SUMMER GIFTED AT DOMINICAN

course descriptions

2018

WEEK 1: JUNE 18-22

Number Pyramids and Puzzles

Increase your arithmetic knowledge and speed up your mental math skills in this thrilling journey of mathematics. In this fast-paced math class, students will practice mathematical operations and gain speed with automaticity of math facts and logical thinking. Students will participate in a variety of individual and group activities, learning games and problem-solving puzzles. Students will also practice skills related to inverse operations and number families.

This class includes an additional $15 supply fee.

Grades 2/3, Week 1

Jurassic Journeys

In this hands-on class, budding paleontologists study the Paleozoic and Mesozoic eras by piecing together the evolutionary chain and constructing the environment leading to the Age of the Dinosaurs. While researching, students learn the various techniques and tools used by paleontologists using an overview of the "Sue" dinosaur expedition. Students construct molds of life forms of the various eras and practice a light touch for unearthing dinosaur remains in simulated exercises and excursions. What happened to the Dinosaurs? What traces still exist in our time?

This course includes an additional $15 supply fee.

Grades 2/3, Week 1

Calling All Artists

Develop your drawing, painting, and sculpture skills while examining the methods of master artists such as Claude Monet, Georgia O'Keefe, Alexander Calder and more! Learn and apply technical drawing, painting, and sculptural methods used by artists to create masterful artistic visual effects and images in this hands-on art course. Students in this class will strengthen their knowledge and abilities in artistic technique and design, as well as cultivate and nurture their creative intelligence.

This course includes an additional $15 supply fee.

Grades 2/3, Week 1

Aerodynamics: How Airplanes Fly

Have you ever wondered how airplanes fly? This class will explore the science of flight as we investigate the parts, development, and uses of the modern day airplane. We will examine the principles of aerodynamics that make flight possible, including air pressure, force, and energy through hands-on

learning activities. We will apply these concepts, along with the contributions of such pioneers as Galileo, Newton, and Bernoulli to create our own model airplanes and gliders!
This class includes an additional $15 supply fee.
Grades 3/4, Week 1

Let's Bee Scientific!
This hands-on class about the science of bees is pending course description.
This class includes an additional $15 lab fee.
Grades 3/4, Week 1

Young Authors Book Club
Students in *Young Authors Book Club* will read, examine, and discuss several forms of writing and genres from authors who possess unique and exemplary writing styles and voice. They will then practice and develop their own writing techniques by creating various writing pieces of their own including short stories, a newspaper article, and a vignette. In this reading and writing intensive course, young authors will share their favorite written pieces and thoughtfully offer feedback to each other based on what they learn in class.
This course includes an additional $15 supply fee.
Grades 3/4, Week 1

Mathopoly and Economics
Learn math and economics while playing Monopoly! Students will begin by learning some basic economic concepts of supply and demand, budgeting and the history of monopolies. Through hands-on application and experiential learning, students will gain a deeper understanding of percentages and probability. Mathopoly students will become strategic thinkers while being introduced to meaningful concepts in investment and capital gains. Students will explore monopolies, the history of the game, and compare and contrast different versions of the game. This class will also introduce students to credit- how to establish it, use it, and the dangers of abusing it. Mathopoly students will develop their social skills and master the strategic art of negotiation. Using their notes, observations, and skills gained throughout the course, students will establish their own strategies for monopolizing the game of MONOPOLY, ultimately creating their own version of the game!
This class includes an additional $15 supply fee.
Grades 4/5, Week 1

Disaster Science
What causes a natural disaster and what can we do to save ourselves when an emergency strikes? How can human activity impact climate change, and how do we prepare for its disastrous results? Students will discover the secrets behind earthquakes, flooding, volcanic eruption, landslide, and hurricanes. Using problem solving skills and imaginative creativity, students will design innovative tools and techniques to utilize when faced with a natural disaster!
This course includes an additional $15 supply fee.
Grades 4/5, Week 1

Stick to the Script: Introduction to Screenwriting
In this exploratory and writing intensive course, students will be introduced to the wonderful art of screenwriting. Students will transform an original story idea from pitch to story to treatment, and finally to screenplay or script. As budding screenwriters, students in this class will develop their traditional notebook stories into structural detailed works suitable for a film-short. They will learn screenwriter's language such as plot, scene development, dialogue, conflict and conflict resolution, the three-act film, and character development. The stages of screenwriting will come to fruition as students gain an understanding of what makes a story better and how it all begins with a basic screenwriting format.
This class includes an additional $15 supply fee.
Grades 4-6, Week 1

Genius of Geometry
In this course, students will extend their knowledge in basic geometry to include proofs, the central activity of high school geometry and all higher level mathematics. Students will create constructions using the classical construction tools, the compass and straightedge, as they justify and prove the relationships they discover with traditional two column proofs. Students will also examine Oliver Byrne's masterful 1847 edition of Euclid's Elements, as well as more traditional translations of Euclid's famous book. Students will finally produce their own portfolios, elegantly composed of their constructions, proofs, and student reflections.
This course includes an additional $15 software fee.
Grades 6-8, Week 1

Invention Convention: Rube Goldberg
Have you ever found a very complicated way to complete a very simple task? Rube Goldberg was a master at

doing just that! Rube Goldberg is a famous cartoonist, sculptor and author. His hilarious inventions created elaborate ways to do simple things. In this class, students will become inventors, authors and scientists examining the work of simple machines to create their own elaborate ways to complete tasks! Save up your garbage and gather your toys to get those creative juices flowing!
This course includes an additional $15 supply fee.
Grades 5-7, Week 1

Fairytale Trials: Legal Eagles
Did you know that the Grimm Brothers were actually lawyers? Participants will explore the judicial process via the medium of the fairy tale. In addition to learning trial procedures, students will learn skillful mediation techniques as they explore both the prosecution and the defense roles using collaboration and improvisation. Did the wolf intend to murder the pigs, or was he a victim of pigrimication? Is Jack a victim, or guilty of stealing the golden hen? Was the Pied Piper the victim of a broken contract, or was he the perpetrator of a mass kidnapping? Students take on the roles of plaintiffs, defendants, lawyers and judges to determine the case of these fairy tale trials!
Grades 5/6, Week 1

Physics & Engineering: Newton's Academy
Ready? Aim! FIRE! After practicing some Newtonian kinematics, students will be able to aim their marble at a target so they never miss the bull's eye. Through careful measurements and thoughtful calculations, whose team will be the most accurate? Students in Newton's Academy are introduced to the fundamentals of projectile motion, free fall, and the acceleration of gravity, and other basics of physics. Conceptual learning is enriched with hands-on, activity based experiments and lessons, such as constructing egg parachutes to understand the effects of drag to gravity and air resistance, constant speed, and changing mass. Keep your eye to the sky and get ready to launch to your fullest potential in this exciting new course!
This course includes an additional $15 supply fee.
Grades 6-8, Week 1

Lab Science: Chemistry
This course will take an inquiry-based approach to foster students' curiosity and other scientific attitudes toward lab sciences. Students will build skills in the areas of making observations, planning the best approach to solving problems, developing focus questions, interpreting complex data, and

communicating what they learned in reflective writing. This will afford students the opportunity to become more interested and confident in using higher-order thinking, to explore, test, and make their own conclusions about various aspects of science in general, and in Chemistry, specifically.
This course includes an additional $15 supply fee.
Grades 6-8, Week 1

The Great Debate
Let the debates begin! In this interactive class, students assert themselves and express their viewpoints by participating in organized and spirited debates. This course will introduce students to debate techniques and formats utilized in middle school debate clubs and competitions as they learn how to research, discuss, and write about important issues shaping their world. The Great Debate is ideal for those looking to develop and improve their writing, critical analysis and public speaking skills. This summer, everything is debatable!
Grades 6-8, Week 1

WEEK 2: JUNE 25-29

Tessellations and Patterns in Math

In this expressive geometry based course, students discover the undeniable connections between art and math in our daily world. Critically examining the artwork of M.C. Escher and his contributions to mathematics, this interactive class will rely upon artistic creativity as students produce individual and class-designed tessellations and tilings with their favorite repeating patterns and colors while reinforcing the building blocks of geometry and the study of shapes.

This course includes an additional $15 supply fee.

Grades 2/3, Week 2

Under the Sea

Have you ever taken a moment and actually wondered how deep ocean volcanoes are created? Or exactly how is it that sharks have existed for more than 400 million years? Does what lay beneath the ocean's surface make you curious? In this hands-on investigative and problem-solving class, students will use scientific and engineering skills to discover the depths of our waters as they dive into the mysteries of the ocean and discover what's under the sea!

This course includes an additional $15 supply fee.

Grades 2/3, Week 2

Storybook Arts

This creative reading and multimedia arts based class promotes creativity and reading with beautifully illustrated children's books and hands-on art inspired projects. A different story and discussion highlights student interests, and is paired with a meaningful art-based project. Inspired readers will use a wide variety of materials such as paints, fabrics, paper materials, chalk, crayon and colored pencils and markers, with an emphasis on utilizing responsibly recycled and repurposed materials.

This course includes an additional $15 supply fee.

Grades 2/3, Week 2

Sudoku and Such

Keep your mind sharp and develop your brain power with the benefits of Sudoku and such! Number games, math riddles, and puzzles throughout the week assist math-minded students in improving memory, developing mental math skills and speed, and increasing levels of concentration. Students also have the opportunity to create their own Sudoku puzzles and number games to challenge their friends and family,

and nourish their creative sides.
Grades 3/4, Week 2

Chemical Reactions
In this hands-on experimental lab course, students explore basic chemical changes and investigate a variety of chemical reactions as they develop their knowledge about the study of matter and the changes that take place: What makes up matter? How does it react and combine with new matter? Students may be surprised to discover chemical reactions that occur in their daily lives, and how it impacts the world around them. Lab safety is introduced, practiced and enforced as a daily classroom expectation.
Students will be encouraged to "think like a scientist" by asking questions, making predictions, setting up experiments to test their hypothesis, collecting and analyzing data and finally, drawing conclusions.
Students will discover basic chemistry concepts and experiment with many examples of different changes in matter.
This course includes an additional $15 lab fee.
Grades 3/4, Week 2

Word Power Challenge
Students in Word Power Challenge engage in friendly competition, build their vocabularies and spelling skills, and learn to play word games such as Scrabble, Boggle, Word Thief, Scattergories, Password, Blurt, Dictionary Dabble and more! Incorporating daily vocabulary words of the day, Greek and Latin roots, interactive class activities such as word games, explorations in neologism, and relevant film selections, students in this class will develop notable strength in word power as they finesse their way to the top and win their high-spirited competitions with endlessly impressive words!
Grades 3-5, Week 2

Math Games, Puzzles & Problems
Joshua weighs half as much as Michael, and Charlie weighs three times as much as Joshua. Their combined weight is 240 pounds. How much does each boy weigh? Students in this playful math course exercise their brains as they develop their logical reasoning skills, gain mastery of key math concepts, and apply their knowledge to increasingly advanced challenges in the form of various math puzzles, riddles and logic problems, academic board games and more!
Grades 4/5, Week 2

Pigs in Space!
Do aliens exist? If so, then how will scientists find them? Students in this interdisciplinary science class will participate in a variety of mini-labs and hands-on activities that will enable them to examine the nature of life, its requirements, its limits, and where it might be found. Through these experiments and experiences, students will learn how interdisciplinary teams of scientists, engineers, and astronauts search for extraterrestrial life. Students will then use the engineering design process to create their own remote sensing device, capable of searching for life on an unexplored planet or moon!
This class includes an additional $15 supply fee.
Grades 4/5, Week 2

Advertising Agents
In this creative thinking and artistically driven course, students will learn the process of advertising through television commercials, magazine print ads, outdoor billboards, as well as the relevance behind product placement. Students will work collaboratively in advertising teams as they create a complete advertising campaign for an existing, discontinued, or mock product of their choice. Advertising teams will hold specific roles such as Creative Director, Art Director, Storyboard Artist, and Copywriter. Lastly, advertising teams will pitch their commercial campaigns and spotlight their work at Open House.
This course includes an additional $15 supply fee.
Grades 4-6, Week 2

Scratch That Code!
Every student should have the opportunity to learn computer science! Coding has been called the "new literacy." With Scratch, you can program your own interactive stories, games, and animations – and share your creations with others in the online community. *Scratch That Code!* will help students learn to think creatively, reason systematically, and work collaboratively – essential skills for life in the 21st century!
This course includes an additional $15 computer lab fee.
Grades 5/6, Week 2

Scream Machine: The Need for Speed
Roller Coasters are an exhilarating ride for people of all ages. Thrill-seekers will get their adrenaline pumping through hands-on, engineering activities to learn the physics behind a roller coaster. Using algebraic skills, students will calculate speed, as well as learn about kinetic and potential energy at work to give riders that rush! Students will examine roller coasters through simulations, ultimately building their

own coaster that any of their friends would travel for miles to enjoy.
This class includes an additional $15 supply fee.
Grades 5-7, Week 2

Creative Writing
In Creative Writing, students will write a variety of original pieces including short stories and poems. They will read and evaluate written works by professional authors as models for their writing. Students will also practice and apply writing traits including voice, word choice, organization, and sentence fluency. In addition, students will learn about the elements of literature as well as poetic vocabulary and styles. Students will be able to integrate the knowledge they learn into their own writing pieces. At the end of this course, students will share their favorite written pieces and thoughtfully provide feedback to each other.
Grades 5-7, Week 2

Logic
This philosophy based math course is under construction and pending course description.
Grades 6-8, Week 2

Physics & Engineering: Astrophysics
Do you stand in awe of the stars at night, imagining what wonders could be out there so distant in the cosmos? The universe is a very big place, but is it infinite? What strange and amazing things can be found in our solar system, in our galaxy, and beyond? What would it take to visit these places, and are there things worth visiting "in our own backyard?"

Students will learn about how planets work, how to find them around other stars, and how we think they form. We will learn about the life cycle of stars and why the cycle happens this way, including favorites like black holes, nebulae and supernovae. Mathematics skills will not be necessary, but students seeking a challenge can be provided one! The physics equations governing the motions of planets, such as with velocity, acceleration, force, and universal gravitation will be offered.
This course includes an additional $15 supply fee.
Grades 6-8, Week 2

Star Wars Fan Fiction
In today's world, fans do not just sit on the couch passively watching television, listening to music, or reading books; rather, they take inspiration from their favorite series to create their own unofficial works of

fiction based on the lives and situations of their heroes. The fan community surrounding the *Star Wars* series is one of the most active fandoms with millions of online discussion, postings, and tens of thousands of fan-based creations of every possible description imaginable. Students in this class will read some online fan fiction and a full-length book of published fan fiction such as high-school author Alexandra Bracken's retelling of the first Star Wars movie *Star Wars: A New Hope The Princess, the Scoundrel, and the Farm Boy*. We will watch some movie clips and look at professional scripts. Students will write their own chapter sequel to a *Star Wars* book or movie using Star Wars characters and settings as starting points. At the end of the class, students will post their work on Wattpad or another popular fan fiction site.
This course includes an additional $15 supply fee.
Grades 6-8, Week 2

WEEK 3: JULY 10-14

Music & Math

Counting, rhythm, scales, intervals, patterns, symbols, harmonies, time signatures, overtones, tone, pitch. The notations of composers and the sounds produced by musicians are connected to mathematics. This course will explore those connections through various genres of music and a variety of mathematical skills. If you have an interest in either of these areas, this course is for you! *"There is geometry in the humming of the strings, there is music in the spacing of the spheres."* — Pythagoras

This class includes an additional $15 supply fee.

Grades 2/3, Week 3

Bug Life

Did you know that an ant can carry fifty times its own weight? And there are more types of beetles on Earth than there are plants! Students will become insect experts as they study various types of bugs, and discover how important they are to our planet. In this hands-on class, students will examine insect anatomy, go on outdoor bug hunts, research insect facts, role-play insect societies, and discuss issues such as how non-native insects can become invasive pests.

This course includes an additional $15 supply fee.

Grades 2/3, Week 3

Artful Wonders

This course is designed for students who want to learn more about the art Wonders of our world. Students in this class will learn about different people around the world with a focus on the art of each particular culture. Many cultures around the world create masks for ceremonies, for theater, for puppet shows or to connect with their ancestors. Students will learn about the gold masks of the ancient Incas, they will walk the jungles of the Mayan rainforest where buried jade masks have been found. Students will learn about the art and cultures of West Africa and the masks they make. We will also learn how the Indonesians used masks to connect with their ancestors and how their designs reflect their beliefs. Based on each culture we explore, students will create works of art in a hands-on studio style environment.

This course includes an additional $15 supply fee.

Grades 2/3, Week 3

The Number Devil

The Number Devil is a book about Robert, a boy who discovers the amazing world of numbers, including

infinite numbers, prime numbers, and Fibonacci numbers. The Number Devil's visualizations of these higher level math concepts offer a starting point for math projects in drawing, painting, construction and dramatic play. Join us in the rollicking dream world of the Number Devil, where the sky is the infinite limit!
This course includes an additional $15 supply fee.
Grades 3/4, Week 3

Explorations in Science
This discovery-based interdisciplinary science class is under construction and pending course description.
This class includes an additional $15 lab supply fee.
Grades 3/4, Week 3

Imagination Station
In this creative and hands-on entertaining foray into the puppet arts, students will learn how to tell stories using simple materials and engaging classic forms from 19th century England to 6th century India. Turn a plain cardboard box into an intricate toy theatre, create an original cantastoria from a large roll of paper, and tell a riveting campfire story on very your own shadow screen! https://lankyyankeepuppet.com.
This class includes an additional $15 supply fee.
Grades 3/4, Week 3

Protractors & Paintbrushes
Inspired by modern day artist Frank Stella, this math-based art course explores the interdisciplinary relationship between Math and Art. Students will explore and discuss geometry primarily using protractors, compasses and rulers while exploring several artists who specifically utilized math to create their masterpieces. Symmetrical name mandalas, abstract protractor designs, and string art geoboards are some of the hands-on projects students in *Protractors and Paintbrushes* will create this summer.
This class includes an additional $15 supply fee.
Grades 4/5, Week 3

Chemistry Lab
Students will discover how chemistry works in *Chemistry Lab*. Young scientists will see how substances react together to give new and different substances through the process of experimentation. Lab safety will be continuously highlighted, discussed, and implemented. Students will be expected to gather materials, follow experiment procedures, make observations, models, and learn to analyze data in order to formulate

their claim, evidence, and reasoning behind the concepts learned. Some of the ideas can be tricky to understand, but if a student has an idea about why the concoctions work, s/he will be better prepared to invent her/his own impressive mixtures. Be prepared to experience "real-life" examples of how the world of chemistry impacts our everyday life!
This course includes an additional $15 lab fee.
Grades 4/5, Week 3

Jr. Naturalists
Join this course to become a real naturalist! Participation in this course means exploring the natural components of your community that interest you the most, while observing the natural world and building your knowledge about it. Daily bird watches, hunting for tracks, and local plant and animal identification are just part of this course. Students will gain knowledge, about the environment while learning about animals, habitats, ecosystems, and niches. They will explore interdependence, changes and adaptations, biodiversity and wildlife resources, human impact, and responsible actions and service. Enjoy the observation of nature and become a citizen scientist, as well as a steward to the nature closest to you!
This course includes an additional $15 lab fee.
Grades 4/5, Week 3

Aerodynamics: Intermediate Rocketry
This hands-on inquiry based class takes a closer, more in-depth look at history and mechanics behind the modern day rocket. Scientific principles including Newton's Laws of Motion, weight vs. mass, thrust and air pressure will be examined through hands-on experiments. Students will apply these concepts to the building of their own more advanced rockets.
This class includes an additional $15 supply fee.
Grades 5/6, *Week 3*

Hunger Games: Introduction to Genetics
In this adventurous class of survival of the fittest, students mix science with imagination to create their very own tributes and adversaries through an introduction to genetics. Determining everything from eye and hair color, height, build, and even predisposition to certain illnesses and immunities, students consider genetic principles as they construct and manipulate DNA to create their own version of a fantasy hunger game. Through class discussions, games and activities, as well as artistic interpretations of their genetically modified characters, students can determine the winner of this ultimate battle. What happens when the

terrain changes or an unexpected creature bursts out of nowhere? Anything can happen so who will survive and why? May the odds be ever in your favor!
This course includes an additional $15 lab fee.
Grades 5/6, Week 3

Creativity Makerspace
This active and interdisciplinary hands-on course is designed to help students discover and develop their creativity through small and large group exercises, fun creativity games, art, drama, writing and individual creative pursuits. Students will learn classic group creativity techniques such as brainstorming, creative problem solving, synectics, and more. Classmates will share their ideas, learn to "piggyback" off the ideas of others, and produce a final personal project expressing their creativity in the medium of their choice: visual art, writing, poetry, drama, dance, song, comedy, cartooning, fiber arts…the sky's the limit!
This class includes an additional $15 supply fee.
Grades 5-7, Week 3

SketchUp Architecture: Golden Ratio and Rectangle
Utilizing Google SketchUp, a 3D modeling program, the students will utilize the archetype of the house to learn how to build virtual 3D models. Running parallel to the 3D modeling will be the investigation into the "golden" ratio as it is applied to an angle, rectangle and its incorporation in the Pyramids of Egypt, the Washington Monument, as well as its practical uses in modern architecture. This visual proportion is based on the Fibonacci sequence and it will be investigated as a 3D form, giving framework in the students' model building exercises. To start this course we will move through a series of virtual model building exercises in a condensed fashion to allow the students to get their SketchUp "legs" under them. This will lead to the eventual exploration and incorporation of the concept of the "golden" ratio to apply to the students' virtually built objects. The concept of appropriate SCALE in the students' model building will be a consistent theme throughout the week of virtual modeling. A basic vocabulary of residential and collegiate building parts will be shared throughout the week as well.
This course includes an additional $15 software and lab fee.
Grades 6-8, Week 3

Physics & Engineering: Rocket Science
Now everyone can be a rocket scientist! Model rockets are a great way to get outdoors and have fun with

physics. This course focuses on learning how rockets work, and how to determine how high their rockets fly using physics. Tips to optimize rockets against air resistance drag and shortcuts of advanced physics equations will be discussed to determine maximum altitude and find the winner of the class rocket contest.
This course includes an additional $15 supply fee.
Grades 6-8, Week 3

Decoding the Superhero
In this research based course, students will explore the history of the Superhero through the ages. Students will conduct in depth studies of the Superhero archetype, purpose, backstory, origin, etc., while learning about the rise of the superhero in the 20th century; following the archetype as it evolves and mirrors American history with a focus on World War II, Civil Wars, The Civil Rights Movement, Watergate, Social Injustice, and crime. Students will study the hero and the villain as patriarchal figures, along with the matriarchal figures and lack thereof. Students will ultimately create their own Superhero and write a backstory of their character.
Grades 6-8, Week 3

WEEK 4: JULY 17-21

Fun with Fibonacci!

Did you know that the beautiful Fibonacci sequence, which was discovered by an Italian mathematician nicknamed Fibonacci, was best known in a famous math problem about multiplying bunny rabbits in the early 1200s? Discover the complex beauty behind the simplified answer, and realize just how much this beautifully intriguing sequence can be found throughout nature and everywhere around us! Students will become familiar with Fibonacci numbers and explore the many ways in which these numbers are expressed in our everyday world. Participating in a series of daily math-based games, cooperative and independent math activities, as well as math related stories, students will gain an understanding of the Fibonacci sequence of numbers. Students in this class will discover the fun in recognizing how Fibonacci numbers relate to our everyday world and the relevance of mathematical operations to these specific numbers.

This class includes an additional $15 supply fee.

Grades 2/3, Week 4

To Infinity and Beyond!

Students enter the world of Space Camp and Space Flight. Studying the elements of flight, along with the demands of space, students begin envisioning their own design for a vehicle worthy of probing our galaxy and beyond. Students design a blueprint of their ship and begin choosing planets, asteroids, galaxies, wormholes or other phenomena to research, build a project, and present. While working on these elements, all space campers continue to work mini-experiments that build an understanding of planet rotation, atmosphere, and gravity as well as mythological constellations.

This course includes an additional $15 supply fee.

Grades 2/3, Week 4

Storytellers & Illustrators

During this week, students will learn about storytelling and using illustration to help the process. We will explore what makes a good story, the elements of story, and what contributes to being a good storyteller, because after all, even the most interesting story can lose its life to a dull performance! Students will share their favorite stories with the class, write and illustrate their own stories, share these with the class and work with a small team to produce, illustrate and perform a group story during the end of week Open House. Use of the imagination combined with setting up a solid story structure and presenting the story in an entertaining fashion is the emphasis here, as is having fun and playing with the creative process!

This class includes an additional $15 supply fee.
Grades 2/3, Week 4

Aerodynamics: Introduction to Rocketry
Rocketry has fascinated people from its inception. Rockets have the uncanny ability to entertain, rescue, destroy and open the doors to new worlds. The evolution of the modern day rocket, from the fictional tales of Jules Verne to the reality of Robert Goddard, will be examined. Students will study the anatomy, history, and applications of rockets as well as gain hands-on experience with the scientific principles that propel them. These principles will be applied to building our own simple model rockets!
This class includes an additional $15 supply fee.
Grades 3/4, Week 4

Sustainable Solutions
Everyone knows 'it's not easy bein' green,' because the most famous Muppet character, Kermit the Frog, told us so. Well, what does it really mean to be green? What are the challenges facing the environment? Why is sustainability important? Most importantly, how can YOU help and make a difference?

Dominican University's scenic campus will serve as the teaching and learning laboratory for promoting sustainability. Throughout the week, students will take on fun titles such as environmental explorers, green ambassadors, composting ninjas, and grewbies (beginning gardeners) just to name a few. Get ready to get your hands dirty with daily lunch waste audits, gardening, recycling and composting; develop a thirst for water conservation; and bee-friend the honeybees! Students will practice environmental stewardship and discover just like Kermit the Frog did, that "bein' green is all you want to be" especially when it comes to protecting the planet and building a better future!
This course includes an additional $15 supply fee.
Grades 3/4, Week 4

All the World's My Stage
Sir Laurence Olivier once said, "The actor should be able to create the universe in the palm of his hand." This engaging drama-intensive course is designed to familiarize and prepare students for the world of theater. Students in this interactive class examine and explore various components of dramatic theater such as key vocabulary and stage commands, movement, voice, characterization, improvisation, audition preparation and more as they develop their skills as well-rounded performers ready for the spotlight!

This class includes an additional $15 supply fee.
Grades 3-5, Week 4

Adventures in Math
Are you ALL-in for quick-witted escape adventures with a gutsy math twist? Crazy riddles that tickle and challenge your adventurous inner math wizard? Fun puzzles that are grounded in definitive logic and mathematics? Then this mind-boggling fast and fun roller coaster of an adventure in math is the course for you! Math-minded students in this engaging class participate in fun games, riddles and puzzles throughout the week. Both group work and individual activities are emphasized in this accelerated math course for adventurous learners!
This class includes an additional $15 supply fee.
Grades 4/5, Week 4

The Art of Math & Science
The realm of math within art is a vast and diverse world in which students will explore hands-on and high-level learning in three-dimensional, culinary, musical, technological, and functionally applicable art forms enhanced by mathematics. The course includes studies of Euclidean geometry, molecular gastronomy, engineering, and much more! Learning math through art based projects not only significantly improves student understanding and retention of key math concepts, it also produces significantly beautiful artwork that anyone can appreciate! *The Art of Math & Science* gives artistically inclined students a chance to shine, and it also engages a critical part of the right-brain, tapping into mathematically inclined student abilities to master conceptual math.
This course has an additional $15 supply fee.
Grades 4/5, Week 4

Puppetry Intensive
See the world through the eyes of a master puppeteer in this exciting new hands-on course introducing the basics of object theatre and hand puppetry. Students in this artistically expressively class will create a variety of visual vignettes to be accompanied and inspired by classical and jazz music, and other meaningful performance mediums and student guided expression. https://lankyyankeepuppet.com.
This class includes an additional $15 supply fee.
Grades 5-7, Week 4

Architecture: How Buildings Stand

Students in this interdisciplinary class will use math, physics experiments and architectural design techniques to prove the basic building principles of architecture. Students will have the hands-on opportunities to design their own dream homes to scale, and also calculate the actual costs involved. The class will also explore the rise of the Chicago skyscraper as well as local architectural styles, such as F.L. Wright, taking full advantage of the wealth of examples that fill the city and its surrounding neighborhoods.
This course includes an additional $15 supply fee.
Grades 5/6, Week 4

Environmental Science

Integrating physical and biological sciences to the environment, students in this class will examine the delicate interrelationships of the natural world and the ways in which it has evolved. In this class, students identify and analyze environmental challenges and problems, and consider the ways in which renewable and/or alternative solutions may resolve or prevent future issues. Students explore topics such as preservation and sustainability, global warming and pollution, energy, biodiversity, conservation, renewable and nonrenewable resources, alternative energy and fuels, recycling, and sustainability through hands-on activities and field experiences.
This course includes an additional $15 lab fee.
Grades 5-7, Week 4

The Best of Roald Dahl: Novel, Poetry, Short Story, and Memoir

British author Roald Dahl was a wordsmith, social critic, and above all, master of humorous poetry and prose. Hailed by critics for "an ingenious imagination," he is perhaps best known to young readers for his wonderfully satirical children's novels, Charlie and the Chocolate Factory, and Matilda. Dahl also wrote delightfully wicked short stories, hilarious poetic takes on classic fairy tales, and a fascinating memoir of his childhood full of remarkable tales, "some funny, some painful, some unpleasant…and all true." In this literary intensive course, students will further their appreciation of Dahl by reading, writing, acting, and otherwise responding creatively to a range of Dahl's work, using him as inspiration for art, poetry, and more!
This course includes an additional $15 supply fee.
Grades 5/6, Week 4

Pi and the Great Pyramid

In this hands-on math course, students will dive into the mysteries of the Great Pyramid of Egypt found in the Ancient city of Giza. This amazing structure was the tallest constructed for thousands of years, and is a testament to humanity in many respects other than just its sheer size. Hidden within the various dimensions of the Pyramid are two of the most famous mathematical constants, Pi and Phi. Students will discover how these two natural ratios are embedded in the construction of the Great Pyramid, as well as many ideas as to why they manifest themselves. We will go back in history to learn about the Rhind and Moscow Papyri by solving some of the very same problems the Ancient Egyptians solved thousands of years ago. With an understanding of Egyptian History, the ratios of Pi and Phi, as well as learning the skills of 2D and 3D geometric Constructions, each student will come up with their own conclusions as to how and why the Pyramids were built.

This course includes an additional $15 supply fee.

Grades 6-8, Week 4

Physics & Engineering: Building Bridges

Do you like building things? Do you want to learn how to build them better? Students who enroll in this high energy engineering course will learn about the physics of forces and machines, and discover ways to improve their engineering skills and develop into better engineers, no matter what they are building, or what materials they use to build! This course covers various branches of engineering, as well as concepts in forces, friction, and simple machines. Students in Physics & Engineering: Building Bridges work independently as well as in teams, and ultimately compete with their like-minded peer groups to build the tallest, strongest, and most efficient structures employing the principles, concepts, formulas, and laws of physics covered throughout class.

This course includes an additional $15 supply fee.

Grades 6-8, Week 4

Improv Sketch Comedy

Want to practice connecting with real audiences, sharpen your awareness, and improve your mental processing? Turn to comedy! This class is meant for students with or without theater backgrounds, just those with a desire to think on their feet and help an audience have a good time. We'll start with the basics of improv: connecting, building on ideas, and creating something new out of thin air. Then, you'll get a crash course in sketch writing and performance. Don’t worry if only your mom thinks you’re funny; if you’re willing to stretch yourself in new ways, and take on a challenge, this class is for you! Let this class be a

terrifically entertaining highlight in your summer program experience this year!
Grades 6-8, Week 4

HS WEEK: JULY 23-27

Spoken Word: Oral His/Herstory

Spoken word is a form of poetry similar to Hip Hop and/or rap music in that it has heavy and meaningful content delivered through voice…the *spoken word*. In this course students will learn to artistically bend nouns, hurl puns, and develop thoughtful imagery and rhyme scheme. They will learn to create patterns of paragraphs and poems filled with political, social, personal, economical, and world issues, turning it into strategic wordplay and powerful art. Students will delve into poetry's rich history as a whole, along its entire spectrum, ultimately focusing on the spoken word form of poetry. Students will learn to use their voices as instruments in the art of storytelling. They will learn to develop their ideas into creatively composed pieces of art, expressing their individuality, ideas, views, perspectives, opinions, and feelings, deliberately invoked through the power of the spoken word and the artful telling of oral histories.
Grades 9-12, *HS Week with Mr. Childress*

Mass Media and Propaganda: Examining the Role of Race, Class, Gender and Politics

This exploratory social science course is currently under construction and pending course description.
Grades 9-12, *HS Week with Mr. Stern*

Political Science: Model United Nations

For the globally minded citizen student the summer is a great time to explore the issues that abound in today's world. Students in this simulation class investigate the working and rules of the United Nations, chose a country to represent and investigate the issues of that country. The class culminates in a replication of a session of the UN. The class is intended to foster interest in world affairs, a knowledge of issues facing the countries of the world in these difficult times. Additionally, students will learn effective debating strategies, engage in healthy discussions and work collaboratively.
Grades 9-12, *HS Week with Mrs. Smith*

Science Olympiad

Science Olympiad is a collection of science-themed competitions, which high schools conduct at the local, state, and national level. It requires attention to detail, consistent effort, and usually the ability to work as a team. It can be a daunting world to get into, due to the challenges and the level of the competition. This week long course is designed to give high school students who would like to learn about several specific Science Olympiad competitions in a less nerve-wracking environment (i.e., away from their friends and teachers at their home school), so that they can more easily try new things and be coached to success.

For veterans of Science Olympiad tournaments, this week is a chance to get fresh ideas for improving their events or to try something new!
Grades 9-12, *HS Week with Mr. Hedden*