

Course Book

2024



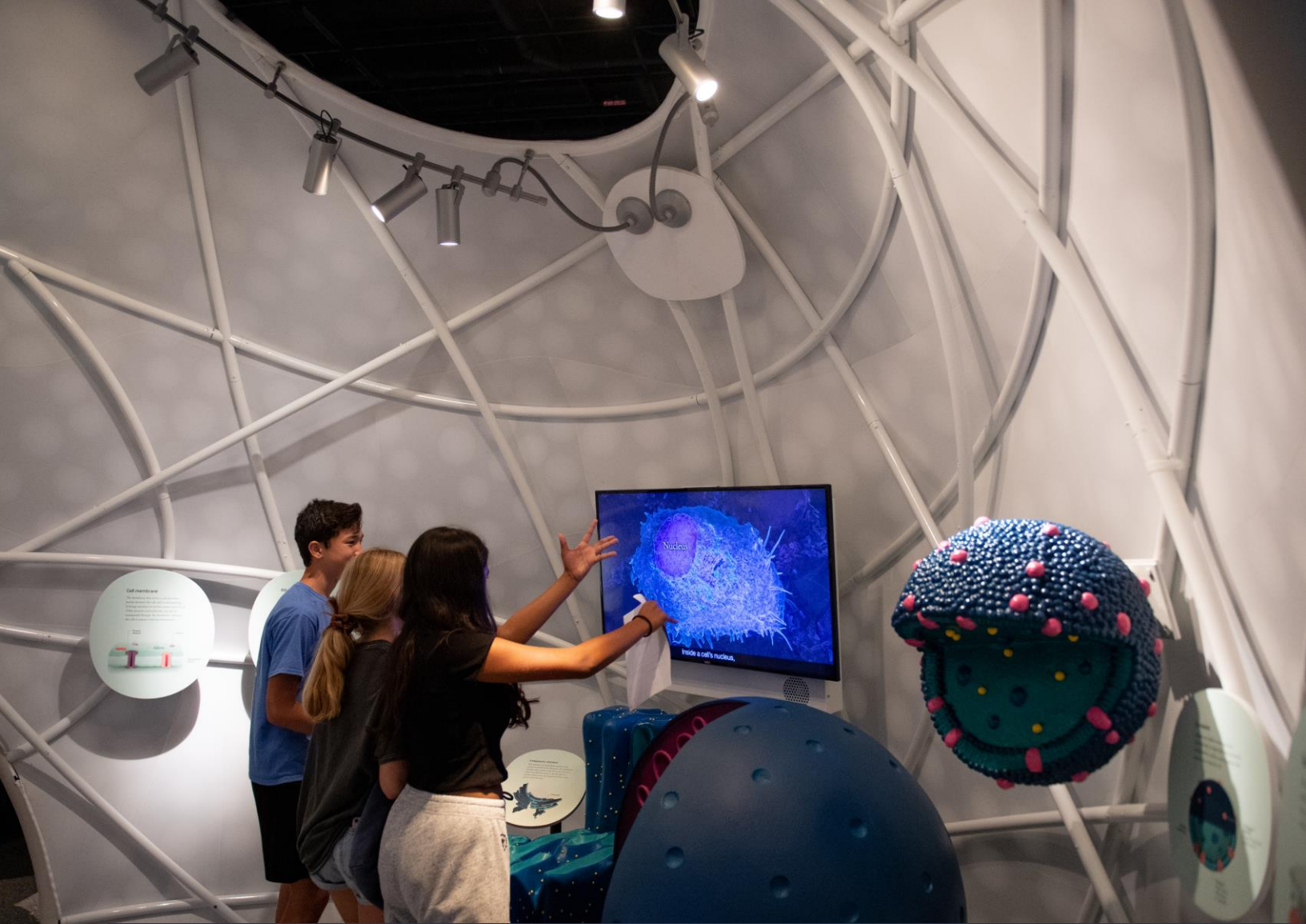


Table of Contents

- Page 02** Lower Elementary (Grades 1-3)
- 04** Upper Elementary (Grades 4-5)
- 06** Middle School (Grades 6-8)
- 09** High School (Grades 9-12)



COURSE TITLE

Broadway Bound Theater Workshop

SUBJECT AREA

Humanities; Performing Arts

COURSE DESCRIPTION

Are you ready to unleash your inner thespian and discover your true calling in the theatrical world? Whether you're the star of the show or a behind-the-scenes mastermind, our theater production class has something for everyone. Imagine belting out showstoppers on stage, or masterminding the perfect lighting design - the choice is yours! We'll help you find your niche, whether it's singing, dancing, acting, or even stage managing. And the best part? At the end of our three-week class, we'll put on a mini-musical that's sure to knock the socks off the audience. Sure, there may be some "recreation hour" rehearsals, but it'll be worth it when you're taking your final bow. So, come one, come all, and join us in this theatrical adventure!

COURSE TITLE

Mason Jar Science Laboratory

SUBJECT AREA

STEM; Natural Science

COURSE DESCRIPTION

Did you know all you need to be a scientist is a jar? Learn how to hypothesize, analyze, and draw conclusions by conducting various scientific experiments in mason jars. Discover the science behind cloud formation, tornadoes, the greenhouse effect, light refraction, biomes, and much more. Use ingenuity to create a lava lamp, balloon barometers, and water prisms. Investigate challenging principles of chemistry, botany, biology, physics, and more through fun-packed, hands-on, and interactive projects. Get messy, ask questions, and grab a mason jar!

COURSE TITLE

Mother Nature & the Art of Fibonacci Math

SUBJECT AREA

STEAM; Mathematics; Art

COURSE DESCRIPTION

The Fibonacci sequence - where a number is the sum of the two preceding numbers - is found everywhere in nature, from leaves, to the distribution of seeds, to tree branches, to the human body. Take your learning outside of the classroom and sharpen your sequential thinking and mathematical reasoning skills with engaging mental exercises to see the Fibonacci sequence in action. Use pattern recognition strategies to unlock mathematical thinking and exercise both sides of your brain while you explore the natural world. Learn about the golden ratio as you put your art and design skills to practice with items from nature. Through hands-on interactive activities using nature as your toolbox, you'll be challenged to apply the Fibonacci sequence to find unique solutions using observation, visual-spatial imagery, and abstract thinking.

COURSE TITLE

Mycorrhizal Ecology, Dirt, & Worms: Composting Our Future

SUBJECT AREA

STEM; Natural Science

COURSE DESCRIPTION

Not exactly a plant or an animal, fungi are important living organisms that have a classification all of their own. Embark on an exciting journey through nature and science to see if the fascinating world of mycology, the study of fungi, excites you! Fungi provide us with penicillin and other antibiotics, mushrooms and other foods, methods of pest control, and are ideal organisms for scientific research. Students will dig into the world of botany, gardening, and plant and soil science through engaging activities and experiments to discover the magic of fungi, the secrets of healthy soil, and the art of turning kitchen scraps into valuable compost. Get your hands dirty and create your own compost to do fun fungi experiments and consider how mycorrhizal ecology and composting benefit the environment and are key to sustainability. Join us for a summer of hands-on learning, discovery, and ecological wonder as we explore the fascinating world of mycorrhizal ecology!



COURSE TITLE

Superhero Storytelling & Creative Engineering

SUBJECT AREA

STEAM; Humanities; Creative Writing; Engineering

COURSE DESCRIPTION

The art of storytelling is a timeless craft that has been passed down through generations. It has the power to captivate, inspire, and entertain audiences. In this course, students will learn how to harness this power by exploring the engineering and impact of archetypes in classic tales. Learning the foundation of story, students are able to choose their own setting and theme to develop their own plot, characters, and conflict utilizing global archetypes. Students will engineer their original tale into a 3D set, to not only convey their story, but to communicate the engineering utilized to build their 3D model. The course is designed to pique the interest of young minds by blending creative engineering, fundamental concepts, and superhero storytelling. Through this interdisciplinary approach, students will be able to explore complex ideas in a fun and accessible way. They will learn how to create compelling characters, intricate plotlines, and captivating worlds that will capture the imagination of their readers. *Combine with Young Scientists & Coding Workshop course for a full day STEAM experience.

COURSE TITLE

Tinkering Engineering

SUBJECT AREA

STEM; Engineering

COURSE DESCRIPTION

In this fun, creative class, you'll take things apart, put things together, and think with your hands! Using problem-solving and creative thinking skills, you'll explore concepts from science, engineering, math, and art to construct and create new, innovative designs. Explore ancient and modern engineering wonders and learn how imagination fuels design. Learn how to use geometry to design toothpick towers or apply heat energy to build a pizza box oven. Investigate the power of design thinking to watch your ideas come to life and imagine the possibilities of future innovations that can be created with just a few tools and supplies.

COURSE TITLE

Young Scientists & Coding Workshop

SUBJECT AREA

STEAM; Science & Technology

COURSE DESCRIPTION

Calling all budding scientists and coding enthusiasts to join us on a journey where science and coding unite to inspire the young scientists and innovators of tomorrow. With a focus on integrating coding with the scientific method, this course will teach students how to combine science and technology in an artistic way. Our experienced instructors will work closely with students as they conduct their own self-selected Capstone Project experiment, integrating scientific methods, research, and coding to bring an animated character to life. This course isn't just about learning: it's about nurturing curiosity, fostering critical thinking, and igniting creativity. With newfound skills and knowledge, students will have a foundation to understand how combining science and coding can create innovative systems and processes that can impact our daily lives and the future. *Combine with Superhero Storytelling & Creative Engineering course for a full day STEAM experience.

COURSE TITLE

Zoo by Design: Genetics 101

SUBJECT AREA

STEAM; Genetics

COURSE DESCRIPTION

This course offers an engaging exploration of DNA and genetics that will captivate your imagination! Step into the shoes of a genetic scientist and learn how to create and decode "DNA recipes" for zoo animals. Through hands-on activities, students will manipulate DNA codes to understand how variations in DNA lead to the inheritance of unique traits. Students will use their decoded DNA recipes to bring their zoo animals to life through imaginative drawings. The course will introduce the concepts of dominant and recessive traits through interactive activities and engaging discussions so your child will understand how genetics play a crucial role in determining an organism's characteristics. As budding geneticists, students will predict the hereditary traits of three generations of zoo animals, filling out Punnett squares with inherited traits and making predictions about the traits of the next generation, honing their critical thinking skills. This class doesn't stop at science; it also nurtures artistic skills and motor skills as young learners analyze, predict, and experiment with their creative expressions.



COURSE TITLE

Broadway Bound Theater Workshop

SUBJECT AREA

Humanities; Performing Arts

COURSE DESCRIPTION

Are you ready to unleash your inner thespian and discover your true calling in the theatrical world? Whether you're the star of the show or a behind-the-scenes mastermind, our theater production class has something for everyone. Imagine belting out showstoppers on stage, or masterminding the perfect lighting design - the choice is yours! We'll help you find your niche, whether it's singing, dancing, acting, or even stage managing. And the best part? At the end of our three-week class, we'll put on a mini-musical that's sure to knock the socks off the audience. Sure, there may be some "recreation hour" rehearsals, but it'll be worth it when you're taking your final bow. So, come one, come all, and join us in this theatrical adventure!

COURSE TITLE

Creative Math: Puzzling Equations

SUBJECT AREA

STEM; Mathematics

COURSE DESCRIPTION

Do you know what's more important than finding the correct answer to a math problem? It's identifying the strategy that helped you solve the math problem! Develop your math problem-solving ability by using mathematical reasoning strategies, creativity, and originality to arrive at clever solutions. Critique the limitations of math problem-solving strategies, while inventing new ones. Investigate logic problems, games, and math puzzles to stretch and challenge your math expertise. Unleash the math whiz within!

COURSE TITLE

Engineering Your Future

SUBJECT AREA

STEM; Engineering

COURSE DESCRIPTION

Ever wonder how engineers solve everyday problems? Join us and learn basic engineering principles surrounding the stability of structures, buoyancy, heat phenomena, and much more. Students will harness their inner engineer as they participate in hands-on, interactive projects to discover the challenges and opportunities engineers face daily. This course will review multiple fields of engineering, giving students the opportunity to wear different hats throughout the course - including civil, chemical, electrical, biomedical, and mechanical engineers. Students will use their tinkering hands to create blueprints, mix chemicals, and invent solutions that utilize scientific and mathematical principles to design towns, machinery, toys, and other products that will enhance life in the future. Investigate problems in your community and transform your ingenuity into reality. Lead with innovation and engineer solutions for your world.

COURSE TITLE

Graphic Novel Writing Workshop: From Cave Drawings to Comic Books

SUBJECT AREA

Humanities; Writing & Art

COURSE DESCRIPTION

While the modern form of graphic novels has only risen in popularity in recent years, using graphics to communicate was a part of human culture over 40,000 years ago! Reading graphic novels can help develop language, memory, and inference-making skills. But what does it take to write an engaging graphic novel? How do you move from reading graphic novels to writing them? In this class, you will learn about the unique elements of graphic novel writing and how to expand your creative writing skills through the addition of graphic depictions. You will hone your writing to bring conversations to life by showing instead of telling. From conception to creation, you will put pen to paper and compose your own graphic novel throughout the course.



COURSE TITLE

Interactive Robots: Programming Prowess

SUBJECT AREA

STEM; Robotics & Programming

COURSE DESCRIPTION

In this class you will build your very own robot while you expand your knowledge of computer science. You'll learn visual and text-based programming languages such as Makecode and JavaScript to instruct and communicate with your robot. You'll engage with various dynamic programming experiences through specialized accessories such as tri-color LEDs, multi-tonal buzzers, wheel encoders, light sensors, distance/obstacle sensors, and line-tracking infrared sensors. Using an appropriate programming language, transform your robot into a buzzing alarm clock, a joystick for a student-written game, a musical instrument, a light-fearing robot, and much more. Think of ways you can use programming skills to unlock the potential of your robot. Supplemental fee: \$195- includes robot kit for student

COURSE TITLE

Spark! Electricity & Magnetism

SUBJECT AREA

STEM; Natural Science

COURSE DESCRIPTION

Do you ever wonder where the force of a magnet comes from, or why an electromagnetic force is created when you rub a balloon on your hair? Get ready to Spark! your interest in the mathematical and scientific principles of electromagnetism, a type of physical interaction that occurs between electrically charged particles. Through fun interactive activities using common household objects, put your conceptual understanding into practice to unlock the secrets of electricity and magnetism. Explore the magic of magnets with the right-hand rule of magnetism. Learn who Faraday, Ampere, Lenz and Lorentz were and create interactive experiments that demonstrate their scientific principles. Learn about this powerful force and much more as your curiosity is PULLED toward experiments and activities surrounding electricity and magnetism that CHARGE up our lives.

COURSE TITLE

Speaking of Winning...What's Your Point?

SUBJECT AREA

Social Science; Public Speaking & Debate

COURSE DESCRIPTION

Are you tired of losing arguments? Want to know what can help you win an argument? To effectively sell ideas to a target audience you must learn the art of persuasion. Whether you're already comfortable in the spotlight, or if you want to build your self-esteem to share your original ideas with an audience, come improve your communication, argumentation, and reasoning skills by engaging in debate and public speaking simulations in topics of interest and controversy. Learn the basics of crafting an argument, preparing a speech, and debating with an opponent to communicate your message within a public forum. Through practice speech simulations, you'll hone your persuasive argument skills and build your confidence to deliver a winning argument AND win over the hearts and minds of your peers!

COURSE TITLE

Unlocking the Genetic Code

SUBJECT AREA

STEM; Genetics

COURSE DESCRIPTION

Do you ever write messages to your friends using symbols only you and they know? How do you create and transmit the rules to "decode" these messages? Using codes to transmit information isn't just for sharing the latest news at school – they are also the building blocks of gene expression! Come take a deeper look into the molecular-level genetic processes of all living things through the study of genomics. Learn the interplay between genetics and genomics. Engage in critical thinking to analyze how principles in this field can be applied to propose solutions to future global issues in medicine, food, and natural resources. Explore new technologies in genomics and predict how they can be used most effectively to mitigate 21st-century problems. Understand how to unlock your genetic code to unlock solutions and solve real-world problems.



COURSE TITLE

Artificial Intelligence: Apocalypse or Utopia?

SUBJECT AREA

STEM; Artificial Technology

COURSE DESCRIPTION

Twenty years ago, the digital world we can't live without was the perfect story for science fiction. In two or three decades from now, what will our 21st Century world look like and how will AI help us get there? Artificial intelligence (AI) is the commodity of the future that has rapidly turned into the present. From Siri to self-driving cars to ChatGPT, AI will help us do more with our most valuable resource - time. Explore the world of machine learning that uses algorithms to detect cancer or suggest who should be released from jail or interviewed for a job. Forecast the future of AI in the medical, engineering, and computer programming fields by contemplating societal implications. Ponder how AI will impact unemployment as jobs currently done by humans will get replaced by AI. Think critically while learning how to be an innovator for the future and design ways that allow AI to work with humans as a co-worker, collaborator, and trusted advisor!

COURSE TITLE

Applied Data Science with Python

SUBJECT AREA

STEM; Data Science; Programming

COURSE DESCRIPTION

Whether you are new to computer programming or have already dabbled in other coding languages, get ready to dive into the world of Python! First, you'll learn the building blocks of programming such as binary computation, problem-solving, algorithms, and data types such as expressions, variables, and functions. Within Python you'll create modules to implement object-oriented design and problem-solving and begin implementing code. As you deepen your comfort with Python, you will apply your analytic skills for real-world impact. Combining principles from computer engineering, math, AI, and statistics, explore how data science can be applied to innovations in industries such as business, policy, and technology. Learning the foundations of coding with Python, you'll explore data visualization, machine learning, and the essential concepts of data types to apply your programming knowledge to inform real-world predictions and solutions. *No prior coding experience required.

COURSE TITLE

Discrete Mathematics

SUBJECT AREA

STEM; Mathematics

COURSE DESCRIPTION

Discrete mathematics is the study of mathematical structures that are countable, distinct, and separable. For example, suppose you are developing schedules for referees at a soccer game and want to avoid conflicts between referee times. How could you ensure that there are no schedule conflicts? Scenarios like this are addressed through combinatorics and graph theory, in other words, discrete mathematics! Investigate how the math of combinatorics allows you to count things that are much too large to be counted conventionally. Explore how to solve real-world puzzles or explain the food chain through graph theory. Use discrete structures such as set theory, probability, logic, and statistics to learn different approaches to problem-solving. Solutions to our world's most challenging problems may not be as discrete as you think!

COURSE TITLE

Manga & Anime: Artistic Exploration

SUBJECT AREA

Humanities; Writing & Art

COURSE DESCRIPTION

Join us as we explore the world of Japanese manga and anime through a critical thinking lens and embark on a thrilling summer of artistic exploration. In this introductory overview, we'll delve deep into these captivating art forms, exploring their rich history, unique aesthetics, and distinctive styles. You don't need any prior knowledge of manga or anime because we'll guide you through every step of the way. Together, we'll explore influential manga works and trace the evolution of manga, gaining insights into both contemporary and historical trends in Japan. As part of your journey, you'll have the opportunity to showcase your understanding by creating a draft outline and rough storyboard, allowing you to express your unique perspective on the course material. Together, we'll unlock the mysteries of manga and embark on a creative adventure!



COURSE TITLE

Masterminds of Creative Robotics

SUBJECT AREA

STEM; Robotics & Programming

COURSE DESCRIPTION

Do you love to play around with recycled materials or craft supplies to unleash your creativity? Did you know you could also build robots with the same creative power and the same materials? Join us as we embark on an exciting journey into the world of Engineering and Robotics. This hands-on course combines innovation, craftsmanship, and technology to inspire your inner inventor. Learn how to build your own personally meaningful robot out of ordinary craft or recycled materials. Then use text-based programming languages such as JavaScript and Python to breathe life into your robot creation. Tap into your imagination as a creative engineer to design, build, and program interactive robotic displays, models that illustrate your favorite myth, or a robotic creature that responds to external stimuli for a robotic zoo. Use the principles of engineering and robotics to bring 2D creations to life. Supplemental fee: \$295-includes Hummingbird robot kit for every student

COURSE TITLE

Medical Microbiology

SUBJECT AREA

STEM; Health Science

COURSE DESCRIPTION

Welcome to this introductory class where we'll delve into the fascinating intersection of human biology and medicine! Medical microbiology is the study of microorganisms, including bacteria, viruses, fungi, and parasites, all of which can cause diseases in humans. This course is designed to foster scientific curiosity, critical thinking skills, and a deeper understanding of how microorganisms play a critical role in human health, disease, and medical breakthroughs. Analyze how microorganisms cause common diseases and their symptoms, and how diseases are transmitted. Discover the history and development of vaccines, antibiotics, and antibiotic-resistant bacteria and how they have impacted the transmission of disease. Through hands-on lab activities, you'll examine the essential biochemical reactions that occur within the human body. You'll expand your understanding with the use of case studies and real-world examples to inform research on cutting-edge topics and breakthroughs in microbiology research. Be at the forefront of harnessing bacteria to work for us, rather than against, in medical advancements, drug preparation, and disease control in the future of healthcare.

COURSE TITLE

Money Matters: Stocks, Bonds, & Your Financial Future

SUBJECT AREA

Business; Business & Finance

COURSE DESCRIPTION

Investing isn't just for grown-ups! Take control of your finances and learn how to make your money work for you in this class designed to introduce you to the world of investing. Students will get a snapshot of how corporations and businesses generate, manage and track their capital. Students will cover the basics of investing and saving, including stocks and bonds, and discuss credit and investment, the difference between the NYSE and the NASDAQ, and how to deal with interest rates in an easy-to-understand way. We'll also explore other topics like corporate financial analysis, financial planning procedures, and commodities trading. You'll even get to invest some imaginary money to discover your risk tolerance level in a stress-free way.

COURSE TITLE

Regenerative Medicine: The Engineered Anatomy

SUBJECT AREA

STEM; Health Science

COURSE DESCRIPTION

Welcome to the innovative science of regenerative medicine! Explore how tissue engineering, biomaterials, cellular therapies, medical devices, and artificial organs offer clinical healing solutions for injury and disease. Learn about the three levels of regeneration at the molecular, cellular, and tissue levels of the human body. Examine emergent clinical trials, drugs and biologics, and specialized therapies that can increase quality of life. Take a closer look at the anatomy of the human body through various organ dissections to increase knowledge in the art and science of synthetic organs. Explore the technology of 3D bioprinting and its potential to make organ transplants affordable, reliable, and accessible. Debate short- and long-term ethical implications and the potential burdens it leaves for your generation. Discuss ways regenerative medicine can disrupt our future and forecast breakthroughs that can become our new reality.



COURSE TITLE

Remarkable Rhetoric: Make a Lasting Impression

SUBJECT AREA

Social Science; Public Speaking

COURSE DESCRIPTION

Unlock your potential as an eloquent orator, and let your words leave an indelible mark. This course will help students become confident and persuasive speakers. Whether faced with giving a speech to a filled auditorium or sharing your opinion with a small group, the ability to communicate articulately yields influence. Learn how to improve your sentence structure, word usage, and test out strategies that attract others to your message. Apply unique techniques of vocal tonalities for earning trust. Investigate proven methods with body language that convey confidence, control, competency, and credibility. Develop a commanding voice that will inspire others and make a lasting impression. Explore the power of rhetoric and the techniques used by history’s great orators. This course is your pathway to becoming a confident and persuasive communicator, ready to convey your ideas with poise and conviction.

COURSE TITLE

Synaptic Plasticity: The Adaptable Brain

SUBJECT AREA

STEM; Neuroscience

COURSE DESCRIPTION

Brain plasticity is the brain’s ability to modify its neural pathways and adapt to new information, challenges or circumstances. Budding neuroscientists will have the opportunity to explore how the human brain develops over time, from childhood through adulthood. Examine topics such as neuroplasticity, genetic circuits, and the nervous system, as well as neural changes resulting from bodily injury or trauma. Learn about the structure of neurons and how they impact communication between the brain and the body. Delve into the different hemispheres of the brain and their cognitive functions and see if you can identify yourself as “right brain” or “left brain”. You will discover how memories are formed, the difference between short-term and long-term memory processing systems, and how memories are retrieved. Through interactive activities, you’ll apply your knowledge to analyze different theories of improving cognitive performance through behavioral neuroscience and apply your findings to the fields of health, medicine, education, and aging.

COURSE TITLE

The Psychology of Fear (if you dare!)

SUBJECT AREA

Social Science; Psychology

COURSE DESCRIPTION

The emotion of fear is a key biochemical response that alerts us to danger and potential threats, both psychological and environmental. In this class, you will embark on a thrilling journey to understand fear and its impact on human behavior. Through engaging discussions, real-life case studies, and thought-provoking activities, students will use critical thinking to develop a deeper understanding of this emotion that shapes our lives. Explore the psychological underpinnings by defining fear and its evolutionary purpose. Take a global view at how the factor of fear has driven or controlled the course of human history. Learn about different types of fear and how they manifest in the spectrum of anxiety-related disorders, as well as how the brain responds to fear such as through the fight-or-flight response. Analyze examples of how fear is portrayed in movies, literature and social media, and how the media we consume impacts our perception of fear. Join us as we unravel the mysteries of this powerful emotion!

COURSE TITLE

Theories of Time Travel: Spacetime Physics & Wormholes

SUBJECT AREA

STEM; Physics

COURSE DESCRIPTION

If we could unify quantum gravity, quantum mechanics, and general relativity into one theory, physicists argue that time travel would be possible. Journey with us through a study of black holes, negative energy, and cosmic strings as we research current theories of time travel. Study experiments that have been completed by physicists around the world and see what they have revealed about paradoxes and mutable timelines. Engage in thought experiments and debates that just might challenge your perception of time itself. Explore the limits of what you think might be possible, create a time travel theory of your own, and understand why scientists, philosophers, and science fiction enthusiasts have been captivated by time travel for decades!



COURSE TITLE

Bioinformatics: Data Mining for Health

SUBJECT AREA

STEM; Data Science & Medicine

COURSE DESCRIPTION

Bioinformatics is a rapidly growing field that combines computer science, statistics, and biology to manage and analyze biological data. With the advent of new technologies, such as high-throughput sequencing, the amount of biological data has increased exponentially in recent years. Bioinformatics focuses on developing algorithms and software tools to analyze and interpret this data, and in this course, you will learn how to utilize bioinformatics within the medical field. In identifying genes and genetic mutations, bioinformatics is utilized to develop specifically targeted treatments to improve the patient's quality of life. Students practice 21st-century skills necessary for success in bioinformatics including critical thinking, communication, collaboration, and adaptability.

COURSE TITLE

Epidemics Unraveled: Exploring the Science of Epidemiology

SUBJECT AREA

STEM; Health Science

COURSE DESCRIPTION

Epidemics, or the rapid spread of infectious diseases, have been a major concern for humanity throughout history. In this course, students will have the opportunity to explore the science of epidemiology through hands-on and interactive activities. You'll learn about topics such as the history of epidemics and the key players in the field of epidemiology, as well as the different types of epidemics, how they spread, and the methods used to control them. Students will have the opportunity to conduct simulations of disease outbreaks, analyze case studies, and use mathematical models to predict the spread of disease. Throughout the course, students will be encouraged to think critically about the ethical considerations involved in controlling epidemics. They will also learn about the impact of epidemics on different communities and the role of public health organizations in responding to outbreaks. By the end of the course, students will have a deep understanding of the science of epidemiology and the tools used to control infectious diseases.

COURSE TITLE

Genetics & Ethics: Charting the Frontiers of Moral Dilemmas

SUBJECT AREA

STEM; Genetics

COURSE DESCRIPTION

In this course, students can gain a deeper understanding of the ethical implications of genetic research and its impact on society through current case studies that highlight the ethical considerations surrounding genetic testing, gene editing, and human cloning. These case studies can provide students with real-world examples of the moral dilemmas that arise when science and technology intersect with human values. Both intellectually stimulating and socially relevant, our interactive approach encourages students to engage with the material through guided group discussions, debates, and role-playing exercises that allow students to explore different perspectives and develop critical thinking skills related to genetics and ethics. By exploring the frontiers of moral dilemmas in the field of genetics, students can gain a deeper appreciation for the ethical considerations that underpin scientific research and its impact on society.

COURSE TITLE

Gifted Writers Workshop

SUBJECT AREA

Humanities; Creative Writing

COURSE DESCRIPTION

The Gifted Writers Workshop is an excellent opportunity for young writers to hone their skills in creative writing. This workshop provides a supportive environment for writers to explore different forms of writing, such as poetry, fiction, and creative non-fiction. You'll learn how to craft compelling characters, develop unique storylines, and use language in creative ways. With the guidance of experienced writing instructors, you'll receive feedback on your work and learn how to revise and improve your writing to effectively communicate ideas. Whether you are just starting out or have been writing for years, the Gifted Writers Workshop is the perfect place to explore your creativity, improve your writing skills, and connect with fellow writers who share your passion for the written word.



COURSE TITLE

Global Politics Unveiled: Human Rights & Justice in a Changing World

SUBJECT AREA

Humanities; Government & Law

COURSE DESCRIPTION

Do you want to be a part of the next generation of social movement activists? Harness your power to tackle concerning issues such as child labor, women’s rights, racism, human trafficking, infanticide, and much more. Explore the three dimensions of human rights and investigate how governing bodies interpret policy and protect disadvantaged populations. Take a critical look at current organizations that support human rights and analyze the social impact they are making on our world, with a focus on youth-led social change movements. You’ll conduct an in-depth case study of a social justice issue and apply the principles of social movements and activism to propose a solution. Join your peers to be the change you hope to see in your future!

COURSE TITLE

Logic & Innovation: The Future of Reason

SUBJECT AREA

Humanities; Logic

COURSE DESCRIPTION

In today’s world, the humanities rely heavily on logical and innovative thinking, particularly in the realm of proposal development. During this course, discover the importance of creativity, critical thinking, and problem-solving skills to cleverly generate real-world solutions for some of the most compelling issues of the 21st Century. By applying creative thinking skills to logic and innovation, you can develop persuasive arguments and ideas that are backed by evidence-based reasoning. Additionally, thinking outside the box can enable you to identify fresh approaches to long-standing problems. By combining these two approaches, you will be able to create proposals that are unique, compelling, and directly applicable to solving real-world problems.

COURSE TITLE

Neuroscience: The Brain’s Physiology & Pathology

SUBJECT AREA

STEM; Neuroscience

COURSE DESCRIPTION

Did you know that neuroscience is one of the fastest-growing areas of the life sciences? Discover and observe the key anatomical features of the brain through sheep brain dissections that provide foundations in neuroanatomy (the study of the brain’s structure and function) and explore the regions of the brain through sensory, motor, and cognitive experiments. Examine how damage to these structures can lead to trauma, neurodegenerative disease, and deficits. If a career in neuroscience is in your future, this course will provide the knowledge needed to examine clinical applications practiced in the field. Identify emerging needs in artificial intelligence, genome engineering, and novel therapeutics that explore untapped elements of research and development in neuroscience that can transform the future.

COURSE TITLE

Quantum Mechanics in the Quantum Realm

SUBJECT AREA

STEM; Quantum Field Theory

COURSE DESCRIPTION

What phenomenon allows particles kilometers apart to communicate instantaneously, or make indecisive photons go two directions at once? The science of quantum mechanics! Quantum mechanics describes the ultra-microscopic world and behavior of objects such as atoms and subatomic particles that have helped create the modern world as we know it. The operations of semiconductor electronics, lasers, atomic clocks, and magnetic resonance imaging (MRIs) all function based on the principles and theories of quantum physics. Come learn about Schrödinger’s wave equation theory, Heisenberg Uncertainty Principle, the concept of spin and the Pauli exclusion principle, wave-particle duality, and how these concepts are central to technologies we enjoy. If you like to theorize, this class is for you.



COURSE TITLE

Revolutionary Medicine: Stem Cells in Action

SUBJECT AREA

STEM; Health Science

COURSE DESCRIPTION

Stem cell research and regenerative medicine hold immense potential in providing innovative solutions to various medical issues. The use of stem cells in regenerative medicine has shown promising results in treating various conditions, such as heart disease, diabetes, and Parkinson's disease. This course allows participants to learn about the latest advancements in the field and gain practical experience in using stem cells to regenerate damaged tissues. Through hands-on activities, help bridge the gap between theory and practice to apply the latest research in real-world scenarios. Students gain the knowledge and skills needed to apply the latest research in real-world scenarios, making it easier to develop effective treatments for various medical conditions.

COURSE TITLE

Technical Design with VEX Robotics

SUBJECT AREA

STEM; Robotics & Programming

COURSE DESCRIPTION

VEX Robotics is the leading platform for robotics and programming competitions, allowing students to design, build, and program robots that can complete specific tasks. In this course, students will learn the basics of robotics and programming, including how to use VEX software, how to build robots, and how to program them to complete tasks. They will also learn about STEM competitions, including VEX Robotics Competitions and VEX IQ Challenge, which provide opportunities for students to compete with their robots against other schools and students. Throughout the course, students will work on various projects and assignments that will challenge their problem-solving, critical thinking, and teamwork skills with the guidance of industry professionals to gain real-world experience and knowledge. Students engage and apply modern programming and robotics technology, while also preparing them for future careers in the field. *Supplemental Course fee

