NOTES

Early Drop Off
8 - 8:45 a.m. Morning drop off supervision is available at the PVCC Main Building for students registered in morning camps. All students must pre-register for early drop off. $20 per week

Lunch Supervision
Noon - 1 p.m. An hour of supervision is provided while students eat lunch and socialize with peers. Lunch supervision is located at the PVCC Main Building at no cost if a student is enrolled in both a.m. and p.m. camps during the week. Students bring their own lunch. $20 per week

After Academy Club
4:15 - 5:15 p.m. During camp time, you will have a chance to explore a variety of activities inside and outside. You will have a choice of games, projects and/or arts individually or with others. When weather allows, we’ll enjoy outdoor sports, games and explorations as well. $20 per week

Holiday Closures
The college is closed in observance of the following holidays:
Juneteenth - Friday, June 17
Independence Day - Monday, July 4

SUMMER 2022
KidsCollege@PVCC
Rising 1st-12th Grades
June 6–August 26

Rising 1st - 2nd Graders
Rising 3rd - 5th Graders
Rising 6th - 8th Graders
Rising 9th - 12th Graders

KIDS College@PVCC
Learn today...Lead tomorrow
3D Game Design with Unity
Are you ready to take your game design skills to another level? With Unity, an industry-grade design software, aspiring game designers will learn level editing, 3D modeling, impactful gameplay creation, as well as how to utilize scripts and variables. Student-created games will be available on a password protected Black Rocket website to share with friends and family. Students will work in pairs or teams for most of the program. Returning students can create more advanced projects that build on previous years.
*This requires a 64-bit operating system. Compatible with MAC and Windows OS only.

Advanced Horticulture I
Explore career opportunities in the horticulture industry! Course focuses on landscape project design, identification of common houseplants, and woody landscape plant identification and application. Students will create their own houseplant mixed container to take home.

Advanced Horticulture II
Gain hands-on experience with plant anatomy, soil identification, and herbaceous landscape plant identification and application. Explore the specific job skills needed for careers in horticulture. Students will create a container of edible plants (herbs and/or vegetables).

Advanced Robotics
Learn to program a robot! Your team's mBot robot will overcome daily challenges using visual and text-based programming. See firsthand how your program translates into action as you attempt to control your robot sensors and maneuver around obstacles. With your teammate, you will apply different coding concepts while using the scientific method to formulate, observe, experiment, test, and modify your robot. Students are encouraged to work in pairs or teams for most of the program. No prior academy requirements.

After Academy Club
During club time, you will have a chance to explore a variety of activities inside and outside. You will have a choice of games, projects and/or arts individually or with others. When weather allows, we’ll enjoy outdoor sports, games and explorations as well.

Battle Royale: Make Your First Fortnite® Style Video Game
Fans of Fortnite we need you! Instead of playing the game, design your own. You will be using professional 3D game development software to build levels and assets inspired by popular battle royale games like Fortnite. This academy includes cartoonish action and battle sequences. Student-created games will be available on a password protected Black Rocket website to share with friends and family. Students are encouraged to work in pairs or teams for most of the academy.

Character Development
Young artists will develop a sense of proportion, movement, and perspective when representing human figures. Students will explore multiple drawing mediums to include pencil, colored pencil, marker and pen.

Code Breakers
Calling all future coders, programmers, & designers! Learn the basics of coding languages like HTML, JavaScript, and CSS through a series of web projects and design challenges each day and be on your way to becoming the next tech star! Whether you want to be the next Mark Zuckerberg or the high school student who just made $1 million dollars for programming in his bedroom, this course has the essentials you need to begin your journey. Projects will be available on a Black Rocket website to share with friends and family. In Black Rocket Academies, students will work in pairs or teams for most of the program. Returning students can create more advanced projects that build on previous years.

Code Your Own Adventure! Interactive Storytelling
Watch as the characters in your imagination come to life in this unique course that blends classic storytelling with animation techniques and coding. Start with a concept, design the characters, and choose not just one ending, but many! Learn how to create your own text-based adventure games with variables, conditional logic, images, HTML, CSS, and JavaScript. Student projects will be available on a password protected Black Rocket website to share with friends and family. Students will work in pairs or teams for most of the program.
*Compatible with MAC and Windows OS only.

Coding Craze
Did you know that there are no computers faster or more equipped to do work than your brain? In this coding class we will explore the excitement of coding, which is developing our understanding of computer programming, through experiences with MineCraft, Ozobots, Makey Makey and materials created by Hour of code. Put your brain to work and see its power come to life!
Construction Academy
Students will build a hydroponic planter box using PVC, Wood, and lighting. Students will use a variety of hand and power tools while learning techniques for making precise measurements, cutting and joining building materials, and safety. Students will also learn how to install a basic electrical circuit with a switch. Tools and personal protective equipment required for cutting/joining wood and PVC will be provided.

Creative Design and Robotics
The world of the future belongs to...robots! In this cutting edge Academy students will learn the fundamentals of motorized mechanisms, design principles, sensors, and sound activation. Separate fact from fantasy by designing and building prototypes of task oriented modular robots. Learn problem-solving to improve how their robots function in a series of design challenges! You will be virtually designing a robot of the future. In Black Rocket Academies, students will work in pairs or teams for most of the program.

CSI Detectives
Sharpen your investigative and detective skills and work with your team of detectives to solve a mysterious crime. Students will thoroughly analyze the crime scene and conduct labs to solve the mystery through photos, measurements, DNA, fingerprints, chromatography, and pH analysis. Through team work and labs, you will be a true investigator as you solve the mystery. (For all returning detectives, this year’s crime will be different from last year’s.)

Cyber Spies
With the world’s increased reliance on digital data, cyber security is more important than ever! In this class you are all that stands between a group of international hackers launching cyber attacks and world peace. Through a series of challenges students will learn to apply tools used by professional digital forensics teams to crack codes and use encryption. Working in teams you will have to collect clues, recover lost data, and explore the tools of the trade and become the next great cyber spy!

Dough Cooking Camp
Do you love to get your hands messy and create delicious creations out of dough? Learn to write recipes and make your own recipe book. You will also be able to create desserts and main dishes, and eat each food item. Yum!

Drone Obstacle Course
Learn the safety basics of drone piloting, then become familiar with a drone’s speed and agility. Compete in teams against your peers and the clock. You will first work on getting your drone through the obstacle courses, then challenge yourself by flying for speed. Students will get to create the obstacle course designs.

Drone Photography
Learn how to pilot a drone to capture beautiful landscapes, animals, and buildings from unique vantage points via drones. Experience the exciting opportunity to learn from experts about this growing industry. This class is suitable for novice and experienced photographers and/or drone enthusiasts.

Early Drop Off
Morning drop-off supervision available students registered for morning Academies. All students must pre-register for Early drop off.

Egyptian Engineering
Have you ever wondered how the ancient pyramids were made? Take a deep dive into the location, life, and influences of ancient Egypt to modern day via technology. Students will utilize consumable materials to design and build a produce with Egyptian design influence. Which will you chose - a boat, pyramids or papyrus paper?

Engineering Disasters: What Went Wrong?
Have you heard of the Leaning Tower of Pisa? Do you know why it’s called the LEANING Tower of Pisa? Find out why as we examine some amazing engineering feats, such as the Eiffel Tower, as well as some epic failures like the Leaning Tower of Pisa. Sometimes the engineers just didn’t know any better. After all, the tower in Pisa was built over 2000 years ago! But sometimes they did know better and were just in a rush to keep up with the competitors, such as the Firestone 500 disaster. What caused each of these to fail? You’ll investigate all of this and more as we try to make our own designs better!

eSports Apprentice: Streamers & Gamers
Whether you want to be the next pro gamer, streamer or game caster this course will teach you the basics to get started! No longer just a hobby, eSports is the fastest-growing career for the next generation. Over 400 million people watched YouTube videos and Twitch streams of video game competitions this year alone! In this course, you will develop game-play skills and compete using Black Rocket’s eSports games and apps, learn how to produce commentary for live tournaments, use professional streaming software and most importantly practice online safety. Student recordings will be available on a password protected website to share with friends and family. Students will work in pairs or teams for most of the program. Videos will not be broadcast publicly but will be shared with all students in the class.
Exploring Drawing Mediums
Aspiring artists will explore the world of drawing with various mediums to include pencil, colored pencil, marker and oil pastel. At week’s end, students will display projects showcasing their creations!

Fairy Gardens
What does a fairy or gnome garden look like? That’s up to you! You will be challenged to design and build your very own fairy and gnome gardens. You will create homes, toys, gardens and other decor for your gardens out of recyclable materials.

Fairy Houses & Gnome Bridges
Build your own fantasy world for your favorite fairy creature. Create a house, a yard, a playground, or whatever suits your fancy. We’ll use leaves, sticks, rocks, bark, ribbon, cardboard, clay, paint and more. While materials are provided, treasures from your yard or garden are also welcome. No artistic experience necessary, just curiosity and the desire to play and experiment.

Giant Insects
Using the Virginia Museum of Science’s exhibit as inspiration, we’ll create ants, grasshoppers and other gigantic insects 10 to 40 times larger than life size. Will it be a 3-foot Atlas beetle? A 7-foot caterpillar, or a giant praying mantis lunging at prey with its forelegs? We’ll use tinfoil and masking tape to make small models, then move quickly to huge ones as the week continues.

Giant Sculptures
Using tinfoil, masking tape, newspaper, chicken wire, and duct tape, make animals or fantastic creatures that are as tall as you are. This technique was developed by Don Seiden of the School of the Art Institute in Chicago, who has had a rhinoceros and several antlered deer made using this method in his backyard for the past 20 years. It is a highly accessible way to create sculptures with low cost materials. No sculpture or art experience needed.

Hysterical Holidays
We all know about Independence Day and Valentine’s Day, but did you know there’s a National Sock Day? What about National Bobblehead Day? There’s a holiday to celebrate every day of the year! Each day we’ll explore this unknown world through a variety of crafts, games, and even snacks! Join us as we learn the origins of these obscure holidays and how people choose to celebrate them, and we’ll even celebrate our favorites! Please note: there are many food-related holidays, so we will be preparing and eating our creations. Please let me know if any allergies!

Interior Design
Explore what it means to be an interior designer. Who creates the ambiance, allure, and creative drama in the spaces we live and move through daily? An introduction and overview to residential, hospitality, and commercial healthcare spaces we live and work in. We will look at the projects interior designers are called to create by exploring lighting, color, space plans, and specific design icons through history. We will even collaborate and create our own design project during this weeklong workshop. Join us for some creative fun!

Introduction to Horticulture I
Explore the horticulture around you! Identify common native trees of Virginia, and common shrubs in the landscape. Students will make a leaf collage from various plants gathered and identified on PVCC campus.

Introduction to Horticulture II
Discuss plant propagation techniques, horticulture tool application and safety, basic landscape establishment and maintenance, and dish gardening. Students will create their own succulent dish garden to take home.

Inventor’s League - Prototyping for the Future
Inventor’s League - Prototyping for the Future! Become an inventor of the future! Learn ‘rapid prototyping’ and problem solving as you conceptualize and design a product to solve a critical global issue. Each day begins with inspirational profiles of young inventors, such as the eleven-year-old who coded a robot to find victims of natural disasters. Next, research a problem to tackle in medicine, architecture, the environment, or a topic of your choosing. Once your vision is complete, learn how to draft 2D designs, create 3D models, and develop a website to pitch your ideas to the class. Student projects will be available on a password protected Black Rocket website to share with friends and family. Students will work in pairs or teams for most of the program.

*Compatible with MAC and Windows OS only.

JavaScript Developer Jam
Learn programming tools so powerful they seem like magic! Start off by learning an array of core programming concepts with JavaScript by experimenting in a series of digital challenges. Start with programming your first animated memes, then tackle more advanced skills such as interactive 3D experiences and game creation. Projects will be available on a password protected Black Rocket website to share with friends and family. Students will work in pairs or teams for most of the program.
Jewelry Making
How does a jeweler create such beautiful pieces? It’s time to find out! You will become the jewelry artisan. You will create necklaces, bracelets, earrings and rings using various mediums for your supplies.

Lunch Supervision
Students bring their own lunch. No cost if a student is enrolled in both a.m. and p.m. academies during the week. Apply class code: FREE at checkout.

Make Your First 3D Video Game!
Try this new version of a Black Rocket classic! This Academy allows you to develop a game concept that goes well beyond the limitations of the traditional 2D game design classes and create an immersive 3D world. Students will learn the physics behind 3D games, explore beginner event scripting, level design, controlling flow of gameplay, and storytelling. Student created games will be available on a password protected Black Rocket website to share with friends and family. In Black Rocket Academies, students will work in pairs or teams for most of the program. Returning students can create more advanced projects that build on previous years.

Minecraft Designers
If you love the game Minecraft, but always wanted to design your own characters and buildings for your games, this class is for you! Learn the basics of creating 3D models using a new software to design your very own objects, create skins for characters, and import them into your favorite Minecraft games. To access their project at home, students must own a PC/MAC version of Minecraft. Tablet, phone, and game console version of Minecraft are not compatible. Parent email address is required to use 3D modeling software. Students will work in pairs or teams for most of the program. - Black Rocket

Minecraft Redstone Engineers
Take the next step beyond simply “playing” Minecraft and become a true Redstone engineer. Expand your Redstone knowledge by constructing your own carnival with a variety of mini-games, roller coasters and attractions powered by Redstone. Learn how to use Command and Structure blocks to incorporate them into your builds. Activate your skills and take your Minecraft structures to the next level! Students must own a Java version of Minecraft to access their projects at home. Tablet, phone and game console versions of Minecraft are not compatible. Students will work in pairs or teams for most of the program.

Multi Sports Camp
Learn the fundamentals of a new sport each day! Soccer, flag football, t-ball, ping-pong and basketball. Designed to introduce students to a variety of sports by incorporating basic skills and equipment into age-appropriate games. Students will improve coordination, balance, and agility skills.

My Three-Chambered Heart
Have you ever seen a lizard with no legs? What about a snake WITH legs? Participants will have the opportunity to be hands-on with live reptile ambassadors. Each day brings new and exciting species in this in-depth exploration of the four major groups of reptiles: testudines, crocodilians, snakes, and lizards. This introduction to herpetology focuses on the underlying science behind each unique species. There will be daily activities and experiments to highlight the biological concepts discussed. We will see what happens to blood when it is exposed to hemotoxic snake venom and will learn the role of copperhead venom in the treatment of breast cancer. Participants will be given a field journal to document their findings and real natural history specimens to keep for their own herpetology collections. How did turtles evolve their shells (they have TWO)? Which reptiles don’t have a definable life span? How do reptilian (and human) eyes perceive shade and color? Answer these questions and more.

Nature Study
What is your favorite Virginia bird? Cardinal, Eastern Bluebird, Chickadee? We’ll choose our favorites, then draw and sculpt them using the easy tinfoil and masking tape method. We’ll do the same with flowers and choose our favorite natural setting to render as a diorama! We’ll use cardboard, paint, pipe cleaners, and sticks, rocks, ribbons, and more! No artistic experience necessary, just curiosity and the desire to play and experiment.
Paper Circuits
Bring your artwork to life! The use of conductive tape, button cell batteries, and surface-mount LEDs allows you to make a fully functional circuit on any crafting material. Make light-up greeting cards, origami animals that appear to come to life or three-dimensional pop-up paper sculptures that have working lights in them. The only limit is your imagination! Paper circuits are a fun way to be introduced to the amazing world of electricity and electrical circuits.

Paper Engineering
Explore and analyze pulp paper making and the influence of paper from ancient civilizations. Get creative with paper from discarded books and newspapers to make paper pulp and design your own 3D greeting card!

Photography: Images That Communicate
Learn how artists use photography to document their world and creatively explore culture and environmental issues. Create your own meaningful images to record and share ideas and experiences. Focusing on a variety of composition guidelines, use your own phone or digital camera to capture images and then enhance or manipulate them with a digital editing program.

Pokémon® Masters: Designers and 3D Makers Unite!
Calling all boys and girls who want to be the designers of the future! In this class, if you can dream it, you can make it! Begin by creating your own digital Pokémon-style custom playing card game. Progress onto designing action figures, jewelry, and toys in professional-level modeling software. Learn how to prepare a model for 3D printing and create a design portfolio to showcase your work! No prior experience is necessary and 3D designs will be available on a password protected Black Rocket website to share with friends and family. Students will work in pairs or teams for most of the program.

*This is a limited release only available for BR Instructor Creator Corps Schedules. Compatible with MAC and Windows OS only.

Python Programmers
Want to learn the world's fastest growing programming language favored by Google, NASA, YouTube and the CIA? Learn how to code with Python to create engaging apps and games. Each day takes you step-by-step on a programming path that will let you challenge friends with fun content you create from start to finish! Students are encouraged to work in pairs or teams for most of the program. Returning students will enjoy a newly-redesigned academy and can create more advanced projects that build on previous years projects.

Ready, Set, Move, Create, Dance!
Explore the many ways to create an individual style of moving and dancing! Where do we find our inspiration? Everywhere! Tree branches dance in the wind, birds float through the air, dogs run across fields just for the pure enjoyment of moving. We'll begin each class with a warmup based on modern dance technique and improvisation. Working in small groups, let's see where our imagination takes us. Then, our week together ends with a special performance of YOUR individual way of dancing and moving!

Redesign History
What if a simple design could change the course of history? Select a mystery challenge card, then get creative to see what impact you can have on design history! What could you design to help Harriet Tubman and others moving along the Underground Railroad? Can you keep the tea bags from getting wet during the Boston Tea Party? Join us to find out!

Road Trip
Are we there yet? Not until you plan it! Everyone loves to take a vacation, but planning is half the fun. In this class, each student will plan a trip, including everything needed for a fantastic vacation - hotel rooms, food, gas, and admission tickets. Want to rent a private jet? Sure - IF you can afford it! Money doesn't grow on trees, so each trip will have a budget.

ROBLOX Coders & Entrepreneurs
Discover how to code in the Lua language while playing and designing worlds in ROBLOX®, an online universe where you can create anything you can imagine. This newly-redesigned academy, combines game design concepts, coding and fun! Young entrepreneurs will also learn how to navigate ROBLOX's fast-growing marketplace to publish their games. Student-created games will be available on a password protected Black Rocket website to share with friends and family. Students are encouraged to work in pairs or teams for most of the academy.

ROBLOX Makers
Unlock the power of ROBLOX® Studio, the world creation tool used by real world ROBLOX® developers! Learn how to build 3D models and create an adventure in your ROBLOX® world. Bring characters to life with unique animations you design. Student-created projects will be available on a password protected Black Rocket website to share with friends and family. Students are encouraged to work in pairs or teams for most of the academy.
Rock Band Instrument Sampler
Do you want to start a band, but don't know where to begin? We will cover the basic instruments used in a rock band format - electric guitar, electric bass, drums, and keyboard - and allow students to try their hand at each! We will listen to music and discuss why and how a particular song or style works. By the end of the course, students should have a better idea of what instrument they might be interested in learning and what it takes to perform in a band. Concepts are taught in a fun, approachable way with emphasis on breaking down a song to the most basic components. The most popular songs all use a simple formula; we will learn that formula and try our hand at writing our own songs. We will demonstrate our newly acquired skills in a short performance. No previous musical experience is required. Participants are not required to have their own instruments but may bring one if they have them.

Rocket Kart Racers: Design a Mario Kart Style Game
On your marks, get set, create! Blast off in making your first 3D Mario Kart and Crash Team Racing style game! Design your own tracks and customize your karts and characters. Using a professional 3D game development software, students will combine their creations into their own kart racing game that they can play with friends and family at home. Students can participate in eSports League races against other schools across the country with a chance to have their tracks featured in the Black Rocket master build of the game! Student projects will be available on a password protected Black Rocket website to share with friends and family. Students will work in pairs or teams for most of the program.

*This requires a 64-bit operating system. Compatible with MAC and Windows OS only.*

Science Meets Art
Can you imagine doing a science and art project at the same time? These unusual and fun projects might include oil and water painting and chromatography art. You will learn about the density of water and oil and then create unusual art projects based on what you learn. Your artistic abilities and scientific knowledge will be used to create rainbow paper, glue and salt painting, water art and chromatography art.

STEM Toy Making
Everyone loves toys but how do you make them? You will learn how to create marble mazes, stick rockets, kaleidoscopes, vortex cannons, balancing robots and bottle rockets. You will need to work collaboratively with your team to design and engineer the toys that you create.

Surrealistic Art
Salvador Dali, Rene Magritte, Pablo Picasso, and Marc Chagall all saw the world from a different viewpoint. They asserted the value of the unconscious and dreams. The artists of the Surrealism movement found magic and strange beauty in the unexpected and the uncanny – the disregarded and the unconventional. We’ll examine the individual styles of these artists and create our own unusual images on paper and in three dimensions.

The Musical & Poetic Experience
What do poetry and music have in common? Have you ever wanted to compose your own music or write your own lyrics? Join me as we explore the exciting challenges of songwriting and poetry. We will discuss the poetic elements of metaphors and similes as well as imagery, alliteration and rhyme schemes. How can the rhythm of poetry transform it into a song lyric by merely adding refrains to the stanzas? Aspiring conductors and singers are welcome to join us as we embrace such elements as tempo, pitch, dynamics and tone. Must bring your own instrument.

The Science of Flying
Ever wanted to build a model remote control airplane from its parts and watch it take flight? Perhaps you’re a pro, or a beginner, at building and designing paper airplanes? Come join me and your friends as we assemble individual parts, complete the electrical and mechanical engineering components required to make your remote control airplane soar through the air. You will discover how the size of the wings affect the lift, how jet propulsion works and the science behind propellers and the overall flight. Perhaps you’ve wondered how such a heavy airplane can float in the air. This is your chance to discover the answers.

Transportation Technology with Makey Makey Kits
How can a traffic sign know your speed or whether you stopped at a red light? How can a car drive itself or report an accident? The answer is simple - sensors. Learn what types of sensors are out there and how they work. Then create your own sensors using Makey Makey kits from the Virginia Department of Transportation.
Video Game Animation
Take your game design skills to the next level by creating and animating your own character sprites, objects, and backgrounds. Start with a name, develop the character’s personality, signature moves, special powers, and a story line. Finish with a fully animated character to be used in your very own game. Students do not need any prior experience in game design, animation, or sketching. Student-created games will be available on a password protected Black Rocket website to share with friends and family. Games are only compatible on PC computers; Mac versions can be created after the program for a $15.00 conversion fee. In Black Rocket Academies, students will work in teams for most of the program. Returning students can create more advanced projects that build on previous years.

Virtual Reality: The Future is Now
Are you ready for an epic adventure in virtual reality (VR)? Step into the future. In this cutting-edge academy, you will learn the basics of VR design by developing your own virtual worlds, exploring simulated environments, and creating unforgettable 3D experiences. At the end of the week, take home your first cardboard VR headset to show friends and family the new worlds you created. VR projects can be viewed on a website or a mobile device. Students do not need a mobile device to take the academy, but to use the VR headset at home a student will need access to an Android or Apple mobile device. Students are encouraged to work in pairs and VR Games will be available on a password-protected Black Rocket website to share with friends and family. The academy fee includes the VR headset cost.

Youth Welding Academy
Students will learn safety in the welding field, skill building with MiG and Arc welding, and some great welding techniques. This a great opportunity to start the first step of a rewarding welding career.

YouTube Content Creators
Find your voice and leave your mark on the world! It’s time to start a career as the next YouTube star. Explore the variety of content and personalities that exist on YouTube and how to find your own niche. Learn the Dos and Don’ts of the platform and how to practice good digital citizenship. Develop your on-camera presence, your own channel branding and professional editing skills. Take home a plan for launching your own channel with the content created in class! Student projects will be available on a password protected Black Rocket website to share with friends and family. Students work in pairs or teams for most of the program.

YouTube FX Masters
YouTube® FX Masters In the digital age, nothing is impossible! Become a master of illusion by learning the techniques used by Hollywood masters to create FX magic. Whether you want to enhance your YouTube videos or create a cool scene to amaze your friends; this class teaches the tools you need. Experiment with visual effects as you learn the dynamics of camera angles, editing, graphic layering, and sound effects. Then watch as your new creations take your channel content to the next level! Student projects are available on a password protected Black Rocket website to share with friends and family.

*A webcam is required. Compatible with MAC and Windows OS only, and requires a 64-bit operating system.