



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

Upper Merion Area School District Curriculum Information for Parents and Community

ART

Drawing

Drawing is fundamental to the vocabulary of an artist, and is an essential tool for observing, recording and responding to the world around us. This course is ideal for those who need to sharpen their basic drawing skills, whether you are a new or experienced artist! Using a variety of drawing materials including pencil, charcoal, marker or ink, students are introduced to the technical elements of line, tone, form and composition. It is an excellent foundation course for students looking to progress into Studio Art I.

Studio Art I

In this fundamental art course, students will practice basic techniques in drawing, painting, printmaking, graphic arts, and sculpture. Students should have knowledge of color theory, range of value, paint properties, and compositional balance. This is a good course for any student that wants to pursue a career in any of the visual arts. Students will receive quarterly sketchbook assignments. **Completion of both Drawing & Sculpture with a "B" average can be substituted for Studio Art I.

Studio Art II

This course is an expansion of Studio Art I, focusing on a greater knowledge of artistic fundamentals and skills. It is designed for serious students who aspire to attend an art school. Students' focus will be to express their creativity in all art forms. A greater emphasis will be placed on portfolio preparation, evaluation and critique sessions. Students will receive quarterly sketchbook assignments. Prerequisite: Drawing and Sculpture completed together or STUDIO ART I

Studio Art III

An expansion of Studio Art II, it is designed for the passionate student that wishes to convey their creativity in all art forms. A greater emphasis will be placed on portfolio preparation through the investigation of design elements, production and evaluation/critique sessions. Additional outside of class preparation is necessary for completion of projects.

AP Studio Art

Each AP Studio Art course is designed for students who are seriously interested in the practical experience of art. AP Studio Art is not based on a traditional exam; instead, students submit portfolios and artist statements to the College Board for evaluation at the end of the school year. The AP Studio Art Program consists of three portfolio options — 2-D Design(664), Drawing(665), and 3-D Design/Ceramics(667) - corresponding to the three most common college foundation courses. According to surveys of comparable curricula at four-year colleges and universities, they are each equivalent to a college art course. The Advanced Placement Studio Art course will:

- Encourage creative and systematic investigation of formal and conceptual issues.
- Emphasize making art as an ongoing process that involves the student in informed and critical decision making.
- Help students develop technical skills and familiarize them with the functions of the visual elements.
- Encourage students to become independent thinkers who will contribute inventively and critically to their culture through the making of art. Comprehensive preparation and guided structure for the AP Studio Art Portfolio is also provided. Prerequisite: Art Teacher recommendation or grade of B or higher in Studio Art II or Ceramics II. Summer work required.



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

AP Studio Art: 2D Design Art & Design

For this portfolio, students are asked to demonstrate understanding of 2-D design, through the use and interpretations of the elements of art and principles of design, via any two dimensional medium or process, including, but not limited to, graphic design, digital imaging, photography, collage, fabric design, weaving, illustration, painting, and printmaking.

AP Studio Art: Drawing

The drawing portfolio is intended to address a very broad interpretation of drawing issues and media. Line quality, light and shade, rendering a form, composition, surface manipulation, the illusion of depth and mark making are drawing issues that can be addressed in the creation of representational or abstract art through painting, printmaking, charcoal, pencil, ink, and mixed media.

AP Studio Art: 3D Art & Design

For this portfolio, students are asked to demonstrate understanding of 3-D design through any three dimensional approach, including, but not limited to, figurative or non-figurative sculpture, metal work, ceramics, pottery, glass work, installation, and assemblage.

Sculpture

This course is designed to focus on the three dimensional aspects of art. Unconventional sculpture assignments encourage exploration of the relationship between materials, tools, sculptural form, and aesthetics in the creation of structures. Some of the materials that may be explored will be paper/cardboard, papier-mâché, clay, metals, and wire. Using a large variety of scavenged, recycled and natural materials, students will stretch their creative problem-solving skills.

Basic Ceramics

Basic Ceramics is a beginning course focused on the three hand building methods in clay. Students will explore pinch, coil, and slab methods and their many possibilities. They will also learn the science of the ceramic process through the clay and glaze reactions in the kiln. Wheel instruction is not included. This is a semester course designed for students who have not taken Ceramics I or II.

Ceramics I

The ceramics course is designed for the student who is interested in working with clay. It includes the use of the potter's wheel and introduces students to the basic construction methods (pinch, coil, slab, sculpture). Students will be required to use each method to complete projects. Students will be required some outside time to plan these projects. Basic ceramics is not a requirement for this course.

Ceramics II

Students will improve proficiency in wheel throwing, hand-building and glazing techniques through all steps of the ceramics process. Ceramics II will serve students with an emphasis on functional, sculptural and decorative pottery techniques. Students are encouraged to explore and utilize all the facets of this rewarding medium. Students may require some outside time to plan these projects. Prerequisite: B or better in Ceramics I.



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

Advanced Ceramics Design

A continuation of the skills, techniques and processes acquired in the Ceramics II course, the students will be exploring further possibilities in the medium of clay and other 3 dimensional materials. Students will be required to work on a larger scale and produce more advanced work. Students will be required to plan these projects outside of class. Prerequisite: B or better in Ceramics I and II

Painting

This is an introductory course that covers basic painting techniques with an emphasis on classic and contemporary application of watercolor, acrylic, and tempera media. Students will learn to express themselves through color and composition with various painting styles and applications. Prerequisite: Drawing skills recommended but not required.

The Art Of Digital Photography

This photographic course is designed to acquaint students with the ins and outs of digital imaging and publication by applying them to digital cameras and the computer. From capture to print, learn to optimize, manipulate and compose photographic imagery using the computer as a tool to enhance the art elements and compositional criteria of a photograph or digital image. Required course materials include a digital camera with SD card.

MUSIC

Concert band, chorus, and orchestra provide environments where students experience a varied repertoire and continuous development of techniques and skills. Direction is provided for present and future utilization of students' talents. Participation in school and community performances contributes to student social, emotional and academic growth through sharing responsibilities and goals.

Concert Choir

Choir is open to all students interested in singing in the high school chorus. Curricular instruction included signing technique, basic music theory and exploration of various forms of choral music. The Choir rehearses to perform at three yearly concerts, graduation and numerous school and community events. Interested and qualified Viking Choir members may audition for District Chorus. Prerequisite: Ability to sing on pitch. Prerequisite: Students must have the ability to read music intermediate level.

Music Theory

This course will acquaint students with the basics of music theory including music notation, intervals, chords, scales, rhythm, listening and dictation skills and elementary harmony. The course will include keyboard instruction. This course will serve as an introduction to AP Music Theory. Prerequisite: Students must have the ability to read music at an intermediate level.

AP Music Theory

This course will continue the musical concepts covered in Music Theory I. Instruction will include harmonic progression, part writing, non-harmonic tones, and listening and dictation skills. This course is particularly useful for students interested in studying music after graduation. Students will be prepared to take the AP exam in Music Theory. Will be available alternating academic years. Prerequisite: Students must have successfully completed Music Theory I.



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

Advanced Choir

This advanced vocal group will meet during zero period (7:00-7:45 am). An audition is required which can be arranged with the choral director in Room A111 prior to course registration. Curricular emphasis includes advanced vocal technique, music theory and study of various choral styles such as Sacred and Secular Choral Music, Broadway, Jazz, and Popular Music. The choir rehearses occasionally in the evening to prepare for various school and community concerts and for choral festivals and competitions. Participation in this group requires a serious commitment to the music program. Prerequisite: Participation in Credit Choir or approval by the choral director.

Guitar Class

This course is designed for any student with the desire to play the guitar, and is open to beginning or novice players. Advanced players will be accepted by teacher recommendation only. Course content includes: assembly and tuning of guitar, basic playing technique, music theory and ensemble playing.

Concert Band

Concert Band is open to all students who play a woodwind, brass, or percussion instrument. Concert Band will meet during the school day. Concert Band will also have several evening rehearsals and performances. Band students may elect to participate in the Viking Marching Band. The marching band rehearses twice each week and performs at football games and other special events throughout the area. Prerequisite: Students must be able to play a concert band instrument.

Advanced Band

Advanced Band is composed of students selected by audition who play a woodwind, brass or percussion instrument. Advanced Band members will be encouraged to prepare the solo selection for District Band. Students will perform the Concert Band music in addition to the Advanced Band music. This advanced instrumental group will meet daily during zero period (7:00-7:45 am). Advanced Band will also have several evening rehearsals and performances. Students in Advanced Band may elect to participate in the Viking Marching Band. The marching band rehearses twice each week and performs at football games, and other special events throughout the area. Prerequisite: Students will be selected by audition.

Concert Orchestra

Concert Orchestra is open to all students who play the violin, viola, cello, or string bass. Students will be required to submit one recording each marking period (a total of four throughout the year) and perform all of the orchestra pieces in the winter, Pops and Spring Concerts. Members of the orchestra may also audition for the UMHS Chamber Strings, the Montgomery County Honors Orchestra, and the PMEA District, Region and All-State Orchestras. Prerequisite: Successful participation in the middle school Orchestra program and a teacher recommendation.

Advanced Orchestra

Advanced Orchestra is open to students who play violin, viola, cello, or string bass; woodwind, brass, percussion and piano students by audition only. Students will be required to submit one recording each marking period (a total of four throughout the year) and perform all of the orchestra pieces in the winter, Pops and Spring Concerts. More advanced string literature, techniques and ensemble playing may also be studied and performed in this class. Advanced Orchestra will meet during zero period (7:00 – 7:45 am.) Prerequisite: An 'A' or 'B' in Concert Orchestra, or an 'O' in 8th Grade Orchestra, and a teacher recommendation.



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

BUSINESS & COMPUTER INFORMATION TECHNOLOGY (BCIT) - (All semester courses)

The goal of the Business & Computer Information Technology Department is to prepare students for a successful future whether continuing on to college or entering the business and marketplace after high school, the courses available in the department are invaluable to anyone's success. A unique department, all of the courses in this department focus on the development of problem solving and communication skills, and the modeling of different technologies and business processes that are used in the 21st century workplace.

COMPUTER INFORMATION & TECHNOLOGY / COMPUTER SCIENCE

Web Design I

This course is an introduction to Web Design and will create a basis for the learner to create an actual website. Students learn how to use HTML to design their own Web pages. The course covers basic HTML and CSS. Through real-world design scenarios and hands-on projects, students create usable web pages using the latest suite of tools. Students learn how to critically evaluate website quality and learn how to create and maintain quality web pages. They will explore web design standards and why they are important, and learn to create and manipulate images. The course progresses from introductory work on web design to a culminating project in which students design and develop a real world website. Tools used may include, but are not limited to HTML, CSS, JavaScript, Photoshop, Brackets and Dream Weaver. No experience needed to succeed in this fun and project based course. You will leave the course with the ability to create a website.

Web Design II

This course is for students who have successfully completed Web Design I and want to learn tools and techniques in the Web Design world. The course will delve further into HTML5 CSS/Bootstrap and JavaScript, as well as other tools. Projects will include real world/community projects including creating website proposals for clients. This class is ideal for students who are both artistic and technical and are interested in learning skills that will focus on advanced web design techniques. This course is designed to be a rewarding and fun learning experience for all students regardless of ability and can actually prepare you to get paid side projects creating websites. Prerequisite: A passing grade in Web Design I or Teacher recommendation

Digital Academy (Year-3x cycle)

Digital Academy will serve as the entry point for student participation in the Upper Merion Area High School one-to-one computer initiative. The course will introduce students to techniques that will allow them to use technology as a tool for lifelong learning. Students will develop their academic skills and reflect on their role in a digital world. The course will provide care and operating instructions for their MacBook. Students will utilize various applications and web-based tools to meet learning objectives across their curriculum. Digital Academy students will identify what it means to be a good digital citizen by examining 21st century issues like cyber-bullying, information security, online piracy, and overall responsible use of technology as they consider their own identity and future in a digital age. *Course Required As Computer Science Credit For Graduation.

3D Modeling & Animation

In this class you will learn how to make animated cartoons as well as create 3D objects including printing some of your designs on 3D printers. This class is ideal for students who may be interested in art, graphic design, programming, engineering and/or animation. This class requires NO experience or knowledge of animation and 3D models and will teach you how to do it in a fun and project based environment. The class will utilize animation tools and 3D modeling software as well as a full review of the history of animation and CGI graphics in everyday use. Upon completion, students will be able to create 3D models and actual animations using 2D



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

and 3D modeling tools such as, but not limited to Animate and Blender. Prerequisite: Passing grade in Digital Academy

Intro To Computer Science/Programming

This course introduces students to the basic concepts of computer science and programming and challenges them to creatively explore how computing and technology can affect their daily life. While learning about the many facets of computer science fields, students will be engaged in several projects such as programming robots using Java language and creating projects on Raspberry Pi microcomputers utilizing the Python language. This is a fun project based class that will review all areas of computer science including Robotics/AI, history, big data, machine learning, ethics and much more. Highly recommended for anyone and no experience needed. Prerequisite: Passing grade in Digital Academy

AP Computer Science Principles - Full year course

The AP Computer Science Principles course is designed to be equivalent to a first-semester introductory college computing course and is perfect for those majoring in the humanities in college. No experience at all is needed for this fun class that is designed to appeal to a diverse audience. This course involves discussions and hands-on activity based learning that will cover a wide variety of topics such as how the Internet works, ethics, programming, data representation, and security. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems, and will discuss and write about the impacts these solutions could have on their community, society, and the world. Programming languages that may be used include JavaScript, Java and/or Python. Highly recommended for anyone and no experience needed. Prerequisite: Passing grade in Digital Academy.

BUSINESS APPLICATION

Introduction To Business

Students are introduced to the dynamics of the world of business as they examine what businesses are, how they operate and how they are structured and what influences them. Concepts are connected to real life situations including social responsibility, personal finance, business ethics and culture, international business, business technologies, real world business connections and lifelong skills that can be applied to any career choice or college major. Whether planning for a business major in college or a business related career, this course is the perfect start towards a successful future.

Accounting I

This course is offered for students who have an interest in pursuing a business career, or want to better understand how to manage their own personal finances. The basic principles, concepts and procedures of the accounting cycle will be introduced to students. This objective is accomplished through the use of problems, projects, practice sets and readings. A live national interactive stock market game teaches the skills of trading stock. Exposure to Microsoft Office (Word, Excel and PowerPoint) preferred.

Accounting II

Building on the learning experience developed in Accounting I, this course highlights various real life applications in partnerships and corporations. The accounting cycle is emphasized through various real life applications including budgeting and retail management. Exposure to Microsoft Office (Word, Excel and PowerPoint) preferred. Prerequisite: Passing grade in Accounting I



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

Business Law

This course is designed to introduce students to the field of law and strengthen their knowledge of business concepts and practice. Students will utilize research and case law to explore topics including the foundations of our legal system, civil and criminal law, and employment law. The class provides a hands-on, active approach to Business Law as students spend time examining real life cases, exploring the evidence, determining legal outcomes, and discussing the impact those cases have on our society. Prerequisite: A passing grade in Intro to Business or teacher recommendation.

Principles Of Marketing

This is a fun project-based course that will facilitate learning about marketing and advertising. You will develop marketing skills, which are used in almost all business practices, and you will be a smarter consumer and/or businessperson. Students will learn that marketing is one of the largest and most exciting career areas in business today. Whether you are planning a career in marketing or want to enhance your business knowledge, the skills and information you take from this class will be invaluable. This is a hands-on class that utilizes all areas of marketing including sports & entertainment, tourism and advertising.

Entrepreneurship

Entrepreneurship is a course designed to acquaint students with the private enterprise system from the perspective of a small business owner. The students will learn what it takes to plan, develop, and run a business. The class will focus on recognizing business opportunities, researching and planning a business venture, and maintaining day-to-day operations of a small business. Business, human resource management, financing the business, accounting principles, managing risk, as well as the social and ethical responsibilities of businesses in the 21st century. Students will be tasked with simulating their own start-up venture to be used as a learning tool to examine the course content. Prerequisite: A passing grade in Intro to Business or teacher recommendation.

International Business

The Business Education Department recognizes the ever-expanding global marketplace. International Business will introduce students to the understanding of the relationships between different countries' business policies and practices. Topics covered include foundations of International Business; the global business environment; international banking, finance and investment; international communications and culture; and ethical and social responsibilities in a global economy. Students will also have opportunities to make real-world connections by hearing from local business professionals with experience in the global marketplace.

Prerequisite: A passing grade in Intro to Business or teacher recommendation

Personal Finance

This course prepares students to analyze choices and develop tools to make wise decisions in future financial planning. Students will use a variety of on-line and print resources to develop knowledge and skills relative to managing individual resources, consumer rights and responsibilities, consumer advocacy and technology available for consumers. Careers, paychecks, budgets, housing, insurance, purchasing a car, investments and the stock market are explored in this course. Community resources will enhance students' understanding of content. Prerequisite: None

Co-op: Occupational Seminar And Work Experience

The Co-Op experience is a semester course that provides seniors with the opportunity to earn credit by working in area businesses and learning skills not taught in the regular school curriculum. Students with a job can leave school early to go to work and receive course credits. Students can earn .5 credit per semester or 1



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

credit per semester depending on hours worked per week. The teacher mentor will support the student by providing related classroom instruction in the areas of productive work habits, cooperation and teamwork, safety, time management, career development and budgeting. The teacher-mentor will also visit the student on the job site in order to collect feedback from the employer, discuss any work-related issues, and evaluate the student's learning. Co-Op is an opportunity for the student to gain practical work experience that complements their academic experience. It is highly recommended students already have a job before applying for this course. Transportation for Co-Op students is not provided by the school district. Prerequisite: Current work experience and must be a Junior or a Senior.

Occupational Seminar And Work Experience Modified

The Cooperative/Transition Education Program provides students in special education with a structured educational program integrating classroom studies with productive work experiences in a field related to a student's academic or career goals. This program provides students with guidance and training through vocational exploration, employment planning, community-based assessments and eventual competitive job placement. Ongoing employment support (job coaching) is provided when necessary, to assist in successful school-to-work transitions. Participation in this program requires students to attend a weekly 1 period Seminar class, in addition to completing the minimum required hours within an approved work or training site. All interested juniors and seniors must receive approval from the Transition Coordinator or Co-Op Supervisor prior to being scheduled for this course. Prerequisite: Individualized Education Program (I.E.P.)

FAMILY AND CONSUMER SCIENCE (All semester courses)

Family and Consumer Sciences courses inspire students to achieve success in their future through communication and project driven courses. The following courses provide a foundation for students to transition into adult life by gaining knowledge and skills needed for successfully living and working in a diverse global environment. Through project based and experiential learning opportunities, the lab and studio courses develop teamwork, leadership, and technology skills that enable students to become critical thinkers and positive contributors in society.

Introduction to Culinary Arts

Experience the excitement of preparing, experimenting and tasting food. In this introductory course, students will improve their fundamental knowledge and skills in the areas of food safety, planning, preparing and serving meals. Fundamental nutrition facts for recipes will be incorporated into daily/weekly labs.

Culinary Arts I

This course is designed to incorporate principles of food preparation and apply appropriate food safety and sanitation practices. This class will use prior and new terminology and abbreviations used in food preparation while interpreting a wide variety of recipes from different countries. Students will incorporate the food pyramid and nutritional value of different foods to create meals. Students will explore and prepare different cultural cuisines. Students will also infer the effectiveness of the use of meal management principles. Students are encouraged to prepare a meal and present it with a creative style. Prerequisite: A grade of "B" or better in Introduction to Culinary Arts and teach recommendation.

Culinary Arts II

This course is designed to advance and continue the principles of food preparation while students explore newer methods and techniques for the preparation of healthy appealing recipes. The course will incorporate



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

prior knowledge while analyzing fundamental practices in the food industry. The students are given the opportunity to research and develop nutritional practices that can be incorporated into their daily lives. Active class members participate in UM Steel Chef, while giving back to the UM community through the inter-school district and giving to community events. Prerequisite: A grade of "B" or better in Intro to Culinary Arts Lab I and teacher Recommendation.

Up-cycling Design

This course is designed to teach the arts and the upcoming trends that may be used to recycle, refurbish and reuse to reflect your personal persona. Multiple projects will be completed to enhance your creative outlet. Through class discussions, personal reflection, and teacher guidance, the student will learn to analyze and critique his/her own projects while using projects as portfolio pieces. Students will be required to bring in up-cycling supplies for projects.

Interior Design

This course will allow students to use their inner creativity to transform old, impractical spaces into new updated, lively, functional settings for various purposes. Students will gain an understanding of the elements and principles of design while transforming old outdated furnishings into new updated space. Students will learn to analyze appropriate selections of colors, fabrics, lighting, and furniture. Class projects include decorating sample rooms, designing and analyzing floor plans as well as transforming "junk" into beautiful and everyday usable objects! The student will create a small portfolio by completing a variety of projects. Students will be required to bring in supplies for projects.

Fashion Design I

This course begins with a short review of sewing techniques for the construction of projects with or without a pattern. Students will learn how to use their creativity to analyze their individual style/personal vision and create pieces including, jewelry, clothing and accessories. Students will research upcoming trends and designers while creating garments/projects to reflect student's personal fashion preferences. Students will be required to bring in supplies for projects.

Fashion Design II

This course further develops techniques in clothing construction and design. Students will be responsible for designing their own logo to accompany their own line of clothing and accessories. This will be achieved through various hands on methods. Classroom presentations and critiquing will be a part of this artistic adventure. This course will also prepare students for a college portfolio dedicated for fashion arts. Students will be required to bring in supplies for projects. Prerequisite: A grade of "B" or better in Fashion Design Lab I.

Early Childhood Education Lab I

Students will study the physical, social, emotional, and intellectual development of children three through five years of age. This course will include Pre-K lesson planning, preparation and student teaching experiences. Daily participation through hands-on activities and observation in the Little Vikings Lab School is an integral part of the learning experience.

Early Childhood Education Lab II

Students will plan and organize the Little Vikings Lab School Program including classroom work learning centers, arts & crafts, storytelling, music, physical activities, field trips, and science labs. They will research and analyze children's behavior based on current child development theories to better understand the roles of



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

caregivers and parents. Prerequisite: A grade of "B" or better in Early Childhood Lab I and teacher recommendation.

Elementary Education Lab Experience

Students will work closely with a teacher in a district classroom. This course is designed for students who are interested in pursuing careers dealing with young children. Prerequisite: A grade of "B" or better in Early Childhood Lab I & II, teacher recommendation and must be a senior.

High School Technology and Engineering (All semester courses) The Technology and Engineering Education program provides students with the opportunity to investigate the relationships between science, technology, engineering, and mathematics and apply their understanding of those relationships in different project-based learning activities. All of the courses in the program focus on the development of problem solving and communication skills, systems thinking, and the modeling of different technologies and processes that are used in the 21st century workplace.

STEM: Principles and Processes

This course focuses on how technology and engineering is used to solve problems and understand the world we live in. The students will examine existing and emerging technologies and evaluate how they were developed and could be modified to solve problems in the future. The primary focus in the course is on developing an understanding of the ways technology has been used to create new and innovative products and processes. Students will complete case studies, design challenges, and technical reports as they investigate the principles and processes used to create our technological world.

STEM: Design and Fabrication

This course addresses how technology and engineering principles are applied to the design of materials, objects, structures, and systems. The use of design challenges and prototyping activities will provide students with the opportunity to design, construct, and evaluate a number of different structures. The primary focus of the course is on using design processes to systematically construct and evaluate a number of different structures and systems. Students will complete prototyping activities, technical drawings, and design challenges as they apply their understanding of design and fabrication to a number of different projects.

Introduction to Engineering

This course introduces students to the various fields of engineering and provides students with the opportunity to engage in engineering activities. The course will begin with an overview of the engineering principles common to all of the engineering fields and then focus on the concepts that distinguish between the different engineering fields. Students will work on a number of projects that incorporate design challenges, technical drawings, and digital integration as they develop an understanding of important engineering principles.

Engineering Systems

This course is a second engineering course for students who have completed "Introduction to Engineering" and focuses on how the different engineering fields interact to complete both large and small projects. In addition to discussing engineering principles, students will explore how financial, marketing, and regulatory agencies impact and influence any engineering project. Students will complete a number of design challenges, presentations, and manufacturing simulations as they expand their understanding of engineering principles. Prerequisite: Introduction to Engineering



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

Advanced topics in Engineering

This course is a third engineering course for students who have completed the "Introduction to Engineering" and "Engineering Systems" courses and serves as an independent study course for students to pursue topics of their own interest. The final project will incorporate a number of smaller projects and will be of a size and a scope to reflect a semester dedicated to the understanding, investigating, and presentation of an important technological or engineering idea or concept.

High School Health & Physical Education

All students are required to successfully complete 1.0 credit of Physical Education. It is recommended that students take advantage of the opportunity to earn more Physical Education credits after achieving the graduation requirement. In order to attain the 1.0 credit graduation requirement, all students must pass .4 credits of Physical Education 818 and .6 credits (3 semesters) of Physical Education 819. The completion of Physical Education 818 is a prerequisite for taking the 819 course. Below is a description of all Physical Education offerings.

818a Physical Education (Fall – 2 Times/Cycle) Credit 0.2

818b Physical Education (Spring – 2 Times/Cycle) Credit 0.2

This course is a basic introduction to Physical Education at the High School. It includes two eighteen-week sessions of a variety of activities and experiences that may include weight training, cardiovascular fitness, games, physical fitness, and a number of indoor and outdoor sports and activities.

819a Physical Education (Fall-2 Times/Cycle) Credit 0.2

819b Physical Education (Spring-2 Times/Cycle) Credit 0.2

This course offers students the opportunity to select from a variety of activities to participate in during two, nine week periods. A sampling of these activities includes creative games, ultimate frisbee, team sports, personal fitness, basketball, lifetime sports, floor hockey and volleyball. Prerequisite: Course 818A/ 818B

PHYSICAL EDUCATION ELECTIVES

820a Advanced Physical Education (Semester-2 Times/Cycle) Credit 0.2

820b Advanced Physical Education (Semester-2 Times/Cycle) Credit 0.2

This course is designed to develop leadership skills, allow students opportunities to acquire useful skills that are transferable into the community and to promote cooperative and team building qualities to our students. Course objectives include peer teaching 818 classes and teaching elementary students the importance of physical fitness. In addition, this is a great course for students wishing to pursue a career in the area of coaching or Health and Physical Education. Units of study include competitive team sports, individual life-long activities, adventure-based education and coaching/officiating. Prerequisite: Successful completion of Physical Education 818 and 0.4 credits of 819.

821a Physical Education (Fall-2 Times/Cycle) Credit 0.2

821b Physical Education (Spring-2 Times/Cycle) Credit 0.2

The focus of this course will be sport specific weight training. This course meets during zero period (7 AM-7:45 AM). Students participating in this class must provide their own transportation.

827s Adaptive Phys. Ed. (Year – 2 Times/Cycle) Credit 0.4

This course is designed to meet the needs of individuals who are unable to participate in the regular program because of a physical handicap, disability, or other special need. Prerequisite: Individualized Education Plan (IEP), Recommendation or Physician's Note.



Inspiring Excellence

Upper Merion Area School District

435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

814b Aquatic / Lifeguard Training (Semester- 4 Times/Cycle) Credit 0.4

This course affords students the opportunity to do independent lap swimming at an individual pace. Aquatic aerobics and other forms of aquatic fitness will be available. The course also affords students the opportunity to gain Lifeguard Training and Certification. The American Red Cross certification requirements include mastery of first aid skills, CPR, and rescue skills. Lifeguard certification will not be issued to anyone who cannot satisfactorily demonstrate certification in all required skills. There will be a nominal financial charge to meet Red Cross certification and course costs. Prerequisite: Successful Completion of Physical Education 818 and 0.4 credits 819. Sophomores may take this course without meeting the prerequisite if they receive permission from the instructor.

TEENAGE ISSUES AND HEALTH

800 Teenage Issues (Year – 3 X Cycle) Credit 0.5

A team of teachers from the Health Department teach this course. The content of the course includes drug and alcohol education, human sexuality, nutrition, self-esteem, safety and first aid, mental health, and other pertinent health issues. This can be taken as a co-taught class. This course is a graduation requirement and must be completed prior to taking Health in 11th grade.

830 Health (Semester-daily) Credit 0.5

This course is a continuation of the study of basic health concepts. Included are health practices, nutrition, diseases, human sexuality, family relationships, mental health, and decision making processes. This course is a graduation requirement. Recommended to be taken in 11th grade. Prerequisite: Successful Completion of Teenage Issues 800.

830v Health (Semester - Daily - Online) Credit 0.5

This course will cover all the same curriculum as course 830 Health. Students will be scheduled for a class period during their school day for time to focus on course completion but all class activities, discussions and assignments will be completed online.

795 Choices (Semester-daily) Credit 0.5

Students will develop skills in active listening, questioning, and group dynamics. These skills will be used in the investigation of self-awareness, learning preferences and character development. Activities will include Socratic Seminars using current events, literature selections, and popular music selections; personality and interest inventories, learning style preference scales, and written assessments including journals and reflection papers.

To see our full Program of Studies, look here:

<https://www.umasd.org/Page/5563>