DOMINICAN UNIVERSITY

SUMMER GIFTED AND TALENTED PROGRAM

Summer 2026

course descriptions

Fostering the love of learning, the *Summer Gifted and Talented Program* at Dominican University provides meaningful academic and social enrichment to its entire community of exceptional learners, and is intended for motivated students entering grades 3-8 in the Fall.

***SGAT* is a powerful experience for academically gifted and talented students, exposing them to: like-minded peers and lifelong friendships; challenging hands-on learning experiences in university classrooms and labs; and an opportunity to blossom as confident lifelong learners and leaders in a tightly knit, safe and supportive environment. For so many of us, the *Summer Gifted and Talented Program* at Dominican University is the highlight of the year!**

DOMINICAN UNIVERSITY

***SGAT* Summer 2026**
Week 1: June 22-26
Week 2: July 6-10
Week 3: July 13-17
Week 4: July 20-24

WEEK 1: JUNE 22-26

Grades	Math or Science Reasoning	Verbal or Science Reasoning
< 2 >	Rising Scholars - Future Stars: A Starter Course	
3/4	Fibonacci Fun	Introduction to Letterboxing
4/5	Jurassic Park: Introduction to Genetics	All the World's My Stage (4-6)
5/6	Chess Masters (5-8)	Scratch That Code
6/7	Physics & Engineering: Bridge Building	Shaking Up Shakespeare (6-8)
7/8	Lab Science: Chemistry	Introduction to Ethics (6-8)

WEEK 2: JULY 6-10

Grades	Math or Science Reasoning	Verbal or Science Reasoning
3/4	LEGO Mathematics	Calling All Artists
4/5	Mathopoly	Rhythm & Rhyme: Poetry Palooza (4-6)
5/6	Explorations in Geometry	SketchUp Architecture (5-7)
6/7	Physics & Engineering: Rocket Science	Horticulture: Medicinal Food & Plants (6-8)
7/8	Philosophy of Mind & AI	Writers Workshop (6-8)

WEEK 3: JULY 13-17

Grades	Math or Science Reasoning	Verbal or Science Reasoning
< 2 >	Rising Scholars - Future Stars: A Starter Course	
3/4	Chess Academy (3-5)	Fantasy Arts (3-5)
4/5	Logic & Puzzlers (4-6)	This Just In! Introduction to Broadcasting
5/6	Rubik's Cube (5-8)	Comic Book Arts (5-7)
6/7		Creative Writing (6-8)
7/8	Physics & Engineering: Newton's Academy (6-8)	Agents of Disease: Intro to Microbiology

WEEK 4: JULY 20-24

Grades	Math or Science Reasoning	Verbal or Science Reasoning
3/4	Intro to Geometry: Tessellations & Patterns	Word Power Challenge
4/5	Roller Coaster Challenge	Young Authors Book Club
5/6	Rubik's Cube (5-8)	Magic School (5-8)
6/7	Stock Market Challenge	Rebel Readers: Banned & Censored (6-8)
7/8	Astrophysics	Epistemology

WEEK 1: JUNE 22-26

Rising Scholars - Future Stars: A Starter Course

In this introductory class, we welcome our youngest exceptional learners and rising 2nd graders with a special course catered to the characteristic learning styles of gifted scholars. An intentional emphasis is placed on social-emotional learning, physical movement, and increasingly challenging brain games, team building activities, as well as independent projects to highlight an exciting week for our youngest newcomers to SGAT. This is a required course for rising 2nd graders and other exceptional learners accepted for early participation.

Grade 2

Fibonacci Fun

The Fibonacci sequence was discovered by an Italian mathematician nicknamed Fibonacci, and 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 intriguing sequence can be found throughout nature and everywhere around us! Students in this fast paced class will become familiar with Fibonacci numbers as they 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 discover the fun in recognizing how Fibonacci's sequence relates to our everyday world while understanding the relevance of mathematical operations to these specific numbers.

Grades 3/4

Introduction to Letterboxing

Letterboxing began as a hobby in England over 200 years ago. It combines creative art along with outdoor fun as students spend class time orienteering, problem solving, and treasure hunting with their team partners based on different themes and objectives. A beautiful campus makes the perfect setting for students to explore this engaging and joyful activity while leaving only the mark of a personal stamp behind. This classic international pastime is delightful fun for all ages, and a hit for those who love the thrill of hide and seek adventure. If you enjoy geocaching, we invite you to give letterboxing a try!

Grades 3/4

Jurassic Park: Introduction to Genetics

How did the scientists in Jurassic Park bring back the majestic dinosaurs that once roamed the earth? The simple answer: Using the power of genetics! This crash course will discuss the concepts of genetics used

by scientists in the book and movie series. Students will learn about the structure of DNA, Punnett squares, mutations, natural selection, dinosaur evolution, mass extinctions, and genetic engineering to lead them to our ultimate project: creating their own hybrid creature based on an extinct and living species and a story to go along with it! *After all,* life, uh, *finds a way*.
Grades 4/5

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 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!
Grades 4-6

Scratch That Code!
Every student should have the opportunity to learn computer science. Coding has been referred to as 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* helps young people learn to think creatively, reason systematically, and work collaboratively – essential skills for life in the 21st century!
Grades 5/6

Chess Masters
To be good at chess, you will need a number of tools at your disposal. Avoiding mistakes is only the very beginning; knowing just how to take an advantage and convert it to a win is something different altogether. In this class, we aim to take a deeper look into the possibilities of the board. We will evaluate opening variation choices, examine related middlegame strategy and tactics, and master basic endgames. Knowledge of the rules and basic ideas of chess are required to get the most from this class.
Grades 5-8

Physics & Engineering: Bridge Building
Do you like building things? Want to learn how to make them better? In this course, we will practice with a few build competitions, but before and after each we will discuss the physics involved and use engineering tricks to improve our designs.

Students will learn about the kinds of stress and forces that buildings experience. They will learn how to use this knowledge to their advantage by using the strongest configurations possible to reduce the number of 'weak links' in their design. Students will learn about different types of bridges. Finally, students will compete in different build competitions
Grades 6/7

Shaking Up Shakespeare
This course description is currently under construction and pending release!
Grades 6-8

Introduction to Ethics
Have you ever wondered what makes something 'right' or 'wrong'? Are moral judgements based on something objective or subjective? Are moral standards universal? At the end of the day, why should one be moral? This philosophical course will examine theories of morality and challenge students with resolving a host of challenging ethical scenarios from the history of philosophy and literature.
Grades 6-8

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 lab science in general and in Chemistry, specifically.
Grades 7/8 (6th w/instructor approval)

WEEK 2: JULY 6-10

LEGO Mathematics

In this hands-on math building course, students will practice mathematical operations and gain speed with automaticity of math facts, patterns, probability as well as other math related skills and concepts utilizing Lego models and creative math builds and representations. Students will participate in a wide variety of individual and group activities, and engaging learning games, all while using LEGOs.
Grades 3/4

Calling All Artists

Develop your drawing, painting, and sculpture skills while examining the methods of master artists such as but not limited to 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.
Grades 3/4

Mathopoly

Learn math while playing Monopoly! Through hands-on application and experiential learning, students will gain a deeper understanding of percentages, fractions, and probability. *Mathopoly & Economics* 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 significant spaces on the board. This class will also introduce students to credit- how to establish it, use it, and the dangers of abusing it. *Mathopoly & Economics* students will develop their social skills and master the strategic art of negotiation.
Grades 4/5

Rhythm & Rhyme: Poetry Palooza

Do you love music, storytelling, rap, art and performing? Do you love being inspired by the world around you and expressing yourself through words, sound and movement? Perhaps you never thought about any of this but you are intrigued and willing to take a risk. If you said *Yes* to any or all of the above then Poetry Palooza is for YOU!

Students in this class will spend a week getting inspired, exploring various poetry techniques and types, sharing daily, and culminating with an Open House Poetry Palooza!

Poets leave with a personalized composition notebook filled with original writings, drawings and poetry, as well as an appreciation for poetry in various forms. And more importantly, the desire to continue to create.
Grades 4-6

Explorations in Geometry
This course description is currently under construction and pending release!
Grades 5/6

SketchUp Architecture
Sketchup is a simulated 3D modeling program, and will be presented with a series of exercises utilizing the archetype of the house to learn to build virtual 3D models. We will discuss three-dimensional perspectives in everyday life and there will be graphical hands-on diagrammatic exercises to lead in the sketching of perspective drawing. Simple exercises emphasize the concept.

Running parallel to the 3D modeling will be investigation into various organizational exercises based on the Golden Ratio derived from the Fibonacci Sequence as a graphic proportioning tool and as it applies to the aesthetics of a rectangle and how its incorporation in historical and contemporary designs throughout the world. The human scale is discussed and emphasized in the model building exercises.The sun and shadow casting feature of SketchUp will also be introduced to simulate seasons and different times of day shadows to highlight the virtual model building experience.
Grades 5-7

Physics & Engineering: Rocket Science
Blast off in this popular rocketry class! 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. We will discuss tips to optimize a rocket against things like air resistance drag, and practice rocket launch safety. Using shortcuts of advanced physics equations will help us to determine maximum altitude and find the winner of our rocket contest at the end of the week!
Grades 6-8

Horticulture: Medicinal Food and Plants
Where do medicines come from? In *Horticulture: Medicinal Food and Plants*, we will learn how our modern-day medicines were discovered and the science behind medicinal plants that support better health and have saved lives. Students will have hands-on experience growing medicinal plants, learn traditional and modern day preparation practices making herbal drinks, salves and more. We'll explore plants we eat

that provide healthful benefits, and learn about the bio active compounds in medicinal plants.

We'll also review the legal and ethical practices in the horticulture industry regarding the growing, harvesting, and selling of medicinal plants and discover the many common medicinal plants, trees, and shrubs that grow in our yards, parks, and lands locally.
Grades 6-8

Philosophy of Mind and AI
What does it mean to have a mind? How does your brain work to create your experiences? Can computers be conscious too? Through study of philosophy, biology, and computer science, you will tackle the hard problem of how your body and mind interact. In addition, we will explore machine "intelligence" and attempt to discover whether non-biological machines may think, be conscious, or even surpass human intelligence. Interested students will also receive a primer in how to use Large Language Models (LLMs).
Grades 7/8 (6th w/instructor approval)

Writers Workshop: The Art of Storytelling
In this workshop, students will learn the elements of story writing from creating characters, settings, and plots to resolution of the story line. The young writers will engage in group story construction over the course of the week and will present their groups' stories to their parents during the open house on Friday. Additionally, writers will craft their own individual stories employing the concepts learned in the class. Whatever form these stories take is entirely up to the student and can include their own take on everything from graphic novels to fan fiction to novels in verse. Use of the imagination combined with setting up a solid story structure is the emphasis here, as is having fun and playing with the process!
Grades 6-8

WEEK 3: JULY 13-17

Rising Scholars - Future Stars: A Starter Course
In this introductory class, we welcome our youngest exceptional learners and rising 2nd graders with a special course catered to the characteristic learning styles of gifted scholars. An intentional emphasis is placed on social-emotional learning, physical movement, and increasingly challenging brain games, team building activities, as well as independent projects to highlight an exciting week for our youngest newcomers to SGAT. This is a required course for rising 2nd graders and other exceptional learners accepted for early participation.
Grade 2

Chess Academy
Chess will make you smarter. In fact, it will make you more patient, focused, and careful too, which are some of the reasons the royal game has been played in some fashion for over 1,000 years. This class will show you how to improve yourself through the game of chess and lay a foundation for success across the board. We will introduce students to core concepts in all three phases of the game while teaching vital critical thinking skills such as forward thinking, evaluating consequences, analyzing candidate ideas, pattern recognition, and how to develop and implement a strategy. No chess experience is required to have a blast playing chess in this class!
Grades 3-5

Fantasy Arts
In this immersive weeklong class, students will become fantasy authors and illustrators alike. Through mentor texts, guided writing workshops, and curated art studio sessions, students will craft an original fantasy story featuring a well-developed main character, richly imagined fantasy setting, and culminating in a beautifully designed fantasy book to share with family and friends! Students in *Fantasy Arts* will learn how writers and artists work together to bring stories to life, ultimately creating a complete illustrated book to share with artful readers.
Grades 3-5

Logic and Puzzlers
What are the mental tools humans use to solve problems? In this class, we will develop our potential to reason. Through brain teasers, logic puzzles, math/wordplay riddles, mysteries, lateral thinking problems and material challenges, you will hone your problem-solving ability. You will be given an introduction to deductive and inductive logic, and you will explore famous problems faced by ancient and modern cultures

and the solutions they uncovered. If you like puzzles and riddles, this is the class for you!
Grades 4-6

***This Just In!* Introduction to Broadcasting**
This innovative 5-day course explores all facets of modern broadcasting: from script, and production to broadcast dissemination - students will learn all aspects of broadcast journalism with emphasis on critical thinking, aesthetics, and messaging. In just 5 days, students acquire basic journalism principles, editing skills, and editorial judgment.
Grades 4/5

Rubik's Cube
Can you solve a Rubik's cube? This class will teach you everything you need to know to succeed. Whether you are brand new to cubing or eager to enter a competition, this practice intensive week will help you take your skills to the next level. As we learn to solve the cube, we will also discover the history behind its invention, how it became a global competitive phenomenon, the importance of algorithms to modern life, and how to broadly apply the critical thinking skills that cubing teaches us.
Grades 5-8

Comic Book Arts
This is a class for students who are passionate about storytelling and images. Comic book art uses drawn pictures to visually tell a story, to express a point, and to make people laugh or become captivated in a gripping storyline. Comics can be thought provoking and engaging through humor, be it satire, dry wit, whimsy or politically charged, using visual images often combined with text. Students in this class will master the five elements of comic art by curating their unique image style, words and containers, word-image relationships, undrawn inferences, and layout through storyboards. This class is intended for both the hand-drawn and software generated experience, which will be showcased during Open House at the end of the week.
Grades 5-7

Physics & Engineering: Newton's Academy
Every time something accelerates or touches another object, forces are acting on it. Therefore, knowing how forces can affect and effect motion is an important part of understanding how the Universe works. In Newton's Academy, we will study the contributions of Sir Isaac Newton. Specifically, we will be studying his three laws of motion and their ramifications for driving, flying, space travel, and popular misconceptions. We will also learn about related topics such as constant velocity, acceleration, and pressure. This class will

involve a little math where students must solve for a variable, but will primarily focus on gaining a conceptual understanding of physics.

Students will learn about Newton's laws of motion, standard scientific units, and related physics topics. By conducting demonstrations, giving presentations, as well as scoring their growth with a pre- and post- test, students will be masters of their own learning trajectory. Most of all, students will have fun!
Grades 6-8

Creative Writing
Have you ever wanted to write a screenplay? How about a novel? A short story? What about a collection of poems? In this class, you will have the time and space to write in whatever genre you want, about whatever topic you want. Our focus will be on the writing process as well as on the finished product. You will brainstorm, outline, draft, and revise your piece(s) individually and with your classmates and teacher. If you can dream it, you can write it!
Grades 6-8

Agents of Disease: Introduction to Microbiology
From endemic pathogens to epidemics and pandemics, it is impossible to escape the agents of disease. Students in this course will get an introduction to microbiology with hands-on simulations, games, and virtual labs to learn about the different agents of disease, the immune system, vaccines and herd immunity, bacterial morphology, and virus morphology. The course ends with the “Build-A-Badder Virus” project for students to apply what they have learned to create their ultimate virus, both in written and 3D formats.
Grades 7/8

WEEK 4: JULY 22-26

Introduction to Geometry: Tessellations & 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.
Grades 3/4

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 Jumble, Crossword Puzzles, Scrabble, Boggle, Scattergories, Password, CatchPhrase, Blurt, and more! Incorporating Greek and Latin roots, interactive class activities 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 3/4

Roller Coaster Challenge
In this fast-paced and thrill seeking class, students utilize important science, engineering, and math principles to build different aerodynamic products and inventions from egg protectors that get dropped off the rooftop to model roller coasters. Students will learn how to think like an engineer as they design their products while using scientific concepts, math as well as technology to help them understand the success (or failure) of their design. Students will also be encouraged to be creative throughout the building process and collaborate ideas in individual or team based events. It's all about gravity and motion in this challenge!
Grades 4/5

Young Authors Book Club
Students in the *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 and interpret through their own personal lens.
Grades 4/5

Rubik's Cube
Can you solve a Rubik's cube? This class will teach you everything you need to know to succeed. Whether you are brand new to cubing or eager to enter a competition, this practice intensive week will help you take your skills to the next level. As we learn to solve the cube, we will also discover the history behind its invention, how it became a global competitive phenomenon, the importance of algorithms to modern life, and how to broadly apply the critical thinking skills that cubing teaches us.
Grades 5-8

Magic School
This course description is currently under construction and pending release!
Grades 5-8

Stock Market Challenge
This course description is currently under construction and pending release!
Grades 6-8

Rebel Readers: Banned & Censored
"Censorship is the child of fear and the father of ignorance" -Laura Halse Anderson

Article 26 of the Universal Declaration of Human Rights reads, "Everyone has the right to education… Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace." As part of this fundamental right, children learn to read, and numerous studies have proven that reading fiction, in particular, increases empathy and promotes understanding of people whose lives are different from our own.

Parents also have the right to decide what they want their children to read. However, the battle between those who want to control what everyone's children read (whether at the local or national level) and those who want to ensure that access to literature remains free have led to many conversations about who gets to decide what is available where. In this class, we will explore the big ideas of censorship, governmental reach, the importance of literature, and how our society (authors, readers, teachers, students, and parents) responds to book bans.
Grades 6-8

Astrophysics

If you are like me, 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 explore the cosmos through a few labs and games, independent study of a topic in astrophysics that interests them, and designing their own space program. 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 it happens that 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. The week ends with a “Poster Talk” with their parents at Open House, explaining about something they learned about that interests them.
Grades 7/8 (6th w/instructor approval)

Epistemology

What counts as knowledge? How can you be certain what you *think* you know is really true? This course will challenge you to examine the relationship between your beliefs, knowledge, and objective evidence. Students in this course will examine the history of logic and philosophy including Plato, Aristotle, and Descartes to establish the necessary conditions for knowledge, truth, and validity. You will be empowered to construct, support, and share arguments of your very own while learning how to research and verify information from digital sources.
Grades 7/8 (6th w/instructor approval)