

2023-2024



8th Grade Course Description

The following courses will be offered at Pattonville Heights Middle School in the eighth grade. Students will be grouped according to specific criteria and recommendations for math classes. Students are recommended for challenge classes in the area of Social Studies, English Language Arts, and Science. Students will have elective courses two periods per day, which may be semester and/or year courses. Most elective courses are open to both 7th and 8th grade students and may result in combined grade level classes.

ENGLISH LANGUAGE ARTS - ELA

(Required, Full Year)

English Language Arts 8

8th grade English Language Arts is a year-long course which builds on a continuum of skills in reading, writing, listening and speaking. The class integrates differentiated literature and composition for advanced literary experiences across core curriculum. Units of study include working with literature, informational text, writing, correct grammar usage and spelling, and speaking and listening skills. Students explore the standards through the topics of Innovation, Breaking Down Barriers, and Taking a Stand.

Challenge English Language Arts 8 (Teacher Recommendation Required)

8th grade English Language Arts is a year-long course which builds on a continuum of skills in reading, writing, listening and speaking. The class integrates differentiated literature and composition for advanced literary experiences across core curriculum. Units of study include working with literature, informational text, writing, correct grammar usage and spelling, and speaking and listening skills. Students explore the standards through the topics of Innovation, Breaking Down Barriers, and Taking a Stand.

SOCIAL STUDIES

(Required, Full Year)

Social Studies 8

The 8th grade curriculum initiates an in-depth study of American history to Pattonville students. The course focuses on the development of the United States from colonization through the causes of the Civil War. It addresses economic, political, social, and cultural issues. Geography is an integral part of the course. Emphasis is placed on students becoming responsible citizens of the United States and the world.

Challenge Social Studies 8 (Teacher Recommendation Required)

The 8th grade curriculum initiates an in-depth study of American History to Pattonville students. The course focuses on the development of the United States from colonization through the causes of the Civil War. It addresses economic, political, social, and cultural issues. Geography is an integral part of the course. Emphasis is placed on students becoming responsible citizens of the United States and the world. Challenge students will also have the opportunity to engage in deeper level discussion prompts, peer-led and personalized learning opportunities, and have higher expectations for writing tasks. Students will analyze primary and secondary sources, develop and defend thesis statements, and utilize document-based inquiries. These are designed to evoke more critical thinking skills and higher-level reasoning.

SCIENCE

(Required, Full Year)

Science 8

Students will engage in use of engineering design and problem-based learning to investigate and develop understanding and proficiency of the following scientific concepts: force and motion, non-contact forces, matter, reproduction and genetics, and human impacts on the environment.

Challenge Science 8 (Teacher Recommendation Required)

Students will engage in use of engineering design and problem-based learning to investigate and develop understanding and proficiency of the following scientific concepts: force and motion, non-contact forces, matter, reproduction and genetics, and human impacts on the environment. Challenge-level students will take part in projects that extend and advance their learning and will be expected to work with more complex science concepts that require more advanced math and critical thinking skills. Challenge students will also engage in more work independently with less teacher guidance.

MATHEMATICS

(Required, Full Year)

Mathematics 8

Mathematics 8 is focused on three critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; and (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem.

Challenge Mathematics 8 (Teacher Recommendation)

Mathematics Challenge 8 is an accelerated course which combines Mathematics 8 with Algebra 1 skills. Instructional time should focus on five critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem 4) investigate variable relationships and students will learn to use algebraic expressions to represent quantities. 5) develop fluency writing, interpreting, graphing, and translating between various forms of linear equations and inequalities, using them to solve problems.

Honors Algebra I (Teacher Recommendation)

Honors Algebra 1 students will investigate variable relationships and students will learn to use algebraic expressions to represent quantities. Students will develop fluency writing, interpreting, graphing, and translating between various forms of functions and using them to solve problems. Through the implementation of technology, students will explore real-world applications of linear, exponential, and quadratic functions. Topics introduced in Algebra 1 provide the foundation students require for future success in high school mathematics, critical thinking, and problem solving.

Honors Geometry (Teacher Recommendation)

Pattonville High School's Honors Geometry course includes an in-depth analysis of plane, solid, and coordinate geometry as they relate to both abstract mathematical concepts as well as real-world problem situations. Algebraic representation and manipulation are critical tools for understanding much of the course content, and students will be exposed to several standardized test (ACT and SAT) problems. Topics include logic and proof, parallel lines and polygons, perimeter and area analysis, volume and surface area analysis, similarity and congruence, trigonometry, coordinate geometry, vectors, and analytic geometry. Emphasis will be placed on the student's ability to research and communicate geometric ideas as well as developing critical thinking skills as they relate to logical reasoning and argument. Students will be required to use different technological tools and manipulatives to discover and explain much of the course content.

PHYSICAL EDUCATION/HEALTH

(Required, Full Year)

The 8th grade physical education course is a combination of selected activities that enhance and build on students fitness level and athletic ability. The activities will be both individual and team nature. Physical fitness, cardiovascular health, and basic fitness principles will be enforced. This course will also offer a variety of health education topics to help the students understand the relationship between physical activity and healthy lifestyle choices and how it relates to their overall well being.

ELECTIVE PROGRAM

The eighth grade elective program will be more like the high school departmental structure. Students will be able to take two elective courses per semester unless their academic team recommends that they take other appropriate courses.

Explore Lab: 6-8

Explore Lab is an inquiry-based class where students can explore different topics which will be of interest for future courses at Heights. Topics can and will rotate throughout the year with different teachers exploring those different interests. Topics which students will learn more about will vary but may include any of these and more: yearbook, journalism and tv newscasts, nature, astronomy, leadership, service learning, digital citizenship through social media, drama and theater, math games, tutoring and classroom aids, and any number of interests which students may take as a future developed course. Students will be given a pass/fail grade as they explore new interests.

INDUSTRIAL TECHNOLOGY

(Semester)

Woodworking: 7/8

This course is an introduction course to the different areas of drafting and woodworking. Students will become familiar with methods and processes used by the drafting industry. These processes include: using the correct drafting tools, techniques, lettering, multiview drawings, dimensioning, and pictorials. For the woodworking portion of this course, the students will explore the numerous woodworking areas through the use of tools, machines, and materials that are basic to each area. The areas to be explored include: sawing, drilling, filing/chiseling, wood joinery, wood turning, sanding, and finishing. This course will allow students to use their skills and create projects using the specific areas listed above.

Industrial Technology: 6-8

Industrial Technology is a class for 8th grade students who like to use their hands and minds to build and create things. It challenges them to apply their creativity and technical ability. Following the process of research and design, students will construct CO 2 Car projects using technology, as well as hand and power tools. Students will then have the opportunity to move into the Structural Engineering unit where they will be able to design, build, and test their own bridge. Safety, individualized work, and problem-solving will be emphasized.

FAMILY & CONSUMER SCIENCES

(Semester)

FACS I: 6-8

This course is the first course of three leading to various career pathways in Family and Consumer Sciences. Topics of study include basic food preparation, introductory sewing skills, peer and family relationships and introductory consumer education. Students will use problem-solving and cooperation skills as they individually and collectively to complete projects within these units

FACS II: 7-8 (Prerequisite: FACS 1)

This is the second of three courses leading to various career pathways in Family and Consumer Sciences. Topics of study include food preparation and nutrition, sewing techniques, and childcare. Students will build on skills and knowledge learned from the previous course. This class will integrate a variety of curricular areas such as math, science, health and artistic design through the use of projects and labs.

FACS III: 7-8 (Prerequisite: FACS 2)

This is the third and final course which supports various career pathways possible in Family and Consumer Sciences. Topics of study include food science and foods around the world, advanced sewing skills, and interior design concepts. Using their prior knowledge from the sewing and foods units, students will expand on this learning to select a more personalized learning experience. Students will make predictions about outcomes based on previous learning and analyze the results, thus supporting critical thinking skills.

ART

(Semester)

2D Design: 7-8

The purpose of this course is to introduce students to a variety of art mediums while gaining a strong understanding of Studio Habits of the Mind. Students will learn new approaches to drawing and painting, including but not limited to perspective, portraiture, color theory, and art history and criticism. This course is intended to provide foundations for Advanced 2D Design

3D Design: 7-8

This introductory course offers students the opportunity to learn a variety of ceramic and sculpture techniques and terminology. The ceramic portion of the class will focus on the hand building methods slab, coil, and pinch pot. The primary focus of this class is on the art of ceramics but will also incorporate sculpture. Students may use a variety of mixed media including clay, paper mache, plaster, wire, woodcarving and glass as this course prepares students for Advanced 3D Design

Advanced 2D Design: 7-8 (Prerequisite: 2D Design)

Advanced 2D Design is a studio based course that expands on the knowledge and skills learned in 2D Design. Students will extend and explore knowledge of mediums including drawing, painting, digital media, mixed media and more. This course will consist of studio project based learning, and activities that will boost student critical thinking habits, improve critical collaborative participation, grow creativity and develop communication skills through writing and talking about art. This course focus is an exploration of the art world based on the fundamentals of the Studio Habits of the Mind and student driven learning in art studios of choice.

Advanced 3D Design: 6-8 (Prerequisite: 3D Design)

Advanced 3D Design is a studio based course that expands on the knowledge and skills learned in 3D Design. Students will extend and explore knowledge of mediums including ceramics hand building techniques, wire, woodcarving, paper mache, and plaster. This course will consist of studio project based learning, and activities that will boost student critical thinking habits, improve critical collaborative participation, grow creativity and develop communication skills through writing and talking about art. This course focus is an exploration of the art world based on the fundamentals of the Studio Habits of the Mind and student driven learning in art studios of choice.

COMPUTERS

(Semester)

Digital Media 1: 7/8

In this Basic course, students will learn to create, manage, and store different types of digital media including music, podcasts, photos, still images, and a website. Students will learn the basics of photography and digital camera and scanner usage.

Digital Media 2: 7/8 (Prerequisite: Digital Media 1)

In this Advanced course, students will continue their study of digital media with topics such as: enhanced podcasts with audio and photos, advanced photo manipulation, video, website design, and learning about blogs and wikis. Students will also learn the basics of camcorder usage.

Computer Applications: 6-8

Students will implement a variety of technology resources to create multimedia projects and presentations. They will experience the excitement of using a digital camera, scanner, Internet application, and CD-ROMs to enhance all aspects of computer created work. Applications include, but are not limited to: True Basic, PowerPoint, Microsoft Word, Excel, DreamWeaver, HyperStudio, and iMovie.

Project Lead the Way - PLTW

(Semester)

Flight and Space: 6-8

In Flight and Space students become engineers as they design, prototype, and test models to learn about the science of flight and what it takes to travel and live in space. Students first learn about forces and their impact on aviation and then the fundamentals of flight. Students then begin a study of space. Students learn about rocket science and how humans safely navigate and survive in space. Lastly students solve real-world aviation and space challenges as they plan a mission to Mars.

Medical Detectives: 6-8

In the Medical Detectives, students play the role of real-life medical detectives as they collect and analyze medical data to diagnose disease. They solve medical mysteries through hands-on projects and labs, measure and interpret vital signs, dissect a sheep brain, investigate disease outbreaks, and explore how a breakdown within the human body can lead to dysfunction.

Science of Technology: 7-8

Science impacts the technology of yesterday, today, and the future. Students will apply the concepts of physics, chemistry, and nanotechnology to STEM activities and projects, including making ice cream, cleaning up an oil spill, and discovering the properties of nano-materials.

Automation & Robotics: 7/8

During this course students trace the history, development, and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems. Students use the VEX Robotics platform to design, build, and program real-world objects such as traffic lights, toll booths, and robotic arms.

Design & Modeling: 7/8

During this course, students apply the design process to solve problems and understand the influence of creativity and innovation in their lives. They work in teams to design a playground and furniture, capturing research and ideas in their engineering notebooks. Using Autodesk, students create a virtual image of their designs and produce a portfolio to showcase their innovative solutions.

App Creators: 7/8

PLTW App Creators introduces students to the field of computer science and the concepts of computational thinking through the creation of mobile apps. Students are challenged to be creative and innovative, as they collaboratively design and develop mobile solutions to engaging, authentic problems. Students experience the positive impact of the application of computer science to society as well as to other disciplines, particularly biomedical science. The course provides students opportunities for self-expression. Teams identify a personal or community problem of interest to them that can be solved with a mobile app solution. The problem can address issues such as health and wellness, the environment, school culture, emergency preparedness, education, community service, or another area.

Computer Science Basics: 6-8

In this course students will learn computer science skills at a personalized learning pace. Students will be given the opportunity to learn about the problem solving process, web development, interactive animations and games, as well as physical computing (circuit boards). The goal of this class is to make computer science accessible to students at all learning and readiness levels and to experience math and science in a new way. This will enable them to gain access to exploring careers in the tech field while in middle school.

Computer Science for Innovators & Makers: 7/8

This course teaches students that programming goes beyond the virtual world into the physical world. Students are challenged to creatively use sensors and actuators to develop systems that interact with their environment. Designing algorithms and using computational thinking patterns, they code and upload programs to microcontrollers that perform a variety of authentic tasks. The unit broadens student understanding of computer science concepts through meaningful applications. Teams select and solve a personally relevant problem related with

wearable technology, interactive art, or mechanical devices.

FOREIGN LANGUAGE

French 1-A: 7/8 (Full Year)

French I is the introduction of basic speech patterns and structures of French with an emphasis on listening and speaking, followed by written practice. Students learn to talk about themselves, their family, and their interests. They will also learn to formulate simple answers and questions on everyday matters. A wide variety of audio and visual materials are frequently used at this level.

Spanish 1-A: 7/8 (Full Year)

Spanish I is an introduction to the sounds and rhythm of the Spanish language. Through the use of short conversations, students acquire a basic vocabulary and grammar to use in listening, speaking, writing, and reading. Students also gain a better understanding of Spanish speaking people and countries. Spanish I blends oral and written work in developing a basic command of the vocabulary, grammar, and syntax of the language. Spanish I contains instruction in listening comprehension, speaking, reading, translating, and writing. Students will acquire an elementary knowledge of the principles of pronunciation, spelling, structure of the language, grammar, and vocabulary, geography and culture of the Spanish-speaking countries. Students will learn to formulate questions and answers on a variety of topics pertaining to everyday matters.

French I-B: 8 (Full Year)

(Prerequisite: French 1-A or teacher approval)

French I is the introduction of basic speech patterns and structures of French with an emphasis on listening and speaking, followed by written practice. Students learn to talk about themselves, their family, and their interests. They will also learn to formulate simple answers and questions on everyday matters. A wide variety of audio and visual materials are frequently used at this level.

Spanish I-B: 8 (Full Year)

(Prerequisite: Spanish 1-A or teacher approval)

Spanish I is an introduction to the sounds and rhythm of the Spanish language. Through the use of short conversations, students acquire a basic vocabulary and grammar to use in listening, speaking, writing, and reading. Students also gain a better understanding of Spanish speaking people and countries. Spanish I blends oral and written work in developing a basic command of the vocabulary, grammar, and syntax of the language. Spanish I contains instruction in listening comprehension, speaking, reading, translating, and writing. Students will acquire an elementary knowledge of the principles of pronunciation, spelling, structure of the language, grammar, and vocabulary, geography and culture of the Spanish-speaking countries. Students will learn to formulate questions and answers on a variety of topics pertaining to everyday matters.

Introduction to World Cultures and Languages: 6-8 (Semester)

Students in this course will explore each of the languages offered in Pattonville and will also be introduced to cultures, both current and historic, in order to better understand the impact of culture in their community and the world. To prepare students to be productive citizens in a global society, students will learn about different perspectives to cultivate an appreciation for diversity. Students will also explore their own interests through a variety of choice activities and research projects investigating different cultures and languages.

PERFORMING ARTS

(Full Year)

Orchestra 8 (Prerequisite: Successful completion of 7th grade Orchestra or director approval.)

Orchestra 7-8 is a two-year course where students receive instruction. Students are developing knowledge and skills to become well-rounded musicians who appreciate the art, science and social aspects of music, since it reflects the culture and time period in which it was created. This course will build on skills learned in the 5th and 6th grade orchestra courses. Instruction will be personalized to meet students' skill levels.

Through playing, listening, reading, improvising and composing, the child will gain knowledge and performance/evaluative skills related to the musical elements of rhythm, melody, texture/harmony, expressive qualities, form, and tone color, which leads to high-quality student performance. Developing technique and performance readiness skills is the focus of this course. Public and/or in-class performance is an important experience of the art of music and is a natural extension of the essential elements acquired through music instruction, however it is not the primary focus. Student progress is formally reported as a part of the building's report card schedule. Outside practice is required as well as attendance and participation at all scheduled performances.

Band 8 (Prerequisite: Successful completion of 7th grade Band or director approval.)

Eighth grade band meets daily as a full band to give students more exposure to group performance and more time to work on their music skills. This course continues to build the fundamental skills learned in 7th grade band, and prepares students for high school band. Students will perform in four evening concerts including Marching Night with the Pattonville High School Marching Band and the annual district-wide Parade of Bands concert in the spring. Students also have the opportunity to participate in the Solo and Ensemble Festival, St. Louis All-Suburban Honor Band auditions, a daytime concert tour to the elementary schools and an overnight trip. Eighth grade band is the third year of band in the Pattonville School District. Students will have already completed two years of instruction and will further their knowledge and skills on the same instruments that they played in sixth and seventh grade band. This class

is an elective choice which meets daily during the school day for a full class period in a full ensemble setting. All rehearsals and performances contribute to each members' grade in the class because they are a demonstration / application of all students' learned skills. Students who successfully complete their eighth grade year in band are highly encouraged to continue their musical education in high school.

Choir B: 7/8

This class is open to all 7th and 8th grade students. Choir students learn to read music, sing in a choral style, and perform a variety of songs. The students present two concerts a year at school and participate in the All District Choir Concert. The students also participate in the St. Louis Suburban Music Educators Large Group Festival, Solo and Ensemble Festival, 7th-8th grade honors choirs and the Six Flags Music Festival. The choirs at Heights also have a Pops Music Festival in the spring.

ACADEMIC INTERVENTIONS

(Teacher Recommendation Only)

Reading Essentials 8 (Full Year)

This course will provide qualified students with an opportunity to participate in instruction that ranges from individualized work to small and large group activities. A Reading Specialist will offer these students a variety of reading strategies that foster independence in reading. The Reading Plus Program will be used; as well as novels, magazines, and other reading and instructional materials. This course is designed to help students increase their level of comprehension, fluency, vocabulary, and word attack skills. This course supports and motivates struggling readers as they progress toward grade level reading success and lifelong learning.

Math Essentials 8 (Full Year)

Math Essentials 8 is a course designed to support students by reinforcing skills and concepts that are taught in Mathematics 8 through front loading as well as review. This course will also be used to strengthen areas of weakness by personalizing learning to meet specific needs and raise overall mathematical skills and understanding.

Academic Lab 8 (Semester)

Academic Lab is a structured time for students to complete work at school which may have been assigned for homework. This time allows for busy students who have activities or other responsibilities outside of school an opportunity to complete class work at school. Students enrolled in this class must bring class work every day, which is not limited to written work. Work also includes studying and reading course work. Teachers will actively monitor students' daily work and provide a variety of structures which may help students organize to reduce the number of assignments that are incomplete. Students may select or be placed in an academic lab with administrator approval and discretion. The students will receive a pass or fail grade.

ELECTIVES REQUIRING TEACHER APPROVAL

SIGMA-MIDDLE SCHOOL GIFTED PROGRAM (Full Year)

(Specialized Program for students who meet entrance criteria) SIGMA eighth grade curriculum encourages independent and self-directed learning and is designed to meet the academic and affective needs of students. Using an interdisciplinary and multicultural perspective, learning activities emphasize the higher-level cognitive skills of analysis, synthesis, and evaluation. Incorporating a variety of approaches from experts in the field of gifted

education, the program curriculum draws from the following major areas: Communication, Critical Thinking, Creative Thinking, Life Skills, and Information Processing.

This course will alternate days with P.E.