

Unified Arts Course Offerings

Art

Studio Art – 801

Studio Art provides the opportunity for beginning art students as well as more advanced students to experiment with concepts, methods, and materials in the following areas: design, drawing, print-making, painting and 3-D design. By studying the contributions of artists past and present and participating in studio work and critiques, students will gain a more critical appreciation of the value of art. Students will use the Internet as a research tool for art historical information. Students will be required to enter at least one piece of their artwork in the Celebration of the Arts exhibit. Students are required to supply an artist's sketchbook.

Drawing and Design – 803

Focusing on building drawing and observation skills, exploring personal expression and creative problem-solving; this course allows you to grow your skills as an artist. Because we work with students who have varying skill levels/experience, the goal of this course is to take you where you are and grow your individual skills over the semester - even if you have no experience, you can expect success. You will be challenged to stretch your preconceived ideas of what you can do as an artist and to explore the fine art world of drawing & design. Using historical and contemporary artists as inspiration, you will create a series of drawings and paintings that hone your competence with a variety of drawing & design tools and techniques. By participating in self, peer and group critiques and learning to give actionable feedback, you will develop your ability to look at your own artwork in a deeper manner and allow you to write and speak clearly and thoughtfully about others' art. Art school representatives visit throughout the year to discuss career options and college planning. Open Studio sessions are available after school twice a week for advanced instruction opportunities. All students participate in the Celebration of the Arts exhibit. Students are required to supply an artist's sketchbook for the class.

Painting and Drawing – 805

Painting and Drawing students learn how to grow their skills as fine artists; honing drawing techniques in pencil, charcoal, pastel, and pen and ink as well as growing their observational skills. Students regularly participate in self, peer, and group critiques. The course provides opportunities for exploring career opportunities in art; familiarization with significant periods in art history; opportunities to exhibit work in local, regional and national competitions; and the opportunity to work from life and imagination. By learning to reach beyond imagined limitations, students explore, develop their craft and grow their observation, painting and drawing skills. Through their artwork, students responsibly utilize online reference materials; using the Internet as a tool for art historical research and familiarizing themselves with contemporary artists. Students are required to supply an artist's sketchbook and are required to enter at least one piece of their artwork in the Celebration of the Arts exhibit.

Functional Ceramics – 811

Ever look around your home and notice all the functional objects made of clay? Plates, cups, mugs, pitchers, platters, vases, salt and pepper shakers, bowls... Ever wish you could learn to make pottery on the potter's wheel? Here's your chance to create some amazingly beautiful and functional pottery for your own use. Is it easy? Not always. Will you get dirty? Yes. Will it be worth all the effort and the dirt? Absolutely! You'll have the opportunity to create original designs for your own functional pottery, while learning about contemporary ceramic artists and cultural artistic heritage. In this professional ceramic studio, you will learn a variety of hand building techniques and the potter's wheel in a supportive community atmosphere. Digital portfolios are used to document your progress, processes and problem-solving strategies. All students are required to enter at least one piece in the Celebration of the Arts exhibit. **There is an \$18 lab fee for this course.

Sculptural Ceramic – 813

At the core of this course are the basic questions of any artist: How does your sculpture reflect who you are, what you think and what you feel? As a sculptor, how do I communicate meaning? You will have the unique opportunity to explore the world of sculptural ceramics – by studying contemporary ceramic sculptors such as Victor Spinski, Beth Syliva Hyman, John Brickels and Cristina Cordova. This project-based course links studio work and critiques to the exciting world of contemporary ceramic artists and their historic predecessors. Students will focus on meaning and symbolism in art as it relates to their artwork and to the artwork of professional artists; continually asking themselves how their in-class learning connects with their lives and to the larger world of art. Students will work in a professional ceramic studio and actively participate in this unique artistic community. The Internet is used as a research tool. Using a digital portfolio, students will document their progress and problem-solving strategies. Students are required to enter at least one piece in the Celebration of the Arts exhibit. **There is an \$18 lab fee for this course.

Tile Making: Impression and Expression – 815

A unique combination of drawing and ceramics, the tile artwork at Celebration of the Arts never fails to delight and inspire viewers. Students learn several techniques for creating tiles, including stamping, mold making, picture mosaics and traditional mosaics. All the phases of tile making, including creating an original design, working with clay, glazing, gluing and grouting, will be experienced firsthand. This exciting course focuses on personal expression as it is linked to contemporary art and artistic and cultural heritage – specifically Pennsylvania tile artists - and on participation in studio work and critiques. Students will work in a professional ceramic studio and actively participate in this unique artistic community. The Internet is used as a research tool. Using a digital portfolio, students will document their progress and problem-solving strategies. Students are required to enter at least one piece in the Celebration of the Arts exhibit. **There is an \$18 lab fee for this course.

Primitive Ceramics: Earth, Air, Fire and Water – 817

We go seriously old school in Primitive Ceramics. By experimenting with primitive techniques including: creating your own clay bodies (meaning we will walk to the creek and dig up and process our own clay), burnishing, smoke-firing, traditional and horsehair raku, and alternative finishes (we often use fire as a tool in this course). The results are often unpredictable and always beautiful. Focusing on independent research and design; students meet indigenous people's both historic and contemporary and their hand-constructed ceramic techniques. Students will work in a professional ceramic studio and actively participate in this unique artistic community. The Internet is used as a research tool. Using a digital portfolio, students will document their progress and problem-solving strategies. Students are required to enter at least one piece in the Celebration of the Arts exhibit. **There is an \$18 lab fee for this course.

Sculpture – 819

How often in your lifetime are you going to get the opportunity to carve stone?! Here's your chance to take on an unusual challenge. This rigorous and exciting course provides the opportunity for students to explore the fine art of sculpture. Areas of study include sculptural aesthetics, history, contemporary art, criticism and production. Students will explore major principles, concepts, techniques, materials, and tools of the sculptor. While the main project in this course is a stone carving using alabaster or soapstone, we also use a variety of other materials such as plaster, Pariscraft, found objects, clay, paper and wood on smaller projects. In this project-based course, students do independent online research and create original designs for their sculptures. Students will work in a professional sculpture studio and actively participate in this unique artistic community. Using a digital portfolio, students will document their progress and problem-solving strategies. Students are required to enter at least one piece in the Celebration of the Arts exhibit. **There is an \$18 lab fee for this course.

Digital Art and Animation – 820

Drawing technology and digital art have changed drastically to fit the speed of the 21st century artist and this course will give students the opportunity and training needed to push their creative potential without limitations. Digital Sketchbook's curriculum allows students the opportunity to create dynamic, thought-provoking images using current professional tools such as the Wacom's Mobile Studio Pro pen and touch interface, Autodesk's Sketchbook Pro "user friendly" drawing and painting software, and Sketchup's 3D modeling capabilities. Tools that will allow art to be created directly on a computer screen with speed and precision. Wacom and Sketchbook pro are considered the creative industry's standard digital art software and hardware combination that is used by creative professionals around the world in 2D/3D animation studios, visual effects departments, comics, and photography. Companies such as Pixar, Disney, Ford, Blue Sky, Dreamworks, BMW, and countless other industries utilize these tools in some capacity. Students will draw, compose images correctly, explore animation techniques, manipulate perspective tools, create in a 3D space, develop narrative drawings such as comics and children's book illustrations, and modify their own drawings instantly just as the leading professionals. Time management of deadlines, utilizing on screen note taking with Microsoft OneNote, creative problem solving, managing a digital workflow are also a dedicated part of the curriculum.

Special Effects Photography – 824

Special Effects allows students to experiment with specialized photography techniques not taught in the Digital or Portrait Photography courses. Techniques such as Bokeh, Double Exposure, Long Exposure, Composite, and High Dynamic Range photography. Students will have the opportunity to use Canon DSLR cameras with a variety of detachable lens at their disposal. Along with photographing with professional grade equipment students will work directly on screen with Wacom Mobile Studio Pro 13 tablet computers while editing in the industry standard digital imagery editing suites Adobe Photoshop and Lightroom.

Portrait Photography – 826

Portrait photography is a course designed to teach students how to take photographs of people. Students will photograph their classmates, friends, family, and themselves to practice basic techniques involving depth of field, flash photography, managing a group, candid portraits, posing, working with telephoto lens to capture athletes in live athletic events, and learn how to photograph pets for extra credit. Utilize the most basic concepts of photography even the more advanced students will take on a series of challenges that utilize their creativity and prior experiences. Students will have the opportunity to use Canon DSLR cameras with a variety of detachable lens and pivot external flashes at their disposal. Along with photographing with professional grade equipment students will work directly on screen with Wacom Mobile Studio Pro 13 tablet computers while editing in the industry standard digital imagery editing suites Adobe Photoshop and Lightroom.

Digital Photography – 827

Digital Photography is a course dedicated to the ever-changing technological advances in the world of photography and design. Students will have the opportunity to learn the benefits of digital imagery, how to manipulate their cell phone's camera, and why photography has become so popular. Macro, Still Life, Panoramic, Architectural, and Lowlight photographic techniques are the foundation of digital photography. They provide anyone with an excellent intro experience to camera and tripod techniques while providing knowledge for future course in the SHS photography program. Students will have the opportunity to use Canon DSLR cameras with a variety of detachable lens at their disposal. Along with photographing with professional grade equipment students will work directly on screen with Wacom Mobile Studio Pro 13 tablet computers while editing in the industry standard digital imagery editing suites Adobe Photoshop and Lightroom.

Honors Art – 807

Considering a career in the arts? This class is for you. You will experience a variety of formal, technical, and expressive means available to the professional artist. Exploring career opportunities in art, you will have the opportunity to talk with art school representatives. You will highly refine your observation skills, learn to work independently as you research art historical movements and artists - and become familiar with contemporary artists. Hanging your work at Celebration of the Arts is the culmination of a year of intense work. Open Studio sessions are available for advanced instruction opportunities. Students planning to take Advanced Placement Art Senior year will use this class to begin developing the Breadth sections of their Advanced Placement Portfolio.

Advance Placement Courses

2D Art & Design Portfolio – Advanced Placement AP 829

This course is for the highly motivated photography, animation, digital illustration, and/or graphic design student who wants to perform at a college level while still in high school. This course requires independent work, goal setting, planning skills, constructive evaluation, and ongoing communication with the 2D design instructor. The 15 images created will fill the College Board Advanced Placement 2D Design Portfolio requirements while building a professional portfolio for college reviews and possible internship opportunities. The portfolio will be based on their chosen medium and personal concept. During the creation of the portfolio students will develop increased skills in various artistic methods; including comprehensive technical knowledge of their media, professional use of Adobe software, printing output methods, creative problem solving, thematic design, personal evaluation, and the creation of a “Visual Idea.” The course culminates with a presentation of the student’s portfolio on a visual installation called a “Wall” at Celebration of the Arts.

Studio Art: Drawing – Advanced Placement AP 831

Are you a highly motivated student? Are you headed to art school and a career in the arts? This course allows you to perform at the college level while still in high school. AP students work all year and in-depth exploring a personal artistic theme. These works will represent the required Quality and Concentration sections in the Advanced Placement Portfolio submitted in early May. Through the intense study of the human figure, you will strengthen your drawing skills. Various media will be explored in black & white and color based upon your thematic series. Work ranges from photo-realism to imaginative compositions; small oilstick paintings to larger-than-life drawings. You will practice and develop the ability to document and explain your thinking, creative processes, research arc, and your developing understandings of how all these areas work together towards your own personal and artistic growth. This practice will further develop your artistic voice and your ability to explain what has influenced and changed it. In addition to learning how to appreciate and evaluate your own work and that of others, all AP students will be encouraged to stretch and explore their own work and share it with an audience through mandatory weekly Peer Critical Review sessions. All course participants will need to submit an AP portfolio in May and exhibit their work in Celebration of the Arts. Open Studio sessions are available for advanced instruction opportunities.

Business, Finance, and Administrative Technologies

Introduction to Web Design – 630

This course assumes no previous experience in web design. Students learn to identify the components and characteristics of high-quality sites and how to create them. The class covers file structure and organization, basic graphic editing as well as color and design strategies. We also explore some creative and fun features including Flash animation, sound and interaction. The class culminates with the creation of an all-inclusive web site displaying all their work in this class.

Web Design II – 631

Web Design 2 takes students to the next level in web design. Students can explore their different areas of interest and develop skills in those areas. While the first few classes are review and refresher exercises, we then move onto lessons on problem solving, team building and design. Later lessons are specific to the group's interests. Some topics you might want to explore include editing HTML5 code, Dreamweaver, CSS, Flash websites, Flash animation, Flash Games and debugging JavaScript.

Elements of Graphic Design – 650

This course explores graphic communication through the understanding of the elements and principles of design as well as the design process from idea development through the final execution of a document. Professionals use the concepts explored in this course in the following commercial based disciplines: advertising, graphic design, web design, illustration, broadcast design, photography and game design and many others. Software training includes use of Adobe Illustrator and Photoshop.

Applications of Graphic Design – 651

This course effectively pairs the basics of graphic design with real world projects and applications. Through a project-based production approach, students learn to research and analyze all components of the design process and set the stage for independent design projects. Students are exposed to more advanced digital techniques using Adobe Illustrator and Photoshop including but not limited to: image manipulation through masking and layers, multiple selection methods, saving and exporting, scanning, retouching, pen tool, and cutting-edge techniques used in industry today.

Computer Applications – 904A

Computer Applications is designed to develop microcomputer skills using Microsoft Office applications. Software programs covered in the course include word processing, database development, spreadsheets, and presentation development. Specifically, students can apply their skills to school assignments for their academic courses in Microsoft Office Word, Excel, PowerPoint, and Access.

Fundamentals of Programming – 945

This course is designed to build foundational skills in programming to prepare students for AP Computer Science A. Students will learn to design and implement computer programs that solve relevant, real-world problems. This course will emphasize problem-solving and the development of algorithms. The use of hands-on experiences and examples for students to apply programming tools and solve complex problems will be utilized as students learn Java programming language.

Emerging Technologies/Tech Support – 951

This class is for those individuals who have a serious interest in computers and technology and are considering a career in IT. This class will focus on troubleshooting hardware/software issues throughout the building while working in conjunction with the High School and District Tech Departments. When students are not troubleshooting or assisting others in the building, they will have an opportunity to complete self-guided certification programs (Google, Cisco, Microsoft, etc.).

Introduction to Business – 955A

This course introduces students to the world of business: how they are planned, organized, created, and make or lose money in our economic system. Students learn about the different fields of study within business and the career opportunities that exist in each field. In addition to the textbook, students discuss real business issues and current events directly related to business the economy and consumers.

Marketing – 956

This course presents marketing as a set of skills and knowledge combined with economics, finance, and career planning to create strategic plans. Students learn the foundations and functions needed to successfully market goods, services, and ideas to consumers. Professional development, customer service, and technology are presented as keys to students' success. While students study business, economics, selling, human relations, communications, distribution, promotion, product planning, and pricing, they also see marketing as a career choice. Marketing is recommended for students considering a university major in Business Administration, Marketing and Communications.

Money Management – 958A

Students will discover how career choices affect future income. They will explore income sources as well as purchasing power. They will manage money by using a checking account and keeping good financial records. Students will create a financial plan and review the steps of an effective buying plan. They will look at sources, benefits, and costs of credit. At the completion of the course, students should be able to make wise financial choices.

Accounting I – 963

Students will learn to maintain financial records using basic accounting procedures. Included is instruction in the full accounting cycle of a sole proprietorship, as well as a corporation, with the significance of accounting on management decisions. Students will explore accounting as a career and adapt accounting procedures to personal finances. Accounting is recommended for those who are considering a university major in business or accounting.

Accounting II – 964

This course offers proficiency in basic and complex accounting procedures for corporations. Principles of a merchandising business and corporation structures will be approached realistically. This course is designed for students who hope to own a business or follow a career in accounting.

Business II – 965

This course continues our exploration of business, different fields of study within business and careers possible for young people with an understanding of business. In addition to the textbook, students discuss real business issues and current events directly related to business the economy and consumers. To add a little more fun to the class,

students buy and sell stocks in the online Simulated Stock Market game where the winners walk away with small prizes and big bragging rights.

Fundamentals of Game Design – 990

This course introduces students to the theory and practical aspects of the computer game development process. Students brainstorm a game idea, establish focus, determine the storytelling mode, and document the design. Upon successful completion of this course, students should be able to: demonstrate understanding of the vocabulary of game design theory and practice, identify the techniques of top game designers, analyze and identify the elements that make successful games, and apply the computer game development process to create a design document.

Advanced Placement Computer Science Principles – AP 983

Computer Science Principles is a course that exposes students to the core concepts of computer science. Students will gain a broad base of knowledge and skill from a framework encompassing the big ideas of computing; creativity, abstraction, data and information, algorithms, programming, the internet, and global impact. Students also learn computer programming with an emphasis on problem-solving and logic development using computational tools in data analysis. Most projects are open-ended and students will be working individually and collaboratively in pairs. Students create projects requiring written reflection reports and narration of design specification.

Communications through Video Production - Media

Introduction to Mass Media – 760

From the oldest cave paintings made thousands of years ago to the technologically advanced Information Age in which we currently reside, we see evidence of humans working to develop new, more sophisticated, and broader means of communication. This course will provide students with an overview of the wide range of mass communications methods used in modern society. They will examine the history and evolution of mass communication. In addition, the students will explore the current and future career paths in the field of mass communication. Students in this course will research the various forms and functions of mass communication, sample and critique content from each of those formats, discuss and evaluate the role and impact media has on our society, and will map various career paths in the field of mass communication. Students will learn how to become more discerning consumers of media, practice safe and responsible digital citizenship, and have a better understanding of how to produce and distribute their own content. This class would be beneficial for students who have a general interest in media and communications but wish to gain a deeper understanding of the various opportunities in the field so they can make more informed decisions regarding their future academic and career plans.

Television Production: Basic Video Production – 770

This course is the recommended entry-level video production course. It will cover the fundamentals of video production and will work in both the studio/multi-camera format, as well as the film-style/single-camera format. Students will develop the skills needed to function in all aspects of the Production Cycle, and will learn how to produce live multi-camera segments, as well as how to use Adobe Premiere Pro for non-linear video editing. Over the course of the semester, students will work in large and small groups to produce a series of videos. As their skills develop, some projects may be produced for broadcast on our morning announcement programs or SETV.

Television Production: Film-Style Production – 771

Much of today's video production equipment is portable; therefore, many productions are shot on location. The course teaches students to create videos that are shot on location and edited in the studio. Emphasis is placed on

the writing of treatments, scripts, and storyboards, single camera shooting, and non-linear editing techniques. Students will work in small teams and produce a series of videos including (but not limited to) a stop-motion animation, a Public Service Announcement, a music video, and a short film.

Broadcast Journalism – 773

In Broadcast Journalism, students will be taught the skills of story selection, news writing and delivery, along with basic and advanced TV Production skills. The class will produce both daily announcements (The Cougar Pause), and a monthly thematic news magazine program (The Growl) for the high school delivered via the web. In addition, students will produce a series of news reports on various subjects that will be shown in the high school, and on SETv. Students in this class will be assigned a specific job or leadership role based on their abilities and experience and will treat their time in the class like a workday in a television news studio.

Documentary Video Production – 776

Documentary Video Production is an advanced-level video production course that allows students to work individually on three documentary videos of increasing length. The choice of subject matter is completely the prerogative of the student. Students will work through the entire process of developing an idea, doing research, collecting interviews, storyboarding, writing, shooting, and editing. All completed videos will be considered for broadcast on SETv, and eligible for available contests. This is a perfect class for a creative, tech-savvy student who wants the opportunity to work individually and produce projects that could be used as a portfolio piece or demo reel in the future.

Broadcast Journalism II – 778

This course is for seniors and available only by Teacher Recommendation.

Presenting in a Tech Driven World – 839

Advancements and innovations in technology and software applications are being integrated into presentations and public speaking to provide for a more robust and interactive experience for the audience and presenter alike. This course will introduce students to a variety of presentation platforms to complement the public speaking skills students will develop as they learn the language of communication, both verbal and nonverbal, when presenting to an audience. Students in this course will participate in a variety of speaking/presentation situations including informative, persuasive, and narrative while integrating technology to enhance the effectiveness of the presentation. Students will also evaluate presentations, express individual opinions, and work on presentation projects with peers.

Acting Workshop – 840

Students will develop self-confidence in this course, both as performers and as individuals. They will receive a general orientation to the Stanislavski "Method" of acting. Course activities include extensive work in improvisation, characterization, stage movement, monologues, and scene work. Class and teacher viewing of performances and class participation are included in the evaluation of students.

Behind the Curtain: An Introduction to Technical Theater – 843

In this course, students will explore the backstage world of theater utilizing the technical equipment found in the high school theater. Students will participate in units of study focused on theatrical spaces, scenic design, beginning set construction, lighting design, costume design, sound design, prop design, and stage management. Assessment will consist of a combination of hands-on projects, design simulations, and traditional written assessments. No prior technical experience necessary.

Family and Consumer Science

Fundamentals of Foods and Nutrition – 601

This course introduces students to the art and science of cooking. Students will learn how to prepare foods focusing on the areas of dairy, vegetable, meats and grains as well as foods from many different cultures. Students will also be participating in the original recipe competition at Celebration of the Arts. The final exam will help focus on how current food choices will affect their health today as well as in the future. Students can explore careers in the foods and nutrition industry.

Focus on Foods and Nutrition – 602

In this course, students use up-to-date technologies such as the food processor, microwave and convection oven to prepare both familiar and new dishes. Culinary principles will be applied to foods including eggs, chicken and Fruit. Students will prepare traditional and interesting foods such as chicken parmesan, Hungarian goulash and baked Alaska. Using sophisticated diet analysis software, students will evaluate numerous foods as well as their overall nutritional health. Students can explore careers in the foods and nutrition industry.

Advanced Food Preparation – 603

Advanced Food Preparation is for any student who wants to learn the tricks involved in making even a simple meal look exciting and complicated. This course includes the study of advanced cooking techniques used in the preparation of such foods as soups, sauces, gingerbread houses and much more. Home cooking projects utilize complex diet analysis software to aid in meal planning. Regional cuisines including French, Italian, Chinese, and American will be examined in detail. Test your skills by designing and creating a piece of edible art for the cake decorating competition at Celebration of the Arts.

The Science of Food through the Lifespan – 605A

Travel your life span on culinary terms. How should you eat to maintain a healthy body? What foods should be consumed or avoided during pregnancy? What foods help an infant thrive? How do you feed yourself well when you are on very tight budget? How do nutritional needs change as we age? Learn the answers to these questions as well as many others such as the science behind candy making and how our environment affects our food needs and choices.

Interior Design – 611

In this course students will study the elements of interior design and learn how to use them in various living environments. Students will design floor plans and analyze room usage and traffic patterns to determine the best ways to utilize the space and furnishings. Color schemes as well as both personal experimentation and computer will examine furniture styles, selection and placement. Major projects include a personal home improvement project and a dream room design and presentation board.

Child Development – 620

This course deals with the development of a child and the issues s/he may face as they grow up. The influence of the family and the impact of the way basic needs are met early in life are examined. Differences between boys and girls will be observed and analyzed as well as each facet of how a child development. Developmental milestones (skills/abilities that should be achieved by a certain age) will be identified and discussed. Special relevant issues such as pregnancy, labor and childbirth, the impact of technology and the building of good self-esteem will be examined. This is a valuable course for those interested in career areas such as early childhood/elementary or secondary education, special education, day care supervision, social work, child psychology, pediatric medicine and parenting.

Methods of Teaching: Elementary and Secondary Education – 625

This course is designed for students who are considering a career in teaching or early childhood education, or simply want to learn more about the field of education. The course content will explore various aspects of teaching including lesson design elements, an overview of learning style differences and learning disabilities, learning differences between age groups and grade levels, establishing a positive learning environment, and instructional strategies including the use of technology. Students will have the opportunity to design and create hands-on projects and lessons to teach specific concepts. The course will cover Pre-K through Grade 12 teaching methods mainly focusing on elementary age children to equip students with various skill sets to serve as teaching assistants in elementary classrooms or Pre-K programs.

Personal Finance – 640A

Life on your own will be the focus of this course. Managing your own checkbook, establishing good credit, determining costs for major life events (wedding, buying a house, having a baby) will all be examined as well as learning to handle paying monthly bills while balancing personal and family life. The psychology of relationships and higher-level communication skills are the focus while integrating all parts of financial matters during the life cycle. Practical, hands-on methods are applied for successful learning. Research strategies are developed, and curriculum directed projects are worked on in cooperative groups.

Industrial Technologies

Principles of Engineering and Construction: Process and Design – 700

This course is designed for students interested in beginning or furthering their knowledge and skills in the areas of Engineering, Architecture and Robotics. The Engineering Design Process will help guide the project-based learning in our fully functioning design lab, giving students hands-on experience in each field. Creativity in design will be emphasized and students will be exposed to industry standard equipment and software like 3D printers, laser engraver, AutoCAD, Revit, Google SketchUp, 3D Modeling and Robotics. This course is the foundation for exploring and developing your technical skills.

Industrial Materials I – 701A

The Industrial Materials program is described as “Creativity through Problem Solving.” Students have every opportunity to design and create amazing pieces of decorative and functional art from beautiful woods. Students will develop an appreciation for fine quality and attention to detail through their creations. Industrial Materials I is just the first of four levels that students can experience in the program – many families have a house full of beautiful furniture built entirely by hand from these courses. Take this first-level course to gain the expertise and hopefully have your creations published nationally as many students have already achieved. Design examples include detailed jewelry boxes, clocks, small pieces of furniture, or anything that your mind can create! Even if you have absolutely no experience, you should expect success and be prepared to take home pieces you will be extremely proud to display. Evaluation is based on safe lab procedures and work habits.

Industrial Materials II – 702

In Industrial Materials II, students will refine their problem-solving and creative skills practiced in Industrial Materials I and work on advanced techniques such as creating intricate moldings, carvings, or any design their minds can create as part of their artistic masterpiece. Students have virtually no limitations in their designs and can receive advanced instruction through open lab work sessions after school and in the evenings. Our students have designed nearly every piece of furniture imaginable over the past 28 years and have been featured in 33 national and international publications, as well as displayed at the Philadelphia Furniture Show. Projects include complete bedroom and dining room sets, pool tables, sideboards, armoires, pianos, harpsichords, Victorian desks, and even a Model –T truck.

Course activities will require students to design and create a major piece of furniture...or more! Evaluation is based on lab procedures, safe work habits, and preparation for the **“Celebration of the Arts”** to showcase student work to the public. Please view over 100 student creations at www.ssdcougars.org/webpages/gtrout and be amazed! These advanced students are responsible for their chosen materials.

Industrial Materials III – Honors Hn 703

Industrial Materials III is designed to provide the opportunity for students who truly wish to make the most incredible artistic creations possible! View www.ssdcougars.org/webpages/gtrout highly motivated students may exceed 1.0 credits per year if their schedule permits. These advanced students are responsible for their chosen materials.

Architectural Design – 710

In this course, students will focus on Architectural and Engineering Design concepts. Students will 3D model their “Dream House” using Revit, AutoCAD and Google SketchUp to bring theory to reality, as students construct their ¼ inch scale balsa wood model. The use of industry standard software and equipment will allow students to build a home from the ground up. From the floor plan configurations, traffic flow patterns, electrical plans, all the way to elevation drawings, landscape design, site plans and renderings. Technical sketches will allow practice in measurement and accuracy of their drawings. Models and Technical Sketches will be put on display and judged at the annual Celebration of the Arts.

Engineering: Structural Design – 715

This course offers students opportunities to explore pre-engineering and design concepts. The Engineering Design Process, Design Challenges and Engineering Notebooks will aid students in documenting their work and developing many iterations of their designs, through both models and prototypes. The project-based curriculum will expose students to different fields of study in Engineering. Areas of study include technical drawing by hand and AutoCAD, 3D modeling/printing, structural bridge design, ergonomic designs and the ethics of the engineering profession. This class would be beneficial for students who have a general interest in engineering and want to gain a deeper understanding of the various opportunities in the field so they can make more informed decisions regarding their future academic and career plans.

Robotics – 716

This course offers students opportunities to explore pre-engineering concepts in robotics. Using Lego Mindstormer EV3s and VEX Virtual Reality Robots, students will develop computational thinking skills and will transition from block coding to Python programming. Design briefs and challenges are used to describe real life situations and to provide an authentic learning experience. VEXcode VR and engaging robotics-based activities will be used to learn about project flow, loops, conditionals, algorithms, and more. Learning coding will help students develop 21st-century job skills. Most of today’s professional math and science fields have a computational component. Additionally, skills such as the ability to analyze and solve unstructured problems and to work with new information are extremely valuable in today’s knowledge economy. This course will help students become creators, not just consumers, of technology.

Music

Music: Film and Media – 845

This course explores how music works and the ways in which it can be combined with other forms of media. Through this course, students will have the opportunity to learn, discuss, and create music as it is found in: Film, Television, Broadcasting, Video Games, Podcasts, Commercials, Advertising, and much more. No prior musical experience necessary, just an interest in music.

Digital Music Production – 847

With today's technology, anyone can create and produce music! This course will teach you the skills needed to use what is readily available to get your song "out there." You need no prior musical experience, just the love of learning in a new way and being creative. We will explore the features of GarageBand and learn about sound production, mixing tracks and beats, creating your own songs, basic recording, using FX, and creating music for video. This project-based class is designed to get students engaged in the technology used for music and to inspire them to continue to develop their skills beyond the classroom door on their way to the Grammys!

Guitar and Ukulele – 849

This beginner course is designed to allow students the opportunity to pick up an instrument and learn to play. Basic technique, note reading, and musical interpretation are at the center of this course. Students will learn songs and techniques for both guitar and ukulele. No prior instrumental background needed.

Introduction to Music Theory – 851

This introductory course is designed to help understand the fundamental concepts of music. All music is created from the same elements: pitch, rhythm, time, and expression. With these elements in mind, the course takes you from basic music reading through to analyzing the chords of famous pieces of music to allow us to understand the music better.

Music Theory – Advanced Placement AP 880

The goal of an AP Music Theory course is to develop a student's ability to recognize, understand, and describe the basic materials and processes of music that are heard or presented in a score. The achievement of these goals may best be approached by initially addressing fundamental aural, analytical, and compositional skills using both listening and written exercises. Building on this foundation, the course should progress to include more creative tasks, such as the harmonization of a melody by selecting appropriate chords, composing a musical bass line to provide two-voice counterpoint, or the realization of figured-bass notation.

Performance Ensembles

Symphonic Band – 855

Symphonic Band is a performance, academic, and co-curricular ensemble open to Woodwind, Brass, and Percussion students in Grades 9 through 12. Students study and rehearse Band literature of various styles and difficulty in this class. Students refine performance technique and ensemble playing. Performances, concerts, and rehearsals outside of the school day are required. Students are encouraged to study privately on their individual instruments. As a co-curricular class, students enrolled in Symphonic Band participate in marching band at football games and parades. Participation fees are required to cover uniform and activity expenses.

Orchestra – 857

Orchestra is an ensemble of performers who play stringed instruments. String players are eligible for inclusion by participation in the middle school program or by audition with the instructor. Standard orchestral literature and lighter selections are rehearsed and performed to gain an understanding of various periods and styles of music. Required concerts and performances are presented in the evenings throughout the school year. There is a uniform cleaning fee.

Concert Choir – 860

Every student will be given the opportunity, encouragement, and assistance to develop the fundamental skills essential for achieving a high standard of vocal performance: good tone quality, accurate intonation, correct breathing, clear diction, and an awareness and sensitivity for artistic interpretation. Required concerts and performances are the Winter Concert, Spring Concert and one other concert each year. In addition to regular class time, every student will be required to attend evening rehearsals prior to each concert as listed on the yearly Choral Department Calendar and in the Choral Department Handbook.

Springfield Singers – 861 Audition Only

The Springfield Singers is a select group whose membership is by audition only. The fundamental skills essential in achieving a high standard of vocal performance will be stressed. Emphasis will be on ear training, sight singing and application of basic music theory. A higher level of difficulty of choral literature will be learned. Required concerts and performances are listed on the yearly Choral Department Calendar and in the Choral Department Handbook (including Winter Concert, Spring Concert, Graduation). In addition to regular class time, every student will be required to attend evening rehearsals prior to each concert. There is a nominal uniform cleaning fee.

Physical Education and Health

Grade 9 Health & Wellness – 035

P.E. component is intended to improve the individual's level of physical fitness, increase enjoyment of physical activity, and encourage more extensive strategies in a variety of sports. Students will develop skills in lifetime, team, and cooperative sports which may include tennis, golf, volleyball, badminton, pickleball, physical conditioning, table tennis, ultimate games, handball, indoor soccer, base games, speedball, and floor hockey. All students are required to wear a regulation gym uniform and sneakers. To receive full credit, students must be prepared with a gym uniform, attend class regularly, and participate in class activities. The health component is designed to help students make healthy choices throughout their lifetime. Age-appropriate topics related to phases of human development will be covered concerning social, emotional and physical well-being of the individual.

Grade 11 Health and Wellness – 036

The P.E. component is intended to improve the individual's level of physical fitness, increase enjoyment of physical activity, and encourage more extensive strategies in a variety of sports. Students will develop skills in lifetime, team, and cooperative sports which may include tennis, golf, volleyball, badminton, pickleball, physical conditioning, table tennis, ultimate games, handball, indoor soccer, base games, speedball, and floor hockey. All students are required to wear a regulation gym uniform and sneakers. To receive full credit, students must be prepared with a gym uniform, attend class regularly, and participate in class activities. The health component is designed to help students make healthy choices throughout their lifetime. Age-appropriate topics related to phases of human development will be covered concerning social, emotional and physical well-being of the individual.

Live Fit – 042

Students will be able to identify the major muscles of the body, design and implement a self-created individualized fitness program. All students will receive instruction on proper exercise technique, identification of lifting stations and names of exercises, spotting and safety protocols utilized when working out, fitness terminology, fitness

concepts (overload, specificity, cross training, variation), warm up/cool down activities, phases of strength training (endurance, strength, power, sport specific), plyometric exercises, agilities, flexibility, rest and sports nutrition.

Advanced Studies in Competitive Sports – 044

Take your knowledge and skills of a variety of sports to the next level. This co-ed course is designed for those seeking a higher level of competition learning more about rules and regulations while at the same time maintaining fitness and skill levels. Students will learn the rules and regulations associated with school, PIAA and Youth AA related sports such as Baseball/Softball, Basketball, Soccer, and Lacrosse, and explore a variety of other sports such as Ultimate Frisbee, Frisbee Golf, Flag Football, Tennis, Badminton, Volleyball, Pickleball, etc. Interested students will have the opportunity to independently explore certifications to officiate Youth AA and PIAA sporting events while refereeing their peers on the field of competition.