requirements and course options available to PSEO students. Students must meet the PSEO residency and eligibility requirements and abide by participation limits specified in Minnesota Statutes, section 124D.09.

Students interested in participating in PSEO the following school year must complete MSA's PSEO contract and submit it to the counseling office by May 30th. It is important that students and families are made aware of all of the factors involved when participating in PSEO and the impacts it can have on student academics and graduation progression. To learn more about PSEO please visit MDE: <https://education.mn.gov/MDE/fam/dual/pseo/>

PSEO Student Responsibilities:

- Understand that scheduling conflicts may occur for part-time PSEO students.
- PSEO is considered concurrent enrollment. This means that the student's grades that are received in their PSEO courses are reflected on their high school transcript.
- Students are responsible for providing MSA their PSEO course schedule and grades.
- It is the student's responsibility to submit all PSEO application materials and PSEO registration forms as needed.
- Please refer to MSA's course equivalencies to ensure the appropriate PSEO courses are meeting MSA graduation requirements.
- Please refer to each institution's PSEO webpage for information regarding their PSEO program, their application process and deadlines.

Advanced Placement (AP)

Advanced Placement (AP) is a program of college-level courses offered at the high school and are taught by MSA teachers who are trained to teach AP coursework. The Math and Science Academy offers many AP courses. Students are not required to take the AP exam in May, but it is strongly recommended. No matter the final score on the national test, all students will receive a high school grade for all AP courses. Students who score a 3, 4 or 5 on the AP exam may request college credit for that course once they are enrolled in a college. If the score is less than 3, students will still receive high school credit for the course – the college will not require a test score. Students do not need to report their AP score to colleges. To learn more about AP please visit the College Board: <https://apstudent.collegeboard.org/home?affiliateId=ap%7chome&bannerId=heroa%7ccaps-hp>

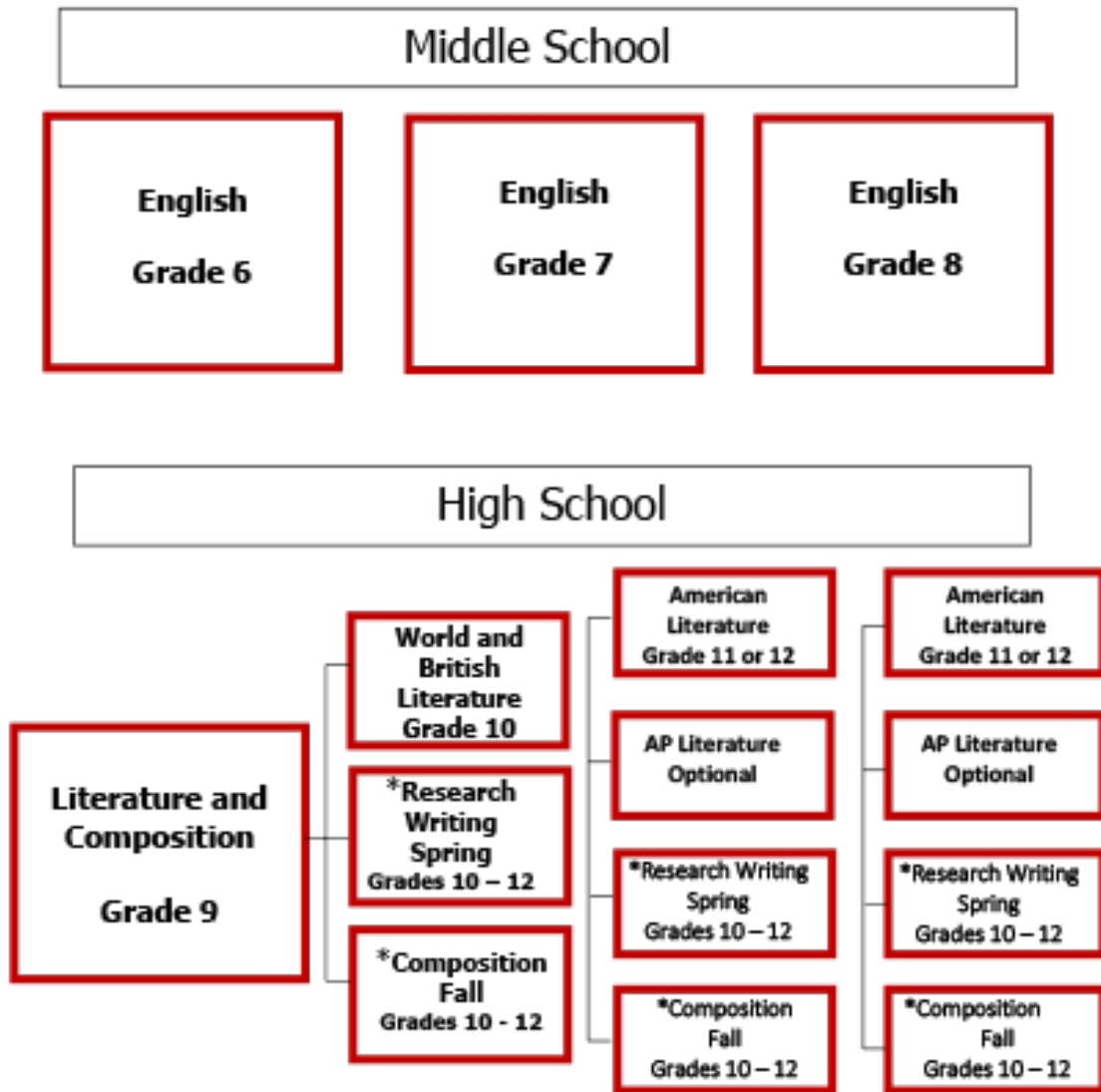
AP Courses at MSA:

AP Literature and Composition, AP Psychology, AP Spanish Language, AP Biology, AP Physics, AP Chemistry, AP Calculus AB, AP Calculus BC, AP Statistics, AP Studio Art

ENGLISH PROGRAM

The English program focuses on improving student's writing skills, grammar, and vocabulary. We help students practice skills to enable them to write and speak clearly. The literature ranges from poetry and short stories to the classics and modern novels, allowing students to participate in different types of literary analysis. Grammar is taught directly and indirectly through literature and writing. Compositions range from five-paragraph essays to literary analysis to informative research papers. Oral presentations are also an essential element of our curriculum. Additionally, students develop study and test-taking skills.

PROGRESSION:



* Required for graduation. May be taken beginning 10th - 12th Grade year in place of an elective.

Grades 11 and 12 offer the same options with the addition of AP Literature and are required for graduation. They do not need to be taken sequentially.

Required Courses:

English 6: 6th Grade

English 6 will consist of reading, writing, speaking, and listening. Students will be reading novels, short stories, and nonfiction, creating book projects, working on technical and creative writing assignments, completing journal entries, and proofreading. This class will also include spelling, vocabulary, grammar, and writing mechanics, as well as giving speeches and presenting skits. Reading assignments may include *Touching Spirit Bear*, *A Wrinkle in Time*, and *The Witch of Blackbird Pond*.

English 7: 7th Grade

English 7 includes the essential components of language arts: reading, writing, speaking, and listening. Units of study focus on parts of speech, sentence structure, and paragraph development; elements of fiction and character analysis; myths, tales, and legends; non-fiction reading and informative writing; spelling and vocabulary. Texts include short story selections, *Downriver*, *The Call of the Wild*, and *The Miracle Worker*.

English 8: 8th Grade

English 8 encompasses all areas of language arts. Students will read novels, plays, poetry, and non-fiction. Students will spend time writing technical essays and a variety of other practical writing pieces. Throughout the year, students will study writing mechanics, usage, and grammar, as well as vocabulary. Students will also give speeches and class presentations. Reading assignments include *The Outsiders*, *The Diary of Anne Frank*, *Roll of Thunder Hear My Cry*, *The Giver*, and *Twelve Angry Men*.

Literature and Composition: 9th Grade

Students will be immersed in novels, short stories, and a play. They will be working on different writing styles: persuasive, compare/contrast, and creative-research. The study of grammar and vocabulary will also add to providing the students with the reading, writing, speaking, and listening skills essential for today's students. Reading assignments include: *Of Mice and Men*, *To Kill a Mockingbird*, *Fahrenheit 451*, *The Tragedy of Romeo and Juliet*, and *Speak*.

British /World Literature: 10th Grade

The literature of Great Britain is one of the oldest national literatures in the Western world. Many world famous masterpieces were written in Scotland, Wales, Ireland, and England. Students will take a chronological walk through British literature. They will read *Beowulf*, Medieval literature, Shakespeare's *Macbeth*, Mary Shelley's *Frankenstein*, romantic poems, Golding's *Lord of the Flies*, George Orwell's *1984*, and finally, Samuel Beckett's *Waiting for Godot*. For the World Literature portion, students will analyze representative masterpieces of world literature and make a comparative study of genres and themes as well as cultures and historical periods from Africa, Europe, Asia, North and South America. This course gives students an opportunity to examine literary works such as drama, short stories, poetry, and novels in order to heighten the student's awareness of the international and timeless themes in literature. Reading assignments include: *Cyrano de Bergerac*, *Metamorphosis*, *Things Fall Apart*, *A Small Place*, *A Doll's House*, and *Hamlet*.

American Literature: 11th -12th Grade

This year long course will trace the history and development of literature in America from the colonial days to the early twentieth century. Students will have a deeper understanding of the American experience after reading books

that include *The Crucible*, *Catcher in the Rye*, *The Grapes of Wrath*, *Adventures of Huckleberry Finn*, *Death of a Salesman*, and *The Things They Carried*. Students will also be analyzing poetry from the Harlem Renaissance.

Composition: 10th -12th Grade

This semester course gives students practice with “real world” technical and business writing. Students will work on proofreading skills, ACT vocabulary skills, writing for a specific audience, and the three “C’s” of technical writing (clear, concise, complete). The writing will focus on: short clear, concise, and complete pieces of writing, business letters, college essays, professional emails, collaborative writing, presentations that effectively include text, graphics, images and sound with writing.

Research Writing: 10th -12th Grade

This semester course is designed to help students practice an effective research writing process: prewriting, drafting, revising, editing, and publishing. Students will work on developing complex sentences with grammar exercises throughout the course; also, they will write four academic essays: a persuasive essay, a how-to research paper, a narrative research paper, and a multi-genre research paper. Each research paper will be written within a creative writing format.

Enrichment and Elective Courses:

Study Skills: 6th grade

Students will learn skills needed to be successful at the Math and Science Academy. The course will cover how to use a planner, how to take notes, how to read textbooks for maximum retention, how to study for a test, what sources to use in writing and research, the importance of making a schedule, and how to stay organized. The course will also cover other needs of students as these needs arise. Finally, study skills is also a time when the 6th graders get to meet with high school mentors, who make the new students feel welcome and help them navigate the various components of life at MSA.

Young Adult Literature: 7th or 8th grade

This class will look at award-winning Young Adult Literature. Students will look at the criteria for these awards and discuss what makes a book "award-winning." With these criteria in mind, students will read various works of Young Adult Literature which have won literary awards in recent years, paying close attention to the award-winning elements of the book, as well as other literary elements of the text.

Poetry: 7th or 8th grade

Through reading, discussing, analyzing, and writing poems, students will determine what poetry, in many forms and elements and themes, means to them. Poetry study will help broaden the experiences of readers with new concepts and fresh outlooks on the ordinary things that surround them. Besides semantic understanding of poetry, sounds, images, rhythms, and figures of speech enhance students’ comprehension and appreciation. Students will analyze how the form or structure of poetry contributes to meaning. Also, students will determine the themes of poems and analyze their developments. Forms of poetry will include chorals, haiku, headline poems, sonnets, epic poetry, and villanelles. Elements and themes will include alliteration, connotation, rhyme scheme, allusion, hyperbole, motif, romanticism, transcendentalism, and realism.

Study Skills: 7th, 8th, or 9th grade

This course is designed to help students learn and refine skills needed to be successful in the high school courses at the Math and Science Academy. These skills include: listening, speaking, reading, writing, note-taking, studying for tests, critical thinking, and time management. The course will cover how to prioritize, the importance of making a schedule, how to use a planner, how to take notes, how to read textbooks for maximum retention, how to study for a test, what sources to use in writing and research, and how to stay organized. The course will also cover other needs of students as these needs arise.

Poetry: High School

This is a semester long course. Students will study and write different forms of poetry. Students will explore literary devices, use of white space, traditional and nontraditional types of poetry.

Speech: High School

This is a semester long course. Students will write and present different types of speeches. Speeches that will be presented will include: Oral Interpretation, Introduction, How-To, Persuasive, Special Occasion, and Informative. Some speeches will be read from published works; others will be written by the student. Some speeches will be memorized as well.

Alternative Literature: High School

This course will examine literary works outside the established hegemonic perspective. We will read works by women authors, authors of color, Native American authors, and texts from the LGBTQ perspective. At the same time, we will be examining how and why these works are “alternative” or “other,” and what makes a text a “classic” worthy of study.

AP Literature and Composition: 11th -12th Grade

The AP English Literature and Composition course engages students in the careful reading and critical analysis of imaginative literature. Through the close reading of selected texts, students deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. As they read, students consider a work’s structure, style, and themes, as well as such smaller-scale elements as the use of figurative language, imagery, symbolism, and tone. Students will be expected to complete daily reading and writing assignments as well as take several AP practice tests.

Prerequisites: *B+ or better in British World Literature and a required essay before admittance*

FINE AND VISUAL ARTS PROGRAMS

Art is an essential part of a liberal education. There are a variety of music and art courses to choose from in every grade. Additional classes may be offered based upon student interest and teacher availability. Art is required in 6th and 8th grade. Students are required to take two additional semesters of fine arts between 9th and 12th grade.

Performing Arts:

Performing Arts at the Math and Science Academy is a comprehensive instrumental and general music curriculum that allows students of all musical backgrounds to encounter and explore the musical genre. Instrumental and non-instrumental music courses will progress from a general knowledge of music to the beginning, intermediate, and advanced stages of musical performance.

Band: Middle School

Students interested in band who are entering the 6th grade, will be placed in the Introduction to band class if just beginning a new instrument or placed in the Concert Band if having had, at least, one year of experience on the instrument. Continuing 7th grade students will either be placed in the Concert Band for continuing experience or in the Wind Band which is a bit more advanced. All 8th grade students going into 9th grade will move into the Wind Ensemble.

World of Music/Drumming: 6th grade

As a society, we tend to lock ourselves into a series of routines. We construct agendas, schedules, and timetables to the point that everyday tasks often become humdrum and boring. Well, the times they are “a changin’”. In this course, designed specifically for young, inquiring minds who have not become rigid and set in their ways, we will explore MANY new and exciting means of accomplishing those everyday tasks. Students will need on a daily basis to arrive to class with a pencil, a journal, and an inquiring mind. All additional materials will be required on an as-needed basis.

Introduction to Band: 6th grade

This course is designed specifically for the beginning instrumental student, the student who has never played a musical instrument before and/or the student learning a new instrument. Materials and techniques of instrumental performance will be presented and put to practical use according the National Arts Educational Standards for grades 6 through 8. The course will include rehearsals and performances.

Wind Band: 7th -8th Grade

This ensemble is for the intermediate to advanced Middle School instrumentalist. Students will sight-read and perform music at the MSHSL levels of II and above, while addressing the theoretical and technical musical concepts appropriate with the National Performing Arts Educational Standards for grades 6-8. These standards address issues such as solo/small ensemble/large ensemble rehearsal and performance, theory, terminology, and composition.

Choir (For credit): High School

Now a curricular class - (0 hour for 9-12 grades, for credit) will be meeting on Tuesdays and Fridays from 8-9:10 a.m. 9-12 graders will have to sign up at the Back-to-school night or online to get credit. Attendance will be mandatory at all rehearsals to get credit recognition. Any questions should be directed to Mr. Shelton.

Symphony (For credit): High School

Now a curricular class 8th hour for 9-12 grades, for credit will be meeting on Mondays and Wednesdays from 4:00-5:00 p.m. Attendance will be mandatory at all rehearsals to get credit recognition. Any questions should be directed to Mr. Shelton.

Wind Ensemble: High School

This ensemble is for advanced instrumentalists. Students will sight-read and perform music at the MSHSL levels of Class II and above, while addressing the theoretical and technical musical concepts appropriate with the National Performing Arts Educational Standards for grades 9-12. These standards address issues such as solo/small ensemble/large ensemble rehearsal and performance, theory, terminology, and composition.

Wind Ensemble Online: High School

This is an online course specifically for those instrumentalists who cannot fit the curricular ensemble rehearsal into their daily schedule. Through the use of the online subscription rehearsal program, SmartMusic, and online class assignments, instrumentalists will cover the same material as the curricular course (see Wind Ensemble).

Visual Arts:

The visual arts department begins at the middle school level with an overview of the building blocks of art and design. It introduces the students to a variety of two-and-three-dimensional art media, artists, and techniques. Students will study art in historical contexts to learn more about the impact and role visual arts has played in human achievement. They will learn how art and culture are intertwined, to help them better understand the visual world in which we live. Students will form connections, think creatively, and problem solve while learning new art skills and practicing art techniques.

At the high school level, the Art Department offers a variety of focused elective classes. Through these classes students will continue to appreciate multiple artistic styles and to practice solutions to visual problems. They will expand and refine their art skills and knowledge, and they will continue to transform, synthesize, and appraise their own work and the work of their fellow students.

Art and Creativity: 6th Grade

Art has a language all its own. In this class students will be introduced to the elements of design, which are the building blocks of art. They will learn about these art elements while creating a variety of projects by studying multiple artists and by experimenting with different art media and art styles. Students will learn how to brainstorm to gather ideas and will begin to understand how to use art vocabulary to talk about and make judgments about their own and others' artwork.

Art Basics: 8th Grade

Students will continue to explore their own creativity and hone their art skills using multiple art materials. By studying famous artists and artwork, students will explore and create with a variety of media and techniques. Students will continue to develop their artistic sense and craftsmanship skills while learning how to communicate ideas visually.

Art and Technology: 7th or 8th grade

In this class students will be combining traditional art materials with digital art mediums. The focus may include Photoshop and digital imaging techniques, creating videos with green screen and stop motion elements, and visual presentation applications. Students will gain experience with a mix of old and new art media and materials.

Drawing: High School

Students will learn the basics of observational drawing. They will begin to understand and practice how to transfer what they see in the three-dimensional world onto a two-dimensional surface. They will learn to draw what they see not what they "think" they see. Light and value are important to this process. The work of famous artists will be analyzed and studied to help students understand techniques and develop their drawing and painting skills. They will explore different mediums (pencil, charcoal, pastel, ink) and different techniques (hatching, stippling, gesture) to create original works of art. Fee: There is a \$15.00 lab fee for this course.

Painting: High School

This course will focus on color theory and composition. Students will learn the various techniques associated with watercolor and acrylic painting as well as mixed media art. The work of famous artists will be studied and analyzed

to help students learn from the masters. Here they will be inspired to hone their skills and develop their own style and voice. **Prerequisites:** There is a prerequisite of Drawing or teacher approval for this course. Fee: There is a \$15.00 lab fee for this course.

Digital Photography and Visual Communication I: High School

This course will begin to teach students how to create effective visual images with print, computer, and video. Students will learn the basics of good design and put it into practice in a variety of ways. We will look at advertising, movies, graphic design, and photography to understand how information can be best communicated to an audience. They will use Photoshop to learn basic digital imaging while also learning to enhance some of their photographic work. Fee: There is a \$15.00 lab fee for this course.

Digital Photography and Visual Communication II: High School

This course is a continuation of Digital Photography and Visual Communication I. Students will continue to work with digital and design media, expanding on previously learned skills. **Prerequisites:** There is a prerequisite Digital Photography and Communication I or instructor approval for this course. Fee: There is a \$15.00 lab fee for this course.

Sculpture and Craft: High School

Students will get the opportunity to explore three-dimensional media such as clay, paper mache, cardboard, wood, fiber, and found objects. This class will give students an introduction to the history of craft and functional art. Projects could include hand-built and wheel thrown pottery, weaving, paper mache, jewelry, furniture, and whatever other every day, thrown away or functional pieces we can find to beautify. Fee: There is a lab fee of \$15.00 for this course.

Ceramics: High School

This class will focus entirely on ceramics (clay). Students will learn advanced hand-building, wheel-throwing, sculpture, and decorating techniques. They will also learn about the history of ceramics and clay sculpture of different art styles and from various cultures. **Prerequisites:** There is a prerequisite of Sculpture and Craft or instructor approval for this course. Fee: There is a \$15.00 lab fee for this course.

AP Studio Art: 10th - 12th Grade

The course promotes a sustained investigation of all three aspects of portfolio development... quality, concentration, and breadth... The course enables students to develop a body of work investigating a strong underlying visual idea in drawing, 2-D design, or 3-D design that grows out of a coherent plan of action or investigation (i.e., a “concentration”). The course enables students to develop mastery (i.e., “quality”) in concept, and composition, and teaches students a variety of concepts and approaches in drawing, 2-D design, or 3-D design so that students are able to demonstrate a range of abilities and versatility with technique, problem solving, and ideation (i.e., “breadth”). Such conceptual variety can be demonstrated through either the use of one or the use of several media. The course emphasizes art making as an ongoing process that involves the student in informed and critical decision making. The course includes group and individual student critiques and instructional conversations with the teacher, enabling students to learn to analyze and discuss their own artworks and those of their peers. The course teaches students to understand artistic integrity as well as what constitutes plagiarism. If students produce work that makes use of photographs, published images, and/or other artists’ works, the course teaches them how to develop their own work so that it moves beyond duplication. There is a \$25.00 lab fee for this course.

Prerequisites: 1 year of High School Art, B+ or better in the class correlating to which AP portfolio you want to take and summer homework art pieces.

MATHEMATICS PROGRAM

The math program at the Math and Science Academy consists of a comprehensive curriculum that allows students to advance at their own pace, provided that they can demonstrate mastery of the content material. The typical sixth grade student will start in Pre-Algebra. After students have reached a level of understanding of basic mathematics, they will begin Algebra I with Geometry. After completing Algebra I with Geometry, Algebra II with Geometry, Algebra III with Geometry and Trigonometry, Pre-Calculus, and Calculus, students will have learned all of the mathematics necessary to succeed in a traditional college level calculus course. In order to graduate from MSA, students must successfully complete all courses in the math sequence through Calculus.

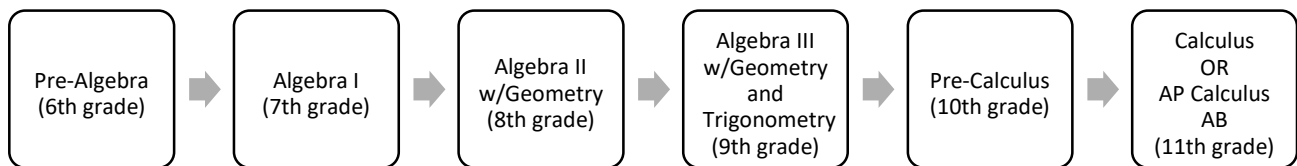
MSA students in Pre-Algebra through Algebra II classes gain math knowledge through the presentation of challenges. Students work on the challenges individually and in small groups then present and discuss their findings. Algebra III, Pre-Calculus, and Calculus students use a more traditional math textbook and class format in order to prepare them for college math classes. Student learning is assessed as students present and discuss their work in class each day. Formal assessment occurs through homework checks, quizzes, and tests.

MSA recognizes the fact that our math curriculum is more difficult than that of a typical high school, and that students will progress through this sequence at different speeds. Students may take classes more than once in order to master the content material. Whenever a student chooses to repeat a course at MSA, only the highest grade is recorded on the student's transcript.

The standard required math course sequence appears in the chart below. Students who are following the standard course sequence, will be allowed to continue that pace as long as they earn a final year course grade of C- or higher. Students who are progressing through the course sequence at an accelerated pace, will be allowed to continue that pace as long as they earn a final year course grade of B- or higher. Students who are progressing through the course sequence at a slower pace, must earn a final year course grade of D- or higher to move on to the next course.

Students who are unable to achieve the required minimum grade at the end of the year, must repeat that course the following school year.

TYPICAL PROGRESSION:



Required Courses:

Pre-Algebra

This course is designed to provide students with an understanding of basic mathematics, and to gain the thinking and arithmetic skills necessary to succeed in Algebra I. Pre-Algebra uses materials from many sources, including the

Connected Mathematics Project, Addison-Wesley Secondary Math's *Focus on Algebra* and Addison-Wesley Secondary Math's *Focus on Geometry*. Students will also be involved in many activities collected from a variety of sources.

Students will be given an MSA math textbook to use as a resource.

Topics include: measuring and perimeter, surface area, 3 dimensional objects, large numbers and scientific notation, factors and multiples, probability, more probability, squares and roots, angles and shapes, ratios and variables.

Algebra I with Geometry

This course is designed to study the relationships between the graphs, tables and rules of linear functions. Algebra I uses materials from many sources, including the *Connected Mathematics Project*, Addison-Wesley Secondary Math's *Focus on Algebra*, and Addison-Wesley Secondary Math's *Focus on Advanced Algebra*.

Topics include: linear functions, tables, graphs, symbolic rules, symbolic manipulation, ratios and proportions, inverse linear functions, linear systems, probability and statistics, geometry.

Algebra II with Geometry

This course is designed to study the relationships between the graphs, tables and rules of many complex functions. Algebra II uses materials from many sources, including Addison-Wesley Secondary Math's *Focus on Advanced Algebra* and *Functions Modeling Change* by Debra Hughes-Hallett.

Topics include: linear systems, quadratic functions, factoring, completing the square, radicals and the quadratic formula, inverses and exponents, geometry, sequences and polynomials, absolute value and inequalities, rational expressions.

Algebra III with Geometry and Trigonometry

This course is designed to start where Algebra II ends and continue the study of the relationships between the graphs, tables and rules of even more complex functions. Designed to prepare students for Pre-Calculus and Calculus, this class will involve a lot of practice in algebraic manipulation with the goal that many operations become almost second nature. Algebra III primarily uses *Algebra and Trigonometry for College Readiness* by Lial and Hornsby.

Topics include: exponents, polynomials, polynomial functions, factoring, rational expressions, rational functions, roots, radicals, root functions, conic sections, nonlinear systems, trigonometric functions, acute angles, right triangles, right triangle trigonometry, geometry, probability and statistics.

Pre-Calculus

This course is designed to prepare students for Calculus. Students will learn that functions can be grouped into families and that functions can be used as models for real-world behavior. Pre-Calculus primarily uses *Functions Modeling Change* by Debra Hughes-Hallett.

Topics include: linear functions, functions, quadratic functions, exponential functions, logarithmic functions, transformations of functions, trigonometry in circles and triangles, trigonometric functions, trigonometric identities and applications, compositions and inverses and combinations of functions, vectors and matrices, sequences, and series.

Calculus

This course is designed to introduce students to the study of calculus so that they can succeed in a traditional college level calculus course. Calculus primarily uses *Calculus, Single Variable* by Debra Hughes-Hallett. **Topics include:** functions, derivatives, differentiation, definite integrals, integration, indefinite integrals, using derivatives and definite integrals

Enrichment & Elective Courses:

Math Skills: assigned to some 6th graders

This course is designed for 6th grade students who come to MSA with weaker basic math skills. The course will be taken concurrently with Pre-Algebra. Math Skills will help to support the Pre-Algebra course work, as well as to strengthen basic math skills. Families should also consider tutoring for their students to help them get ready for Algebra I. Math Skills uses materials from many sources.

Topics include: addition, subtraction, multiplication, division, fractions, decimals, and percent's.

Geometry: can be taken after Algebra II (not offered 2018-19)

This course is designed to introduce students to classical Euclidean geometry and to develop formal and informal reasoning skills. Geometry primarily uses *Geometry Connections* by College Preparatory Mathematics, as well as some unpublished material.

Topics include: logic, inductive and deductive reasoning, complex areas, triangle and circle proofs, trigonometry and probability, constructions, and three-dimensional modeling.

AP Calculus AB: can be taken instead of Calculus I

This course is designed to introduce students to the study of calculus so that they can succeed in a traditional college level calculus course. AP Calculus AB primarily uses *Calculus, Single Variable* by Debra Hughes-Hallett. The AP Calculus AB test may be taken in May.

Topics include: functions, derivatives, differentiation, definite integrals, integration, indefinite integrals, using derivatives and definite integrals. **Prerequisites:** *Pre-Calculus (B+ or higher)*

AP Calculus BC: can be taken after AP Calculus I AB

This course is designed to introduce students to the study of calculus so that they can succeed in a traditional college level calculus course. AP Calculus BC primarily uses *Calculus, Single Variable* by Debra Hughes-Hallett. The AP Calculus BC test may be taken in May.

Topics include: all of the topics in AP Calculus AB plus Euler's Method, L'Hospital's Rule, derivatives of polar, parametric and vector functions, applications of integrals, integration by parts, substitution, improper integrals, logistic differential equations and using them in modeling, polynomial approximation and series, including Taylor and Maclaurin Series.

Prerequisites: *Calculus, AP Calculus (B+ or higher)*

AP Statistics: can be taken after Pre-Calculus

The purpose of the AP course in Statistics is to introduce students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. The course draws connections between all aspects of the statistical process, including design, analysis, and conclusions. Additionally, using the vocabulary of statistics this course will teach students how to communicate statistical methods, results, and interpretations. Students will learn how to use graphing calculators and read computer output in an effort to enhance the development of statistical understanding. AP Statistics primarily uses *Practice of Statistics* by Daniel Yates.

Topics Include: exploring data, describing patterns and departures from patterns, sampling and experimentation, planning and conducting a study, anticipating patterns, exploring random phenomena using probability and simulation, statistical inference, estimating population parameters and testing hypotheses.

Prerequisites: *Pre-Calculus (B+ or higher)*

Personal Finance: 9th - 12th grade

Students learn how to navigate the financial decisions they must face and to make informed decisions relating to career exploration. They also learn the importance of investing in themselves in order to gain the knowledge and skills valued in the marketplace. Development of financial literacy skills and an understanding of economic principles will provide the basis for responsible citizenship, more effective participation in the workforce, and career success.

Topics include: budgeting, banking, credit, insurance, spending, financing postsecondary education, taxes, saving and investing, buying/leasing a vehicle, and living independently.

HEALTH AND PHYSICAL EDUCATION PROGRAM

The mission of this program is to inspire youth to become responsible for their overall wellness in hopes that they will choose a healthy lifestyle enhancing behaviors both now and in the future and to motivate the students to understand and incorporate physical activity in their everyday lives. The curriculum is designed to help students understand that the decisions they make can affect the quality and longevity of their lives.

Required Courses:

Health 7: 7th Grade

The curriculum is designed to help students understand that the decisions they make can affect the quality and quantity of their lives both now and in the future. The health lessons and activities focus on the National Health Standards, and include: personal wellness, mental and emotional wellness, nutrition, decision making and conflict resolution, alcohol and other drug abuse, healthy relationships, human sexuality, physical activity, and communicable and non-communicable diseases.

Health 9: 9th Grade

Upon completion of this class, the students will be able to identify and explain various systems in the body and how they work together. The students will also be able to explain how stress, sexually transmitted diseases, mental disorders, and puberty affect the body's natural functioning. The topics covered include: personal wellness, goal setting, mental and emotional wellness, nutrition, alcohol and other drug abuse, body systems, human sexuality, and early childhood development.

Physical Education: 6th – 9th Grades

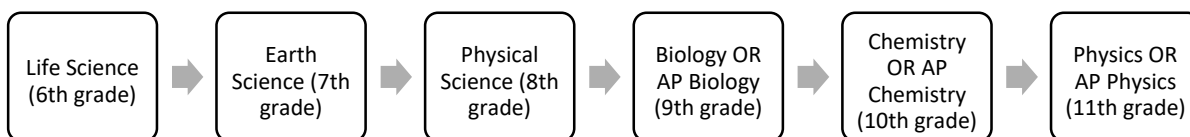
Physical education focuses on the National Standards for Physical Education. The overall goals for students include: being physically active, having a positive attitude towards the activity being presented, and attending class in appropriate physical education attire. A wide variety of activities and skills are covered each week with a short introductory game, fitness activity, and a lesson focus. Students are exposed to numerous sports and activities that include team and lifetime sports, adventure activities, and team building strategies.

SCIENCE PROGRAM

The purpose of the Math and Science Academy's Science Program is to broaden one's understanding of scientific concepts and develop the skills of inquiry. Students will learn subject matter disciplines in the context of inquiry, technology, science in personal and social perspectives, and the history and nature of science while integrating all aspects of scientific concepts. Rather than study a broad range of general topics, students will study a few fundamental scientific concepts that will best prepare them for continued learning.

All elements of the program are consistent with the National Science Education Standards and Benchmarks for Scientific Literacy. All content has been developed within and across grade levels to meet state-mandated goals as measured by the Minnesota Comprehensive Assessments (MCA's) Middle School and High School Science benchmarks. Subject matter is made meaningful as students practice activities that are relevant to their own lives and as they acquire information through multiple sources – educators, practice and experience, and communication with other students. Students will practice inquiring by using multiple processing skills – manipulation, cognitive, procedural – and by performing relevant short-term and extended activities that investigate and analyze science questions.

TYPICAL PROGRESSION:



Required Courses:

Life Science: 6th Grade

Students will learn subject matter disciplines in the context of inquiry, technology, science in personal and social perspectives, and history and nature of science while integrating all aspects of biological concepts consistent with State Standards, the National Science Education Standards and Benchmarks for Scientific Literacy. Rather than study a broad range of general biological topics, students will study a few fundamental scientific concepts that will best prepare them for success in AP Biology/Biological Sciences. Students will practice inquiry by using multiple processing skills – manipulation, cognitive, procedural, laboratory descriptions investigations, and by performing relevant short-term and extended activities that investigate and analyze science questions.

Earth Science: 7th Grade

Students will investigate Earth science concepts including the nature and practice of science, Earth in space, geology, meteorology, and human interactions with Earth systems. Students will demonstrate the application of critical thinking skills to science problems and develop an awareness of basic underlying concepts that relate to or explain the natural world (systems, cycles, order, change, energy and matter, cause and effect). The course includes in-class and group activities, online learning, labs and inquiry, research projects, and other assignments.

Physical Science: 8th Grade

Physical Science is foundational to high school chemistry and physics. This class presents a wide range of topics including scientific methods, measurements, matter, chemistry, chemical systems, motion and forces, simple machines, sound, light, and electricity. It can be mathematically intense, and the students will develop a strong

conceptual understanding of Physical Science by the end of the year. The first semester is an introduction to chemistry, and the second semester will concentrate on physics.

Biology: 9th Grade

Students enrolled in this course will learn about the living world at all levels of organization and the processes involved at those levels. To do this, students will work with concepts, theories, and principles of the living environment. Topics will include cells and cellular processes, genetics, evolution, diversity of life, body systems, and ecology. Laboratory activities and field investigations will be used to supplement student understanding of each of these topics. In addition to these topics, students will also learn about historical biology background, potential careers in the field of biology, and evaluate current biology-related issues.

General Chemistry: 10th Grade

Chemistry is a course in which the student will investigate chemical and physical behavior of matter using the scientific method. In the laboratory the student will learn to make careful observation, seek out regularities, and attempt to provide explanations for observed behavior. The student is introduced to a fundamental understanding of chemical reactions and chemical bonding through a detailed analysis of the structure of the atom. These experiences are centered around laboratory activities with much emphasis being placed on process, observation, and evaluation of observation.

General Physics: 11th Grade

This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, optics, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied. Laboratory experiments and computer-based exercises enhance and consolidate the understanding of basic physical principles and applications. Prior to taking this class students should have 1 year of algebra and a basic understanding of trigonometry.

Enrichment and Elective Courses:

Engineering: 8th grade

Students will investigate science and engineering concepts through science, technology, engineering and math (STEM) activities. Some projects will incorporate computer design and the use of fabrication equipment to create a variety of products. Students will participate in guided investigations and open-ended problem solving activities, learn how to document their work, and communicate their solutions to others. There will be a lab fee of \$15 for this course.

Anatomy & Physiology: 10th - 12th Grade

This course will focus on the anatomy and physiology of the human body. Topics will include each of the body systems and will focus on the relationship between the physiological and anatomical features of each. Laboratory work will include dissection of preserved specimens, physiological experiments, and computer simulations to encourage understanding of material.

Prerequisites: *Biology or AP Biology must be taken prior to enrolling in this course.*

A Taste of Science: High School

Have you ever wondered what makes bread rise? Why is red velvet cake red? Now is your chance to find out! In this course, we will explore the science behind cooking and food ingredients. You will explore the budding field of "molecular gastronomy" and become familiar with some techniques used in this field. For example, we will bake red velvet cake and investigate the secret behind the red color. You will also turn yogurt into "ravioli", create rock candy, make ice cream and marshmallows from scratch! In addition to these, you will have the opportunity to delve into the science of climate change and become a detective in the world of forensic science with opportunities to investigate blood-spatter patterns and bullet trajectories! There will be a lab fee of \$20 for this course.

AP Biology: 9th - 12th Grade

This course can be taken in place of Biology for the graduation requirement or as an elective for students in 10th-12th grade. Students have the option of taking an AP exam in May for college credit. This course is meant to be the equivalent of a two-semester college introductory biology course that covers topics of the living world at all levels of organization. The goal is to provide the knowledge and analytical skills necessary to understand the field of biology.

Prerequisites: *Current 8th going into 9th grade: An A- or higher in Physical Science; For students taking the course as an elective (10th-12th grade): B+ or higher in Biology.*

AP Chemistry: 10th - 12th Grade

This course can be taken in place of Chemistry for the graduation requirement or as an elective for students in 10th-12th grade. The AP Chemistry course is designed to be the equivalent of the general chemistry course usually taken during the first college year, and uses a college level text signed out to 9th grade students after they have completed Biology at the end of the school year. This course will prepare students for 23 successes on the 2015 AP Chemistry Test. Students will complete a self-paced summer preparation program consisting of videos and online assignments covering chapters 1 – 3 and most of chapter 4. Students will be required to meet from 8 a.m. to 2 p.m. on August 4, 2014, and August 18, 2014. The morning sessions will be for instructor assistance and the afternoon sessions will be labs. Students will test on these chapters the second week in September. Students will complete many labs recommended by the College Board. (Note-It is highly recommended that students take Chemistry before this course. They will be more successful and this will eliminate the need for summer school.)

Prerequisites: *A- or better in AP Biology (9th grade) or B+ or better in General Chemistry. Summer homework also required.*

AP Physics: 11th - 12th Grade

AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. The course is based on six Big Ideas, which encompass core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about the physical world.

Prerequisites: *B+ or higher in Algebra III and B+ or higher in AP Chemistry or Chemistry*

Introduction to Engineering (Engineering I): High School

This course will focus on basic principles of engineering including drafting, CAD, programming, and the engineering design process. The class will be project intensive as students work their way through the engineering process from beginning to end to find creative solutions to problems.

Topics include: mechanical, electrical, and civil engineering with continual themes of environmental responsibility, engineering in the workplace, cost analysis, and testing of designed solutions.

Advanced Engineering (Engineering II): High School

This course will continue to focus on basic principles of engineering including CAD, programming, and the engineering design process. The class will be project intensive as students work their way through the engineering process from beginning to end to find creative solutions to problems.

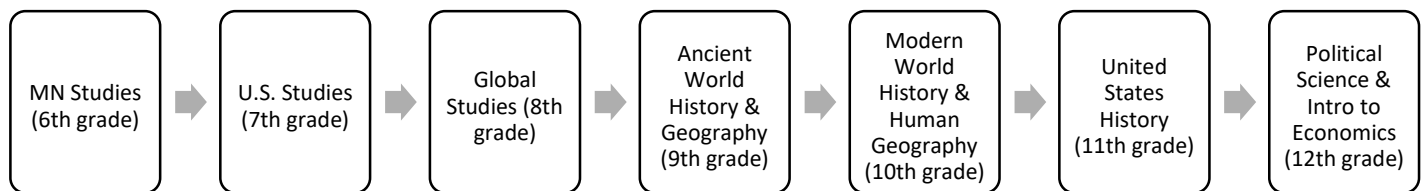
Topics include: topics covered in Engineering I, and more advanced topics in CAD, programming, electronics and 3D printing.

SOCIAL STUDIES PROGRAM

The study of History (Minnesota, U.S., and World) helps students to see how people in other times and places have grappled with the fundamental questions of truth, justice, and personal responsibility, to understand that ideas have real consequences, and to realize that events are shaped both by ideas and the actions of individuals. The global connections in areas such as commerce, politics, migration, and communications, make an understanding of the history of the world's many cultures especially important in fostering the respect and understanding required in a connected and interdependent world.

The geographically literate person knows where important things are, why they are located in those places, and the significance of the location patterns of the world, as well as comprehending the nature and significance of multiple connections between people and places around the world. Included in Social Studies is the study of economics, which enables students to make reasoned judgments about both personal economic questions and broader questions of economic policy in a complex and changing world. The aim of Social Studies civic education is to ensure the participation of informed and responsible citizens who are skilled in the arts of deliberation and effective action.

TYPICAL PROGRESSION:



Required Courses:

Minnesota Studies: 6th Grade

Minnesota Studies includes knowledge, comprehension, and analysis of Minnesota history from tribal settlement to modern-day. Some topics covered will include the daily life of native peoples, early settlement and statehood, Minnesota's role in various wars (Civil War, Dakota Conflict, WWI, WWII, etc.), industrialization, state and local government, and immigration (among other topics). This is a blended course in which the first semester focuses primarily on Minnesota's development, while the second semester brings Minnesota into the larger history of the United States.

US Studies: 7th Grade

US Studies focuses on history as the leading discipline, but also includes citizenship, economics, geography, and government. Students will study the founding documents and explain the impact of various policies on how people lived, worked, and functioned in society. Some of the themes discussed include the Birthplace of Democracy, the Civil War, Reconstruction, WWII, and the beginning of the Cold War. Students will also have the opportunity to complete in the National History Day Competition, an inter-disciplinary research program which broadens students' historical experiences by completing a paper, an exhibit, a documentary, a play, or a website.

Global Studies: 8th Grade

This course takes a regional approach to understanding the world and how people interact with their environments.

Students will analyze important trends in the modern world, participate in civic discussion, conduct historical inquiry, and study events over the last half century that have shaped the contemporary world. The units that students will study include: Geographic Skills, Overview of the World/Globalization, Australia/Oceania, East and Southeast Asia, Southwest and Central Asia, Africa, Europe/Russia, Latin America, and the United States/Canada. A research project is required as well as various smaller projects.

Ancient World History and Geography: 9th Grade

Ancient World History includes knowledge, comprehension, and analysis of World History from Ancient Rome through the Age of Revolution and Enlightenment. We will examine Rome and the Rise of Christianity, The World of Islam (up to 1800), early African peoples, civilizations of the Americas, the Asian world (up to 1800), Europe in the Middle Ages, Renaissance and Reformation, the Age of Exploration, and European Revolution and Enlightenment. We will examine history through the people, events, and ideas that made these periods and countries important, as well as trying to tie countries and people together.

Modern World History and Human Geography: 10th Grade

Modern World History will cover the period from the French Revolution to the late 20th Century. Students will not only examine key historical events, but hone their analytical and writing skills as they prepare for college. Assignments include research papers, essay exams, and document based questions and analysis. Students will be read excerpts from a variety of sources. Key readings will come from primary source documents. These are integral to understanding events in world history. Students will have the opportunity read a literature selection to enhance understanding of a key event or era in modern history and the repercussions that resulted from that extraordinary event. Options could include: Animal Farm, All Quiet on the Western Front, When My Name was Keoko, or Persepolis

American History: 11th Grade

This course provides a one-year survey of American history beginning with the migration of native peoples and civilizations in North America prior to European contact to the Colonial Period, the American Revolution, the Civil War, and other defining events for the United States, including analyses of various civil rights movements and the Vietnam War era. Using the textbook, primary documents, and current events, students will learn about the various political, social, religious, and economic developments that have shaped and continue to shape the United States. Essay writing and critical thinking are emphasized as integral ways of understanding how the past relates to the present and future. A major research paper is required as well as various smaller projects.

Political Science: 12th Grade

This is an introductory course which will provide students with the knowledge and skills needed for informed, responsible, and active participation in their communities. We will be framing the class with the Constitution – using it to explore such topics as rights/responsibilities of citizenship, political parties, the three branches of government, and domestic and foreign policy.

Introduction to Economics: 12th Grade

Economics is the study of how people coordinate their wants and needs, given scarce resources and the decision making mechanisms, social customs, and political realities of their societies. We will examine how decisions made by consumers, workers, investors, managers, and government officials interact to determine the allocation of scarce resources. We will begin with a focus on microeconomics and gradually expand to macroeconomic topics such as GDP, unemployment, inflation, and public policy. This course will also include a unit on personal finance.

Elective Courses:

AP Psychology: 11th - 12th Grade

The AP Psychology course is designed to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. They also learn about the ethics and methods psychologists use in their science and practice.

Prerequisites: *B+ or higher in AP Biology, B+ or higher in Anatomy and Physiology and a B+ average for previously completed Social Studies courses. Summer homework packet also required.*

Sociology: 10th - 12th Grade

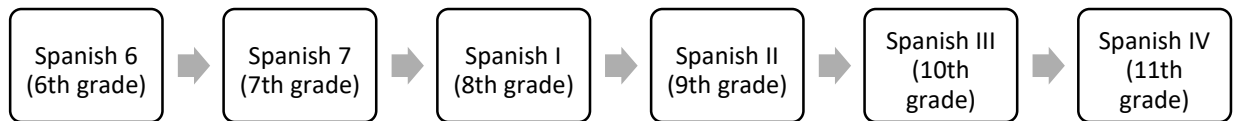
Sociology is the study of human interaction. It focuses on people and their ways of life as well as studying social trends, cultural changes, human development, social institutions and collective behavior. Sociology enhances students' understanding of the social world and offers an accessible setting to learn and use scientific thinking, and consider how society might address social issues. A sociological perspective underscores the importance of examining the social world with a critical eye, and to question assumptions and generalizations about the world. In Sociology you should be open to discussing many current issues including gender, race, class, religion and crime.

SPANISH PROGRAM

Students at MSA are required to take Spanish from sixth grade through eleventh grade. The purpose of this six-year program is to form a strong basis of the Spanish language. The learning includes grammar, vocabulary, writing, literature, conversation, and culture. Students will leave MSA with a strong background in Spanish to help them in their college studies. Students who would like to pursue college Spanish placement testing will be well prepared.

Students in 8th through 11th grade who are new to MSA and have not taken any Spanish courses will be placed into Introduction to Spanish. New 7th grade students will be placed into 6th Grade Spanish. Students new to MSA who have previously taken Spanish and 6th graders from immersion schools will be required to take a placement exam in the spring.

TYPICAL PROGRESSION:



Required Courses:

Spanish 6: 6th Grade

This course is the first year of Spanish. It will include grammar, vocabulary, writing, listening, and cultural skills. Students will learn the basics of Spanish such as the alphabet, greetings, conjugation of verbs in the present tense as well as likes, dislikes, descriptive, school, family, clothing and food vocabulary. Some culture from Mexico, Puerto Rico and Spain will be introduced.

Spanish 7: 7th Grade

This course is the second year of Spanish. It will include grammar, vocabulary, writing, listening, and cultural skills. Students will learn basic communication identifying rooms and items in a house, activities to maintain one's health, body parts, technology, free time, daily routine and travel. Students will focus on the present tense reflexive verbs, present progressive and regular preterite tense. Culture from Ecuador, Dominican Republic, Argentina and Costa Rica will be introduced.

Introduction to Spanish: 7th - 11th Grade

This course is a review of the first two years of Spanish classes taught at MSA. It will include grammar, vocabulary, writing, listening, and cultural skills for students. The purpose of this course is to help students progress at a pace that it is more feasible for them to learn the Spanish language and for students new to MSA in grades 8-11 who have little or no experience learning Spanish. Placement for the following school year will be based on the level of learning and ability of the student in this Spanish course.

Spanish I: 8th Grade

This course is the third year of Spanish. It will include grammar, vocabulary, writing, listening, and cultural skills.

Students will learn to communicate about travel, sports, daily routines, shopping, myths and legends, and childhood experiences. The present, past, present progressive and imperfect tenses will be covered. Traditions and folklore from Mexico, Central America, South America, and Puerto Rico will be presented.

Spanish II: 9th Grade

This course is the fourth year of Spanish. It will include grammar, vocabulary, writing, listening, and cultural skills. Students will learn to communicate about food/cooking, making movies, technology, news, problem-solving, family relationships, and the environment. The present subjunctive, imperative, comparatives and superlatives, *por* and *para*, and impersonal expressions will be taught in this course. Traditions and folklore from Central America, the Dominican Republic, Spain, and the United States will be presented.

Spanish III: 10th Grade

This course is the fifth year of Spanish. It emphasizes the use of the language for active communication. It will include grammar, vocabulary, writing, listening, speaking, reading and cultural skills. The subjunctive mood will be continued in this course. Students will learn to communicate about the outdoors, volunteering, the future of our planet, and heroes. Grammar will include a review of previous content and the present subjunctive will be continued in this course. Traditions and folklore from Mexico, areas of the US, Central America, and the Caribbean will be presented.

Spanish IV: 11th Grade

This is the sixth year of Spanish. Students will continue to advance their reading, writing, speaking and listening skills in the target language as well as their knowledge of grammar and vocabulary. Students will develop their understanding of the language and culture through the analysis of Hispanic literature. They will be able to communicate in Spanish about communication and organization, leisure time, the past and future, and literature. Grammar will include a review of previous concepts and the addition of the conditional tense, perfect tenses, progressive tenses, and other subjunctive tenses. Traditions and folklore from Bolivia, Ecuador, Peru, Spain, Colombia, Venezuela, Argentina, Paraguay, Chile, and Uruguay will be presented.

Elective Courses:

AP Spanish Language and Culture: 10th - 12th Grade

This is the seventh year of Spanish at MSA. It is an Advanced Placement course offered to students who have completed Spanish IV with a B+ or higher and teacher approval. The course is rigorous and reviews grammar from all previous levels and expands on higher-level vocabulary as well as culture from various Spanish-speaking countries. Students will take an AP exam in May including multiple choice listening and reading, interpersonal speaking, presentational speaking, interpersonal writing and presentational writing components. **Prerequisites:** B+ or higher in Spanish IV. *Summer homework packet also required.*