



MONTGOMERY UPPER MIDDLE SCHOOL

**PROGRAM OF STUDIES
2018 - 2019**

REQUIRED COURSES

Students are scheduled for academic courses (language arts, social studies, science, and math) with a team of teachers. These teachers are specialists in their content areas, but work cooperatively to create small learning communities within a large school. The team of teachers outlines common expectations for their group of students, meets together with counselors and child study personnel, and provides coordinated information for parents. Students at UMS are scheduled for required and elective courses. Afterschool clubs and interscholastic sports are also available.

For information regarding prerequisites for high school courses, please refer to the [MHS Program of Studies](#).

Program of Studies “Quick Links”

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The program of studies is described as follows:

LANGUAGE ARTS [Top]

The language arts program is designed for students to read and write proficiently and with stamina for a variety of purposes. As students read text in various genres such as essays, short stories, plays, and poetry, their language arts instruction supports writing in each of the genres. Writing instruction, in a writer’s workshop model, supports all components of the writing process, and students apply their writing skills with attention to revision and editing. Additionally, students read quality literature encouraging critical thinking and an appreciation for the richness and complexity of language. Students demonstrate comprehension and respond to literature through journals and in whole class and small group discussions. The readings, both fiction and nonfiction, provide opportunities for students to explore and develop intellectually, socially and emotionally due to the rich diversity of the themes presented in the readings.

SOCIAL STUDIES [Top]

Social Studies enables students to internalize knowledge and to develop the skills, content, and attitudes necessary for effective and responsible citizenship in a democratic society and in the global community. The historical focus of the seventh grade social studies curriculum is on the post-Classical period of 500 to 1500. The major themes of this historical era are how civilizations expanded, how power shifted, how religion spread, and how the world moved from parallelisms and tentative contacts between individual civilizations to one of encounter and exchange – producing a dynamic global framework that led to the spread of ideas, goods, technology, and disease. The eighth grade program focuses on American history, geography and civics. Students learn about the Constitution and the development of the United States grappling with the question of, “Are we the nation we set out to be?”

SCIENCE [Top]

The science program is designed to encourage curiosity, exploration, and scientific thinking by asking testable questions, designing experiments, collecting and analyzing data through observation and investigation, and drawing conclusions.

Science 7

Students explore life science by participating in a variety of learning activities that require them to explore and utilize the habits of mind and the nature and practices of science. This course addresses the content and process of science learning aligned with the NGSS (Next Generation Science Standards). The units of study include: 1) Structure, Function and Information Processing, 2) Growth, Development, and Reproduction of Organisms, 3) Matter and Energy in Organisms and Ecosystems, 4) Interdependent Relationships in Ecosystems, and 5) Natural Selection and Adaptations. This scientific view defines the idea that explanations of nature are developed and tested using observation, experimentation, models, evidence, and systematic processes based on logical thinking. Inquiry skills at this level include organization of data and manipulation of variables in experiments. Students communicate their ideas through lab reports, reflections as well as argumentative writing aligned with the Writing standards in the NJ State Learning Standards.

Science 8

Students will discover and describe interactions between matter and energy. This course addresses the content and process of science learning aligned with the NGSS (Next Generation Science Standards). Students will blend the Core Concepts of energy, matter and interactions, chemical reactions, forces and interactions, with 6 Cross-cutting Scientific Concepts and 8 Scientific and Engineering Practices to bridge disciplinary boundaries and unite core ideas to explain phenomena in the world of Physical Science. In the first three units students will explore and study Chemistry. Students will explore properties of matter like mass, volume, and density in order to develop a working model of how particles determine large-scale behavior. In the remaining two units students will study and explore Physics. Students will develop models to represent the motion of objects, and the forces that determine this motion. By the conclusion of the course, all students will develop necessary problem-solving, decision-making and inquiry skills in physical science. In the spring students are assessed with an assessment developed by the NJ Dept. of Education.

MATHEMATICS [\[Top\]](#)

The Mathematics program at UMS offers a variety of courses depending upon students' previous mathematics achievement and progress. All courses either address or exceed the Standards required by the State of New Jersey. Additionally, all courses stress the Mathematical Practices outlined in the New Jersey State Learning Standards. Students will:

- Make sense of problems and persevere solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others
- Model with mathematics
- Use appropriate tools strategically
- Attend to precision
- Look for and make use of structure
- Look for an express regularity in repeated reasoning

Placement Process:

In Grade 7, students are placed into one of three courses: Pre-Algebra 7, Algebra I Part 1, and Algebra I Honors. This placement is based on the following student achievement data from grade 6: Test average in previous course, MAP assessment, Cumulative Assessment, Work Habits and Study Skills and the Iowa Algebra Aptitude test (Iowa is used only for placement into Algebra I Honors). Parents will be informed of this placement and all the achievement data used in the Mathematics Summary Sheet which will be mailed to them by the end of May. More detailed information about the placement process may be found on the LMS website or at:

<http://www.mtsd.k12.nj.us/Page/6010>

(LMS/Departments/Mathematics/Math Placement).

In Grade 8, students are scheduled for the next course in the sequence of courses based upon their completion of the prerequisites.

Students new to the district will be assessed using the UMS Mathematics Placement Assessment prior to being scheduled for mathematics. Results on this assessment along with curriculum and performance data provided by the family may be considered in a scheduling a student's math course.

Grade 7 Math Courses:

Pre-Algebra 7

Prerequisite: Completion of *Math 6*.

This course meets the NJ State Learning Standards for grade 7. Students further develop their use of variables in expressions and solving equations and inequalities. Instructional time will focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples. In the Spring students take the Math 7 PARCC test administered by NJ.

Algebra 1 Part 1

Prerequisite: Completion of *Math 6* or *Pre-Algebra 6* and placement process (see above).

This full-year course is the first half of the Algebra I content and addresses the algebra I content and instruction of the NJ State Learning Standards for algebra in High School. The focus of this course is on the foundations of algebra: use of variables, expressions and solving equations.

Functional relationships are examined using multiple representations. Proportions, percent problems, and rewriting equations and formulas will be developed. There is a focus on the following: graphing linear equations in two variables using a variety of techniques, recognition of the slope of the line as a constant and interpreting the slope as a rate of change in real-world graphs, establishing direct variation as a special type of linear relationship, and introducing students to functional notation. In the Spring students take the Math 7 PARCC test administered by NJ.

Algebra 1 Honors

Prerequisite: Completion of *Pre-Algebra 6* and placement process (see above).

This full-year honors level course addresses all of the algebra I content and instruction of the NJ State Learning Standards for algebra in High School. The instruction develops solving equations and inequalities, graphing linear equations, inequalities and functions. Students develop these concepts into solving systems of equations and inequalities. Students continue their learning of functions to include linear, absolute value, exponential and quadratic functions, their graphs and solutions through a variety of representations and methods. Students utilize factoring polynomials and simplifying radicals to further solve real world problems. Probability and data analysis are explored along with scatterplots and an informal use of line of best fit. In the Spring students take the Algebra I PARCC test administered by NJ.

NOTE: Passing the Algebra I PARCC test is a NJ HS Graduation Requirement.

If a student does not pass this assessment they will need remediation scheduled for the following Fall.

Grade 8 Math Courses:

Algebra I Part 1

Prerequisite: Completion of *Pre-Algebra 7*.

This full-year course is the first half of the Algebra I content and addresses the algebra I content and instruction of the NJ State Learning Standards for algebra in High School. The focus of this course is on the foundations of algebra: use of variables, expressions and solving equations.

Functional relationships are examined using multiple representations. Proportions, percent problems, and rewriting equations and formulas will be developed. There is a focus on the following: graphing linear equations in two variables using a variety of techniques, recognition of the slope of the line as a constant and interpreting the slope as a rate of change in real-world graphs, establishing direct variation as a special type of linear relationship, and introducing students to functional notation. In the Spring students take the Math 8 PARCC test administered by NJ.

Algebra I Part 2

Prerequisite: Completion of *Algebra I Part 1*.

This full-year course is the second half of the Algebra I content and addresses the algebra I content and instruction of the Common Core State Standards for algebra in High School. The focus of this course includes the further development of functions, particularly absolute value, exponential, and quadratic functions. Students utilize factoring polynomials and simplifying radicals to further solve real world problems. Probability and data analysis are explored along with scatterplots and an informal use of line of best fit. In the Spring students take the Algebra I PARCC test administered by NJ.

NOTE: Passing the Algebra I PARCC test is a NJ HS Graduation Requirement.

If a student does not pass this assessment they will need remediation scheduled for the following Fall.

Algebra I Part 2 Honors

Prerequisite: Completion of *Algebra I Part 1* with a final grade of 90 or higher.

This full-year course is the second half of the Algebra I content and addresses the algebra I content and instruction of the NJ State Learning Standards for algebra in High School. This course covers the same content as *Algebra I Part 2*. However the rigor of problems and problem solving is more significant in this honors level course. The focus of this course includes the further development of functions, particularly absolute value, exponential, and quadratic functions.

Students utilize factoring polynomials and simplifying radicals to further solve real world problems. Probability and data analysis are explored along with scatterplots and an informal use of line of best fit. In the Spring students take the Algebra I PARCC test administered by NJ.

NOTE: Passing the Algebra I PARCC test is a NJ HS Graduation Requirement.

If a student does not pass this assessment they will need remediation scheduled for the following Fall.

Geometry Honors

Prerequisite: Completion of *Algebra I Honors* with a final grade of 85 or higher.

This full-year course addresses the algebra I content and instruction of the Common Core State Standards for geometry in High School. This course combines the essential elements of plane geometry and the basics of solid geometry. Strong emphasis is placed on deductive reasoning and solving complex original proofs. Additional topics include introductory trigonometry, coordinate geometry and transformations. A strong background in *Algebra I Honors* will be required from the beginning of the course, and students will be expected to understand the concepts taught in class, as well as to transfer them to novel applications and problem solving situations. In the Spring, students take the Geometry PARCC test administered by NJ.

Algebra 2 Honors

Prerequisite: Completion of *Geometry Honors* with a final grade of 85 or higher.

This full-year course further addresses the algebra content and instruction of the Common Core State Standards for algebra and functions in High School. *Algebra 2 Honors* provides students the opportunity to study the structure of the real and complex number systems, further develop the concept of linear functions and relations, inequalities, systems of equations in two and three variables, determinants, polynomial equations and functions, rational expressions, conic sections, sequences and series, exponential equations and logarithms. A strong background in *Algebra I Honors* and *Geometry Honors* is required from the beginning of the course, and students will be expected to understand the concepts taught in class, as well as to transfer them to novel applications and problem solving situations. Scientific and graphing calculators are required. In the Spring students take the Algebra 2 PARCC test administered by NJ.

The criteria for placement into 7th grade mathematics courses are posted on the Lower Middle School website under departments/mathematics/program overview.

Acceleration in Mathematics:

Students at UMS may not take courses over the summer for acceleration. The Middle School years are critical to build the foundation for future learning. This opportunity is available for high school students only, with prior permission from the High School administration. More information regarding this may be found at the High School Program of Studies under the Option II provision.

WORLD LANGUAGE [\[Top\]](#)

All students are required to take a World Language. Learning experiences are designed to be practical and useful in order to develop the ability to communicate and interact in a foreign culture. Language choices include **French, German, and Spanish** and should be made in seventh grade and adhered to throughout each student's middle school experience. Students will be prepared to enter high school level 2 courses.

HEALTH & PHYSICAL EDUCATION [\[Top\]](#)

Physical Education emphasizes the importance of teamwork, personal fitness, leadership and social interactions through the sports education model. Our program provides students with the opportunity to develop a lifelong understanding of team and individual sports skills, cardiovascular fitness, team building, and sportsmanship through various performance activities.

Health 7

Health classes are designed to help students work to meet the challenges of leading a healthy and active lifestyle. In 7th grade health the students will focus on wellness and the wellness triangle. They will explore topics that affect their wellness such as goals and goal setting, media, fitness, nutrition, body image, decision making, and stress.

Health 8

The focus of the 8th grade curriculum is addiction, alcohol and drug awareness, controlled substances, human reproduction, disease transmission, and HIV/AIDS. Students will explore decisions related to responsible personal behavior.

ESL [\[Top\]](#)

The English as a Second Language program is divided into levels: Level 1 – Beginners, Level 2 – Intermediate and Level 3 – Advanced. The purpose of the ESL program is to strengthen the four language skills; speaking, listening, reading and writing. In addition, the ESL program provides a comfortable and nurturing environment that eases the difficult transition the ELLs (English Language Learners) must face as they assimilate into a new academic setting and culture..

PUPIL SERVICES [\[Top\]](#)

Students with Individualized Education Program (IEPs) have their programs designed to meet requirements as dictated by student need. All individual program needs are discussed at a student's IEP Annual Review meeting with the IEP Team.

ACADEMIC SUPPORTS [\[Top\]](#)

Applied Study Skills

This intervention course focuses on techniques and learning strategies to improve students' study skills. Emphasis is on students taking organized notes, time management, test taking strategies, active listening, and methods of conducting research. In addition, students will have ongoing opportunities to apply these skills to their daily class work and receive feedback to enhance their study habits.

Math Workshop and Language Arts Workshop

The goal of Math Workshop is to help students develop computational and problem solving skills.

The goal of Language Arts Workshop is to help students become more fluent, confident and competent readers and writers.

STEM & STEAM [Top]

UMS offers a wide array of cycle and elective courses allowing students the opportunity to develop both introductory and advanced skills in a variety of career paths:

- *Architecture*
- *Graphic Design*
- *Industrial Materials*
- *Computer Languages*
- *Web Design*
- *Robotics*

Some courses are specifically designated in the Program of Studies as either STEM or STEAM. STEM is an acronym for Science, Technology, Engineering, and Math education. STEM is an interdisciplinary and applied approach that is coupled with hands-on, problem-based learning. STEAM, a newer movement widely adopted by institutions, corporations, and individuals, aims to integrate Art and Design in education and place it firmly at the center of STEM.

Grade 7 - CYCLE COURSE DESCRIPTIONS [Top]

Cycle courses are required for all 7th grade students and rotate each quarter.

Active Citizenship

This cycle course explores the roles, rights and responsibilities associated with being an active citizen in a democratic society. Students will explore issues of civic importance while developing their understanding of the role of civic engagement and of political processes in the local, national, and/or global community. Students will apply concepts of political thinking and the political inquiry process to investigate issues and developments that are both of significance in today's world and of personal interest to them. Through activities such as mock congressional sessions, hearings, debates and elections, students will develop political efficacy and support for democratic values and principles. This course addresses both the 2009 New Jersey Core Curriculum Standards for Active Citizenship in the 21st Century as well as the National Common Core Standards for Literacy in History/Social Studies.

Art Survey

This cycle course allows all 7th grade students the opportunity to explore their creativity through painting, drawing, sculpting, and other artistic media. Students will learn about famous artists, how art has impacted various cultures, the skills and techniques to be a successful artist, and how to think creatively and visually about the design process. Students are given the freedom to design their projects in a manner that reflects their individual personality and interests.

Computer Applications

In this exploratory digital literacy course, students will be exposed to a variety of tools which enhance online reading, digital composition, and media literacy. Students will learn to leverage and choose from various web-based tools that assist in annotation, note taking, building online reading collections, and

research. Additionally, students will develop that ability to access and utilize online database collection, e-books, and online journals. This course will prepare students for online learning in high school and beyond.

Character, College & Career Ready

This cycle course is designed to guide students through the process of transitioning from middle school to high school and to prepare for post-secondary life. Through active engagement in the Naviance College and Career Readiness Program along with student-directed lessons, students will explore critical topics related to: developing skills for success, self-discovery, stress management, conflict resolution, exploration of career options, and planning for all aspects of post-secondary life (academic, social, emotional, and financial). This course addresses both the 2009 New Jersey Core Curriculum Standards for College and Career Readiness as well as the National Common Core Standards for Literacy in Technical Subjects.

Grade 7 - ELECTIVE COURSE DESCRIPTIONS

VISUAL & PERFORMING ARTS ELECTIVES [\[Top\]](#)

Chorus 7 (Full Year)

The 7th Grade Chorus is designed to engage students in the performance of high quality and fun vocal music. The chorus performs variety of musical styles so that every student can find something they love. Students will learn appropriate vocal technique and enhance their understanding of music by performing music from a variety of historical periods and in a variety of languages. Through this, we will build the students' individual voice. There are 2 or 3 concerts a year as well as participation in an adjudicated festival in the spring at Hershey Park. In addition to large ensemble rehearsals, students will also receive small group instruction from one of the chorus teachers during class time. The chorus is a place where students find their voice and build a musical family through performance.

Orchestra 7 (Full Year)

Prerequisite - Successful completion of orchestra in previous school year OR audition with the director. The 7th Grade Orchestra is designed to engage students in the performance of high quality and fun orchestral music for strings (violin, viola, cello, and bass). The orchestra performs a variety of musical styles so that every student can find something they love. Students will learn appropriate instrumental technique and further develop their skills as orchestral musicians. There are 2 or 3 performances a year as well as participation in an adjudicated festival in the spring at Hershey Park. In addition to large ensemble rehearsals, students will also receive small group instruction from one of the orchestra teachers during class time. The orchestra is a place where students learn to express their creativity on string instruments and build a musical family through performance.

Concert Band 7 (Full Year)

Prerequisite - Successful completion of band in previous school year OR audition with the director. The 7th Grade Band is designed to engage students in the performance of high quality and fun band music for woodwind, brass, and percussion instruments. The band performs a variety of musical styles so that every student can find something they love. Students will learn appropriate instrumental technique and further develop their skills as band musicians. There are 2 or 3 performances a year as well as participation in an adjudicated festival in the spring at Hershey Park. In addition to large ensemble rehearsals, students will also receive small group instruction from one of the band teachers during class

time. The band is a place where students learn to express their creativity on string instruments and build a musical family through performance.

Digital Music

The world of music has met the digital age! Students in this course will work with iPads and digital instruments both to compose and perform music. Students will be working primarily with the iPad applications Garageband and Symphony Pro to interactively learn about music notation, chord structure, and music composition. The opportunities to compose both classical and popular music exist. Objectives of the course include learning to read music and learning about different musical genres, music theory and most importantly, using that knowledge to compose original music using the iPads and digital instruments.

Theater Arts

Theater Arts is designed to give students an understanding and appreciation for the performing arts. Students are involved in activities that develop acting skills, theatre performance, communication, concentration, and body movement skills for actors. Students are invited to attend a trip to see a professional show. This class is designed to let students have fun while learning about drama, acting, and the theatre. The course concludes with a performance, by the class, of a short play.

CAREER & TECHNOLOGY ELECTIVES [\[Top\]](#)

Young Entrepreneurs

Are you interested in fashion, sports, photography, cooking, or technology? You can learn how to be an entrepreneur with your interests in mind and get your idea off the ground. You will use and improve your creativity and problem-solving skills while learning new computer skills. During the course, you will experience starting up a business and learning different strategies through current businesses, online videos and software. Business foundations, communication skills, financial literacy and computer skills will be explored.

Introduction to Engineering & Design [STEM]

This course will focus on giving students the opportunity to create, construct, and evaluate their own design work while managing time, materials, tools and processes. Students will apply mathematics and science principles in the construction of a Balsa wood bridge that is constructed to be the most efficient design. To study mechanisms, students will explore the use of simple machines by constructing a mousetrap powered vehicle that is designed to travel to a predetermined distance. The creative design process will be used in all activities so students will develop better problem solving and critical thinking skills.

Inventions & Innovations/Set Design [STEAM]

This elective is designed to increase problem solving and design skills. Inventions & Innovations/Set Design is an elective, which revolves around design, hand drawing, modeling and prototyping of inventions and innovations. This course will provide the opportunity for students to study technology as the creative design process in areas of transportation, energy systems, manufacturing, and construction. Students will work collaboratively with the Fine Arts students on many projects including the designing and fabrication of the set for the spring production.

Web Design & Coding 1 (Offered in Fall only)

Web Design and Coding 1 is an exploratory elective fall course offered to all 7th and 8th graders. This course will teach the mechanics and elements of both web design and coding basics. With every aspect of modern life linking back to the internet, students will learn to create high quality websites that have compelling information and aesthetically pleasing formats. Students will build a foundation in

computational thinking by learning basic coding concepts to create coding games, animation and artwork. Also, students will be introduced to current computer programming languages and have the opportunity to program physical objects too.

Web Design & Coding 2 [STEM] (Offered in Spring only)

There is no Prerequisite for this class.

Web Design & Coding 2 requires no prerequisite. This is a spring elective course for all 7th and 8th graders. This elective course teaches the foundations of computer science and basic programming, with an emphasis on helping students develop logical thinking and problem solving skills. This is a project-based course that teaches students how to use block coding and then graduate to javascript. Students will then build their own web pages while learning HTML5 and CSS, and will create their own live web pages to serve as portfolios. Students will uncover coding mysteries behind the Internet and will be able to explain how web pages are developed, analyze and debug existing websites, and code their own multi page websites.

GRADE 8 - ELECTIVE COURSE DESCRIPTIONS

VISUAL & PERFORMING ARTS ELECTIVES [\[Top\]](#)

Chorus 8 (Full Year)

The 8th Grade Chorus is designed to engage students in the performance of high quality and fun vocal music. The chorus performs variety of musical styles so that every student can find something they love. Students will learn appropriate vocal technique and enhance their understanding of music by performing music from a variety of historical periods and in a variety of languages. Through this, we will build the students' individual voice. There are 2 or 3 concerts a year as well as participation in an adjudicated festival in the spring at Hershey Park. In addition to large ensemble rehearsals, students will also receive small group instruction from one of the chorus teachers during class time. The chorus is a place where students find their voice and build a musical family through performance.

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Digital Music

The world of music has met the digital age! Students in this course will work with iPads and digital instruments both to compose and perform music. Students will be working primarily with the iPad applications Garageband and Symphony Pro to interactively learn about music notation, chord structure, and music composition. The opportunities to compose both classical and popular music exist. Objectives of the course include learning to read music and learning about different musical genres, music theory and most importantly, using that knowledge to compose original music using the iPads and digital instruments.

Theater Arts

Theater Arts is designed to give students an understanding and appreciation for the performing arts. Students are involved in activities that develop acting skills, theatre performance, communication, concentration, and body movement skills for actors. Students are invited to attend a trip to see a professional show. This class is designed to let students have fun while learning about drama, acting, and the theatre. The course concludes with a performance, by the class, of a short play.

Drawing and Computer Graphics [STEAM] (offered in Fall semester) - 8th grade only

This course will allow students to focus on developing and enhancing their observational and technical drawing skills, while also working with computers, technology, and graphics imaging software to complete a variety of visual design tasks. Throughout the course students will explore drawing, illustration, graphics imaging and design.

Sculpture and Ceramics (offered in Spring semester) - 8th grade only

In this course students will enhance their understanding of the Elements of Art and Principles of design, by applying their artistic skills and creative vision to 3D forms of artwork. Students will solve visual design challenges through planning and sketching in the production of 3D works of art. Areas of study will include collage, wire sculpture, mixed media projects, and ceramics.

Introduction to Studio Art (offered in Fall semester) - 8th grade only

This course will encourage students to develop creative thinking, decision making, and problem solving skills through the use of the Elements of Art and Principles of Design. The areas of study will include drawing, painting, printmaking, and sculpture, with a focus on creative expression and personal discovery. This course qualifies students to apply for a waiver into studio I at MHS.

Studio Art (offered in Spring semester) - 8th grade only

Though the primary focus of this course is 2-Dimensional Visual Design, students will develop their artistic skills and creative expression through a variety of mediums including observational drawing, watercolor and acrylic painting, mixed media collage, and sculpture. This course qualifies students to apply for a waiver into studio I at MHS.

CAREER & TECHNOLOGY ELECTIVES [\[Top\]](#)

Young Entrepreneurs

Are you interested in fashion, sports, photography, cooking, or technology? You can learn how to be an entrepreneur with your interests in mind and get your idea off the ground. You will use and improve your creativity and problem-solving skills while learning new computer skills. During the course, you will experience starting up a business and learning different strategies through current businesses, online videos and software. Business foundations, communication skills, financial literacy and computer skills will be explored.

Global Leadership

In this project-based learning course, students work in collaborative teams in an attempt to find solutions to real-world domestic and global issues. Students investigate the UN Global Goals for Sustainable Development to deepen their understanding of these issues. Some of the global goals students will explore may include, but are not limited to, no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, climate action, and clean energy and environmental sustainability. Students will conduct their investigations using a variety of multimedia and authentic experiences. The Design Thinking Process will be utilized by the students to create viable and innovative solutions. Teams will be evaluated on their use of each step in the Design Thinking Process. The course promotes a variety of 21st Century competencies, including global awareness; active and responsible citizenship; self-directed learning; innovative and practical problem solving; collaborative team membership; effective communication; and information-literacy research.

Broadcast Journalism - 8th grade only

In this course, students will study the power of journalism and media and become reporters on anything from school news to world issues. Students will study the structure of news reporting, learn how to conduct interviews, and gather and present information on a variety of topics in a variety of formats including biopics, documentaries, straight news reporting, interviews and debate. The final products will be produced and broadcast on a Montgomery Upper Middle School news channel.

Mass Media & and Film - 8th grade only

Students today are constantly bombarded with messages. In this course students will evolve from passive recipient of messages to proactive consumers who learn to deliver and view all types of communications. Students will study advertising, famous speeches, social networking and film to learn how meaning is delivered in subtle and not so subtle ways. Furthermore students will learn about media in America compared to other cultures so they can get a world perspective. Finally, students will be creating their own commercials, speeches and short films to send powerful messages to the audience. Finally, students will be creating their own media blitz campaigns which will include logo design, slogans, television/radio spots and a print ad to sell a business to an audience.

Inventions & Innovations/Set Design [STEAM]

This elective is designed to increase problem solving and design skills. Inventions & Innovations/Set Design is an elective, which revolves around design, hand drawing, modeling and prototyping of inventions and innovations. This course will provide the opportunity for students to study technology as the creative design process in areas of transportation, energy systems, manufacturing, and construction. Students will work collaboratively with the Fine Arts students on many projects including the designing and fabrication of the set for the spring production.

Everything Robotics [STEM]

Everything Robotics is where students transform from being consumers of technology to creators of technology. This is a hands-on course that teaches science, technology, engineering and mathematical concepts in a fun and engaging way. Students learn the valuable skills of time management, problem solving and teamwork as they complete robot challenges. The engineering design process is applied as students investigate real-world problems, come up with solutions and debug programs as they test and evaluate their models. Research and current events in the areas of careers in robotics and other STEM disciplines are also integrated throughout the course.

Web Design & Coding 1 (Offered in Fall only)

Web Design and Coding 1 is an exploratory elective fall course offered to all 7th and 8th graders. This

course will teach the mechanics and elements of both web design and coding basics. With every aspect of modern life linking back to the internet, students will learn to create high quality websites that have compelling information and aesthetically pleasing formats. Students will build a foundation in computational thinking by learning basic coding concepts to create coding games, animation and artwork. Also, students will be introduced to current computer programming languages and have the opportunity to program physical objects too.

Web Design & Coding 2 [STEM] (Offered in Spring only)

There is no Prerequisite for this class.

Web Design & Coding 2 requires no prerequisite. This is a spring elective course for all 7th and 8th graders. This elective course teaches the foundations of computer science and basic programming, with an emphasis on helping students develop logical thinking and problem solving skills. This is a project-based course that teaches students how to use block coding and then graduate to javascript. Students will then build their own web pages while learning HTML5 and CSS, and will create their own live web pages to serve as portfolios. Students will uncover coding mysteries behind the Internet and will be able to explain how web pages are developed, analyze and debug existing websites, and code their own multi page websites.

CO-CURRICULAR SCHOOL ACTIVITIES [\[Top\]](#)

UMS offers a variety of after school activities, clubs and interscholastic sports. Late bus service is provided Tuesday through Thursday to accommodate the various time schedules of the activities.

Note: The information in this Program of Studies is subject to change due to changes or revisions to district policies and/or state code that may occur during the school year. The most current version of this Program of Studies can be found online.