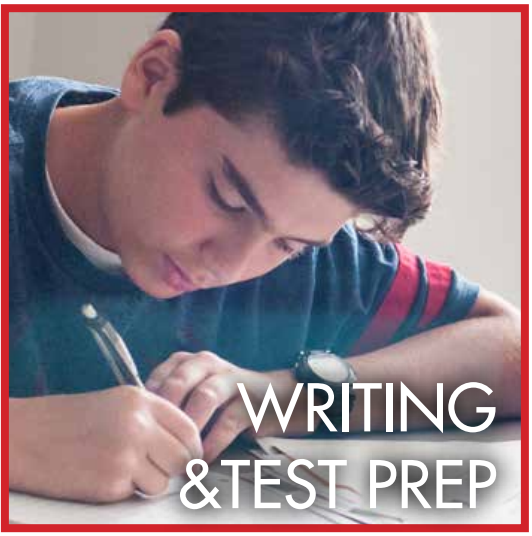
# 2019 SUMMER

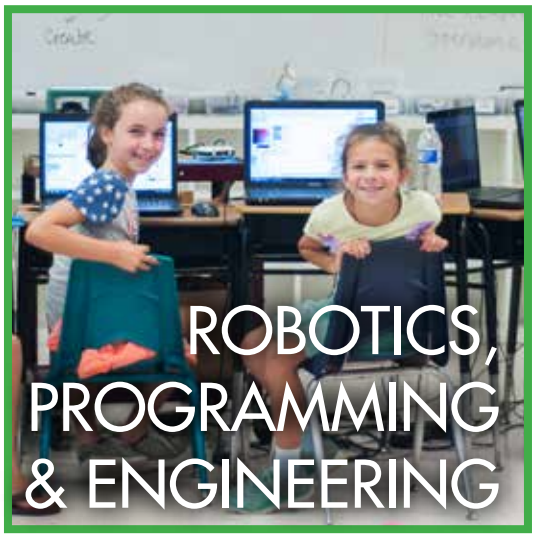
FAIRFAX COLLEGIATE
Have Fun And Learn
1993

FOR RISING GRADES 3-12











10 NO. VA LOCATIONS

# FAIRFAX COLLEGIATE SUMMER 2019

This summer your child can have fun *and* learn!

Since 1993, the Fairfax Collegiate Summer Program has provided challenging and engaging courses in writing, reading, math, science, test prep, public speaking, engineering, robotics, programming, Minecraft, art, design, and filmmaking.

Small classes take place in a relaxed and informal atmosphere at our ten locations throughout Northern Virginia. Courses are built around creative activities that are captivating and entertaining, as well as informative.

Summer Program instructors include undergraduate and graduate students at leading universities, as well as area public and private school teachers. They take into account each student's interests and needs, and students are able to get help from an instructor at any time. Breaks include soccer, basketball, and other sports.

Over 4,000 students attended Fairfax Collegiate programs last year. Register today to reserve your child's opportunity for academic and creative growth at Fairfax Collegiate!



## SUMMER PROGRAM LOCATIONS

### Alexandria Campus
Beth El Hebrew Congregation
3830 Seminary Rd.

### Annandale Campus
St. Michael Catholic School
7401 St. Michael's Ln.

### Ashburn Campus
St. Theresa Catholic School
21370 St. Theresa Ln.

### Chantilly Campus
St. Timothy Catholic School
13809 Poplar Tree Rd.

### Dulles Campus
St. Veronica Catholic School
3460-B Centreville Rd.

### Fairfax Campus
Gesher Jewish Day School
4800 Mattie Moore Ct.

### McLean Campus
Redeemer Lutheran Church
1545 Chain Bridge Rd.

### Reston Campus
Northern Virginia Hebrew Congregation
1441 Wiehle Ave.

### Tysons Campus
BASIS Independent McLean
8000 Jones Branch Dr.

### Vienna Campus
Green Hedges School
415 Windover Ave. NW

# PROGRAM OVERVIEW

## SUMMER SESSION PRICING

| Session | Start Date | End Date | Duration | Half Day | Full Day |
|---|---|---|---|---|---|
| Session 1 | June 17 | June 28 | 10 days | $465 | $735 |
| Session 2 | July 1 | July 12 | 9 days* | $420 | $670 |
| Session 3 | July 15 | July 26 | 10 days | $465 | $735 |
| Session 4 | July 29 | August 9 | 10 days | $465 | $735 |
| Session 5 | August 12 | August 23 | 10 days | $490 | $790 |

*No class July 4

**Early Registration Discount:**
**Save 5% when you register and pay in full by March 15**

**Siblings/Multiple Sessions:**
**Save 5% when you register siblings or for multiple sessions**

### Program Times

Morning 8:30 a.m. to 12:00 p.m.
Afternoon 12:30 p.m. to 4:00 p.m.
Full Day 8:30 a.m. to 4:00 p.m.

### Extended Care Hours

Morning 7:30 a.m. to 8:15 a.m.
Afternoon 4:15 p.m. to 6:00 p.m.

### Extended Care Fee

Morning $90 per 10 day session
Afternoon $90 per 10 day session

### Office

722 Grant St., Suite J
Herndon, VA 20170
Tel: 703 481-3080
Fax: 703 481-3081

## SUMMER PROGRAM REGISTRATION

Plan your child's schedule and register online at *www.FairfaxCollegiate.com*

### Grade Levels and Placement

Course grade levels are *rising grade levels*, the grade levels students will enter in the Fall of 2019. Please contact us before enrolling a child in a course designated for older or younger students.

### Registration Deadlines

We enroll students until classes are full. Many classes are full by late April. We maintain waiting lists for full classes.

### Payment Options

A non-refundable deposit of $100 per session (applied to the total cost of the program) is due at registration. The balance is due May 1, 2019. There is a 5% discount for full payment by March 15.

### Registration Changes

Registration changes may be made at no charge if the total number of classes remains the same or increases.

### Cancellation Policy

For cancellations before May 1, Fairfax Collegiate will refund program fees less the non-refundable deposit of $100 per session. After May 1, we will provide a credit for program fees paid for use by a family member in a future program.

### Emergency Contact Form

There is a one-page *Emergency Contact and Permission Form*. There is no required health form.

### Complete Participation Terms

Please visit *www.FairfaxCollegiate.com/summer/participation-terms*.

# WRITING AND READING

## Writing Fundamentals
Grades 3-4

Students write and revise sentences, paragraphs, and short essays.

This course emphasizes word choice, spelling, sentence structure, paragraph organization, and proofreading.

Instructors provide detailed suggestions for improving spelling and grammar as well as ideas and organization.

## Writing & Revising
Grades 3-4

Students write, revise, and discuss personal narratives, essays, short stories, and poems.

Topics include writing organized paragraphs, constructing persuasive written arguments, providing constructive criticism, and revising drafts. Instructors provide detailed written and verbal feedback on student work.

The final project is a class literary anthology.

## Story Writing
Grades 3-4

In this creative writing course, students learn to craft their own stories. They practice the writing process and explore components of an effective story. Topics include compelling characters, memorable settings, plot outlines, and point-of-view.

Students workshop their stories in class and receive detailed feedback from instructors. For the final project, students create their own short stories.

## Reading Reinforcement
Grades 3-4

This course emphasizes reading as well as writing.

Students read, discuss, and respond to diverse readings including poems, fables, stories, essays, and journalism.

Assignments include summaries, reading comprehension exercises, and interpretations.

## Writing Skills & Grammar
Grades 5-6

This writing course focuses on organization, paragraph construction, grammar, spelling, and mechanics.

Topics include brainstorming, outlining, thesis statements, sentence structure, transitions, essay organization, active voice, word choice, and common errors.

## Writing for Middle School
Grades 5-6

This course focuses on the five-paragraph essay, the mainstay of writing across the middle school curriculum.

Students learn how to use thesis statements and supporting sentences to structure paragraphs, and how to use paragraphs to structure essays.

The course emphasizes revision based on instructors' detailed corrections and suggestions. Students write and revise daily five-paragraph essays.

## Expository Writing
Grades 5-6

Students practice writing explanations of ideas, arguments, and processes.

This course emphasizes organization and logical thinking. Student construct paragraphs and short essays with thesis statements, supporting arguments and evidence, transitions, and conclusions.

Assignments include written presentations of concrete and abstract ideas, short persuasive essays, and exercises that require students to write recipes, directions, and algorithms.

## The Writing Process
Grades 5-6

Students prewrite, draft, revise, edit, and share fiction, nonfiction, and poetry.

Instructors guide students through each step of the writing process and provide detailed feedback. Students improve their ideas, organization, spelling, and mechanics.

For a final project, students create a class anthology of essays and stories.

## Creative Writing
Grades 5-6

Students read, write, and discuss personal narratives, short stories, plays, and poems.

Students revise drafts of their works based on instructors' written comments.

The final project is a class literary anthology. Students may enter their works into writing contests.

## Strategic Reading
Grades 5-6

Students learn and apply reading strategies and tools including close reading, looking for cause and effect, note-taking, outlining, paraphrasing, questioning, skimming, summarizing, and synthesizing.

Students write and revise responses to readings from newspapers, essays, biographies, speeches, and short stories.

## Writers' Workshop
Grades 7-9

This course provides middle school students with intensive practice in writing. Classes are small-group seminars.

Students learn the entire writing process including brainstorming, outlining, composing, editing, and revising.

Writing assignments include short stories, poems, articles, and personal essays.

## High School Writing
Grades 7-9

Students practice short-form high school-level writing focusing on five-paragraph essays.

Topics include essay and paragraph structure, persuasive arguments, thesis statements, clean style, mechanics, grammar, diction, and idioms.

Students write and revise daily five-paragraph essays.

## Reading for Meaning
Grades 7-9

This is an introduction to critical reading and writing. Genres include short stories, journalistic writing, essays, and poetry.

Classroom exercises develop important literary analytical tools including compare/contrast, cause/effect, and prediction.

Students write a variety of compositions on the results of their analyses and the literary themes expressed in the texts. They also write an original work.

## Analytic Writing
Grades 7-9

This course is about constructing and evaluating written arguments.

As a group, students read, discuss, critique, and rebut a variety of essays, speeches, and articles that present and support complex ideas.

Students write, discuss, and revise their own original analytic writing about topics of personal interest. Instructors provide students with detailed individual suggestions for improvement.

## Research Writing
Grades 7-9

Students practice writing high school-level research papers.

Instructors discuss genres of research papers, choosing topics and identifying audiences, locating and evaluating online, print, and primary sources, organizing research papers, and research paper mechanics.

Students write and revise two four-page high school-level research papers based on instructors' corrections and suggestions. Fairfax Collegiate provides computers that students use to research and write papers.

## Academic Writing
Grades 9-12

Students write and revise short papers and essays on topics of personal interest and learn academic editorial and citation styles.

The course is taught in a seminar style and features discussion of notable examples of different forms of academic writing.

Students write daily in academic style and receive detailed corrections and suggestions for improvement from instructors.

## College Application Essays
Grades 9-12

This course explores how different colleges use application essays, how to write effective essays, and how to use essays to differentiate and position college applications.

The course is taught as a seminar. Students present their college admission goals and positioning strategies, brainstorm essay topics and approaches, and write, discuss, and revise admission essays.

# MATHEMATICS

## Fairfax Collegiate Math 3-4
Grades 3-4

Keep your math skills sharp over the summer.

Fairfax Collegiate Math 3-4 covers the same topics as public school 3rd and 4th grade math classes, including: addition and subtraction, multiplication and division, fractions, decimals, measurement, geometry, probability, patterns, graphing, and word problems. Students take a diagnostic test on the first day of class to help the instructor determine the optimal selection and pacing of topics for their needs.

Each day's schedule includes small-group instruction, individual practice, one-on-one coaching, enrichment, and math games.

## Math Fundamentals 3-4
Grades 3-4

This course is designed to meet the needs of 3rd and 4th grade students looking for additional support in meeting grade level standards.

Each lesson centers around the use of physical models such as base 10 blocks, two-color counters, and fraction circles. Once students understand how to use each model, they learn to connect their understanding back to typical pen-and-paper methods. This unique approach, combined with the small class size, promotes a well-rounded understanding of math and builds confidence.

The specific areas of focus are: addition and subtraction, multiplication and division, fractions, decimals, and measurement.

## Word Problems
Grades 3-4

This course is designed for students wishing to practice Math 3 and Math 4 topics in a more challenging environment.

Emphasis is placed on providing students with a wide variety of opportunities to solve word problems. Instructors provide both strategies and individualized coaching to help students suceeed.

Students will receive a combination of instruction, individual practice, enrichment, and math games on each day of class.

## Fairfax Collegiate Math 5-6
Grades 5-6

Make the transition from elementary to middle school math with confidence.

Fairfax Collegiate Math 5-6 covers the same topics as public school 5th and 6th grade math classes, including: fractions, decimals, integers, geometry, perimeter and area, statistics, ratios and proportions, and algebra. Students take a diagnostic test on the first day of class to help the instructor determine the optimal selection and pacing of topics for their needs.

Each day's schedule includes small-group instruction, individual practice, one-on-one coaching, enrichment, and math games.

## Math Fundamentals 5-6
Grades 5-6

This course is designed to meet the needs of 5th and 6th grade students looking for additional support in meeting grade level standards.

Each lesson centers around the use of physical models such as algebra tiles, two-color counters, and fraction circles. Once students understand how to use each model, they learn to connect their understanding back to typical pen-and-paper methods. This unique approach, combined with the small class size, promotes a well-rounded understanding of math and builds confidence.

The specific areas of focus are: fractions and decimals, integers, geometry, and variables and simple equations.

## Problem Solving
Grades 5-6

In this course, students' logic and reasoning skills are challenged in new ways that go beyond the difficulty of regular school year Math 5 or Math 6 classes.

Emphasis is placed on providing students with a wide variety of opportunities to solve word problems. Instructors provide both strategies and individualized coaching to help students succeed.

Each day of class, students receive a combination of instruction, individual practice, enrichment, and math games.

## Fairfax Collegiate Math Courses

Fairfax Collegiate mathematics courses help students review or get a head start on material covered in regular school year math courses. Each course features:

1. A diagnostic test to help us plan an individualized course of study for your student
2. A final test that highlights areas of growth and areas for further practice
3. Frequent progess updates from the instructor
4. Practice materials that students take home at the end of the course

## Math for Middle School
Grades 5-6

This accelerated course is designed to meet the needs of students who have mastered grade-level math standards and are looking for an opportunity to work ahead.

The course closely aligns with topics that would usually be part of a 7th to 8th grade curriculum, such as: algebraic expressions and equations, slope and graphing, transformations, and complex geometry problems involving area, perimeter, surface area, and volume. Students take a diagnostic test on the first day of class to help the instructor determine the optimal selection and pacing of topics for their needs.

Each day's schedule includes small-group instruction, individual practice, one-on-one coaching, enrichment, and math games.

## Fairfax Collegiate Math 7-8
Grades 7-8

Reinforce critical middle school math skills.

Fairfax Collegiate Math 7-8 covers the same topics as public school 7th and 8th grade math classes, including: rational and irrational numbers, evaluating expressions, solving equations, proportional and additive relationships, slope and graphing, geometry, volume and surface area, and transformations. Students take a diagnostic test on the first day of class to help the instructor determine the optimal selection and pacing of topics for their needs.

Each day's schedule includes small-group instruction, individual practice, one-on-one coaching, enrichment, and math games.

## Intro to Algebra
Grades 7-9

Prepare for the challenges of high school Algebra.

In this course, students prepare for the increased rigor and demand of a high school level Algebra 1 course. Topics include: evaluating expressions, the language of algebra, solving equations and systems of equations, relations and functions, slope, graphing and writing linear equations, simplifying exponents, operations on polynomials, factoring, and solving quadratic equations. Students take a diagnostic test on the first day of class to help the instructor determine the optimal selection and pacing of topics for their needs.

Each day's schedule includes small-group instruction, individual practice, one-on-one coaching, enrichment, and math games.

## Intro to Geometry
Grades 7-9

Prepare for the challenges of high school Geometry.

In this course, students prepare for the increased rigor and demand of a high school level Geometry course, including: distance, midpoint, and slope formulas, constructions, parallel lines and angles, triangle properties, congruent, similar, and right triangles, quadrilaterals, polygons, circles, 3D figures, and transformations and symmetry. Students take a diagnostic test on the first day of class to help the instructor determine the optimal selection and pacing of topics for their needs.

Each day's schedule includes small-group instruction, individual practice, one-on-one coaching, enrichment, and math games.

## Intro to Algebra II
Grades 9-12

This course addresses concepts central to Algebra II, including: operations on rational and radical expressions, factoring and solving polynomials, complex numbers, sequences and series, exponential and logarithmic functions, statistics, and permutations and combinations. Students take a diagnostic test on the first day of class to help the instructor determine the optimal selection and pacing of topics for their needs.

Each day's schedule includes small-group instruction, individual practice, one-on-one coaching, and math games.

## Intro to Pre-Calculus
Grades 9-12

This course is a focused workshop for the concepts necessary to succeed in Precalculus, including: a careful review of Algebra 2 topics, solving and graphing trigonometric equations, inverse and composite trig functions, vectors, matrices, and limits. Students take a diagnostic test on the first day of class to help the instructor determine the optimal selection and pacing of topics for their needs.

Each day's schedule includes small-group instruction, individual practice, one-on-one coaching, and math games.

## Intro to Calculus
Grades 9-12

This course is a focused workshop for the concepts necessary to succeed in Calculus, including: limits, estimating and calculating derivatives, applications of derivatives, estimating integrals, calculating indefinite and definite integrals, and applications of integrals. Students take a diagnostic test on the first day of class to help the instructor determine the optimal selection and pacing of topics for their needs.

Each day's schedule includes small-group instruction, individual practice, one-on-one coaching, and math games.

# SCIENCE

## Chemistry Concepts
Grades 3-4

Students perform experiments to learn about key chemistry concepts: matter, forces, heat, energy, phase changes, acids, bases, and reactions.

Students also learn important chemistry terminology and laboratory methods.

Students work in small groups. Instructors closely supervise students, and experiments are age-appropriate and use only non-hazardous chemicals and supplies.

## Spy Science
Grades 3-4

Students learn the secrets of spying, sleuthing, and subterfuge. Hands-on activities help students hone their detective skills by teaching real life techniques used in information collection and undercover work.

Topics include fingerprint and handwriting analysis, chemical analysis, forgery identification, homemade spy gadgets and surveillance tools, encryption, and code breaking. Students conduct spy missions to integrate what they have learned throughout the course.

## Hands On Science
Grades 3-4

The course is divided into three units: biology, chemistry, and physics. Each day features two or three different hands-on activities.

Biology activities include plant, bacteria, microscope, and epidemiology labs. Chemistry activities include water labs, chemical reaction labs, and acid and bases labs. Physics activities include force and friction labs, bridge building experiments, and energy and power labs.

## Chem Workshop
Grades 5-6

In this hands-on, activity driven class, students explore central chemistry topics including experimental design, the periodic table, atomic structure, chemical bonds and reactions, acids and bases, phase changes, pressure and temperature, and solubility.

Activities include modeling atoms, making casein glue, investigating fluid viscosity, simulating acid rain, refining invisible inks, and exploring chemical reactions.

## Human Biology & Anatomy
Grades 5-6

This course is an introduction to human physiology, focusing on four key organ systems: the cardiovascular system, the digestive system, the nervous system, and the skeletomuscular system.

Daily class activities include reading assignments, discussions, hands-on exercises, experiments, working with human skeleton and body anatomy models, and medical simulations. Students create life-sized posters of their organ systems.

## Physics
Grades 5-6

This is a broad introduction to physics at a middle school level, including basic kinematics, optics, and electromagnetism.

Topics include force, work, motion, potential energy, kinetic energy, chemical energy, friction, electricity, magnetism, light, wave, and heat transfer.

Activities include constructing motors, batteries, and steam engines, performing experiments in optics and magnetism, and learning about kinematics and force using air tracks, pulleys, dynamics carts, and spring scales.

## Forensic Science
Grades 5-6 & Grades 7-9

This is a hands-on introduction to the science and laboratory techniques of law enforcement.

Lab topics include crime scenes, tool marks, chemical analysis, counterfeit documents, dental impressions, fiber identifications, fingerprints, glass fractures, handwriting analysis, forgeries, ink chromatography, shoe prints, forensic anthropology, blood splatter patterns, and DNA electrophoresis.

As a final project, each class attempts to solve a simulated crime using the forensic techniques learned.

## Genetics
Grades 7-9

This is a high school-level presentation of genetics for advanced middle school students.

Topics include Mendelian genetics, the cell, DNA, chromosomes, mutations, cancer, bacterial transformation, recombination, viruses, genetic engineering, transcription and translation, evolution, and the human genome.

Activities include readings and discussions, hands-on activities, demonstrations, short research papers, and student presentations.

## Animal Physiology
Grades 7-9

Students learn about animal anatomy, physiology, and organ structures across a variety of taxonomies by completing dissections. They learn about major differences in physiology between different phyla and classes and discuss evolutionary adaptation.

Students complete a variety of laboratory dissections of preserved specimens, including owl pellets, annelids, frogs, rats, sheep brains, and dogfish sharks.

Topics include animal taxonomy, skeletal and organ structures, nervous, circulatory, and digestive systems, and convergent and divergent evolution.

## Neuroscience
Grades 7-9

Students learn about the nervous system.

Topics include brain structure, motor control, neurons, neurotransmitters, action potentials, signal transduction, potentiation, memory, and neurodegenerative diseases.

Experiments include computer simulations, insect and human motor nerve signal measurement, and brain wave pattern observation and interpretation.

## Lasers
Grades 7-9

Students learn about laser safety, properties, theory, and design through demonstrations and experiments.

Experiments cover fiber optics, reflection, refraction, holograms, and lasers as measurement tools. Topics include laser design, laser physics, types of lasers, and laser applications.

Laser projects include measuring refraction indices, navigating laser mazes, experimenting with fiber optics, and building spectroscopes.

This course uses only low-power, "eye-safe" lasers, and students wear safety goggles.

## Newtonian Physics
Grades 7-9

This is a high-school level presentation of classical mechanics for students who are comfortable with basic algebra.

Topics include Newton's laws, kinematics, inertia, forces, energy, work, friction, vectors, velocity and acceleration.

Experiments explore distance, velocity, acceleration, and force using air tracks, dynamics carts, ballistic cars, pulleys, and spring scales.

# PUBLIC SPEAKING

## Persuasive Speaking
Grades 3-4

Students practice developing and delivering skillful, thoughtful, and well-reasoned arguments.

Topics are of direct relevance to students. Students argue both for and against each proposition.

Instructors emphasize mutual courtesy and careful listening.

## Public Speaking
Grades 3-4

Students write and deliver short speeches and presentations on topics of their own choosing in a comfortable setting.

Instructors provide detailed individual suggestions for improving both content and delivery.

Students learn how to encourage each other and provide constructive feedback.

## Elementary Debate
Grades 5-6

This course introduces elementary students to parliamentary debate.

Debate topics are both challenging and directly relevant to students. The rule structure is less rigid than standard parliamentary debate rules.

Group exercises develop public speaking, critical reasoning, argument construction, rebuttal, and evidence presentation skills.

## Speech
Grades 5-6

Students deliver written, extemporaneous, and impromptu speeches.

Instructors critique voice inflection, eye contact, body language, gestures, word choice, visual aids, and tone.

The first week features daily speech exercises. Students research, write, and rehearse individual speeches the second week.

## Leadership
Grades 5-6

Students become comfortable taking initiative and advocating and defending courses of action on important issues in public forums.

Instructors help each student select a local or national issue of personal concern and devise a proposal to address the issue. Students then present their solutions and respond to the audience's objections, concerns, and suggestions.

This exercise is repeated the second week with students incorporating their experiences from the first week.

## Middle School Debate
Grades 7-9

Students engage in debates which involve a wide variety of issues of public concern at the local, state, national, and global level, as well as topics that are of direct relevance to students.

This course is based on the Middle School Public Debate Program (*http://www.middleschooldebate.com*).

## Mock Trial
Grades 7-9

Students take on courthouse roles such as attorneys, witnesses, and jurors in a mock trial presided over by an instructor-judge.

Activities include selecting jurors, delivering opening statements, examining witnesses, presenting evidence, making closing arguments, and deliberating verdicts. Discussions address the role of courts, due process, justice, differences between civil and criminal trials, and standards of proof.

## Model U.N.
Grades 7-9

Students act as ambassadors to the U.N. Security Council and work to resolve international disputes. They develop critical thinking, negotiating, public speaking, debating, and writing skills.

Topics include the United Nations, the U.N. Security Council, U.N. rules and procedures, speech-making, negotiating, caucusing, and drafting resolutions.

# TEST PREP

## T.J. Exam Prep
Grades 7-8

Middle school students prepare for the first round of the Thomas Jefferson High School Admissions Exam.

This course is fully up-to-date for the Fall 2019 TJ Exam and covers each of the three components of the exam in depth (ACT Aspire Reading/Science and Quant-Q Math), plus a variety of effective test-taking strategies.

The course also covers the details of the rest of the TJ Admissions process, including information about the TJ SIS Essay Test taken by semifinalists who pass the TJ Exam in the first round.

Course materials include Fairfax Collegiate's exclusive TJ Exam Prep guide, and The Official ACT Prep Guide. Each student takes two full-length practice tests and receives an evaluation detailing areas for improvement based on their scores.

## T.J. SIS Essay Prep
Grades 7-8

Middle school students prepare for the semifinalist round of the Thomas Jefferson High School Admissions Exam: the Student Information Sheet (SIS) Essay Test.

Students are exposed to typical SIS essay prompts and learn what the TJ Admissions Committee is looking for in their essays. They also prepare for the "Problem-Solving Essay" section, which requires a written response to a challenging mathematics or science-related question.

The course includes significant time practicing personal statements, instruction and feedback in writing organized, informative, and grammatically correct essays, and strategies for how to efficiently work under time constraints.

The course features Fairfax Collegiate's exclusive TJ SIS Essay Prep guide.

## Loudoun AOS Prep
Grades 7-8

Students prepare for the first round of the Loudoun Academies of Science Admissions process: the PSAT exam and the California Critical Thinking Disposition Inventory (CCTDI). Students review content and format for each of the three sections of the PSAT, examine sample CCTDI items, and learn a variety of effective test-taking strategies.

The course also provides information about the Loudoun AOS Admissions finalist round, including the CCTST-N test, the writing prompt, and the candidate interest statement.

Course materials include the latest version of Barron's PSAT/NMSQT prep guide. Each student takes two full-length practice tests and receives an evaluation detailing areas for improvement based on their scores.

## PSAT Prep
Grades 7-9

Students prepare for the reading, writing, and mathematics sections of the PSAT, the qualifying test for the National Merit Scholar program.

The math review covers algebraic expressions and equations, graphical representations, and statistics, and strategies for the calculator and no-calculator portions of the test. The reading and writing review emphasizes grammar and mechanics, locating information, making inferences, and analyzing rhetoric.

Students complete two practice PSAT tests and become familiar with PSAT question formats, test scoring, and time-management. Students receive evaluations detailing areas for improvement and suggestions for further preparation.

Course materials include official practice tests published by the maker of the exam and commercial test prep books.

## SAT Prep
Grades 9-12

Students prepare for the math, reading, writing, and essay sections of the SAT.

The math review covers SAT Algebra, Geometry, and Algebra 2 topics and strategies for the calculator and no-calculator portions of the test. The reading and writing review emphasizes locating and synthesizing information, making inferences, and analyzing rhetoric.

Students complete three practice SAT tests under timed conditions and become familiar with SAT question formats, test scoring, and time-management strategies. Each student receives an evaluation hat details areas for improvement and provides suggestions for further preparation.

Each student receives a copy of The Official SAT Study Guide.

## ACT Prep
Grades 9-12

Students prepare for the English, mathematics, reading, science, and writing sections of the ACT test.

The English and reading reviews focus on grammar, style, vocabulary, and reading comprehension. Math review topics include concepts from Algebra 1, Geometry, and Algebra 2. The science review covers experimental design, and interpreting and making inferences from experimental data.

Students complete 3 practice ACT tests under timed conditions and become familiar with ACT question formats, test scoring, and time-management strategies. Each student receives an evaluation based on their practice test scores that details areas for improvement and provides suggestions for further preparation.

Course materials include The Official ACT Prep Guide, published by the makers of the exam.

# ENGINEERING

## Intro to Engineering
Grades 3-4

Using a variety of construction platforms, students complete building challenges and learn principles of engineering, architecture, and physics.

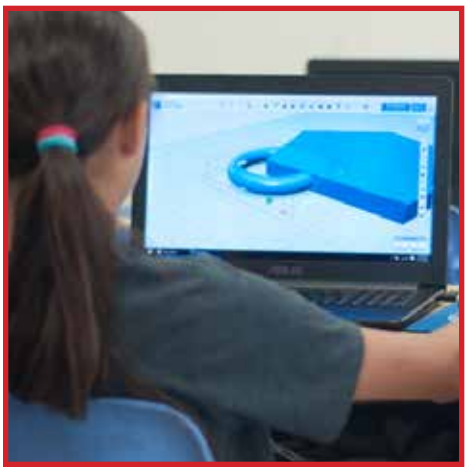
Students employ the "learn by doing" philosophy using K'NEX and basic classroom supplies to fulfill challenge specifications through small-group design and trial-and-error.

Students explore engineering through hands-on activities focusing on the six classical simple machines: lever, wheel and axle, pulley, ramp, wedge, and screw.

## Space Engineering
Grades 3-4

Students investigate the latest developments in astronomy and space travel by performing experiments, completing hands-on projects, and running computer simulations.

Students explore the scientific and engineering principles behind space suits and rocketry, the phases of the moon, telescopes, rovers, and zero-gravity equipment. They build model vehicles and spacecraft, including a water pressure-powered rocket. Other activities include planning and simulating a space mission, inventing their own constellations, and finding stars and planets in planetarium software.



## Structural Engineering
Grades 3-4

Students play the role of architects and engineers as they design and construct bridges and buildings in this civil engineering-themed course.

Lessons center on methods of support, construction materials, safety testing, planning for earthquakes and floods, and outstanding ancient and modern examples of civil engineering.

The course features daily hands-on projects such as design competitions, model building, earthquake simulations, and load tests.

## Power Engineering
Grades 3-4

This course combines elements of electrical and civil engineering to teach students about how electricity and the power grid work, and how that energy affects our everyday lives.

Students learn about voltage, current and resistance, various methods of generating electricity, the scope of energy usage on the household and city levels, and how electricity is transmitted from power plants into homes.

Projects include building a wind turbine, making a battery out of a potato, building with solar panels, and building a small-scale "circuit town".

## Environmental Engineering
Grades 5-6

Students explore civil and chemical engineering and learn how industrialized societies have impacted the planet and attempted to protect the environment.

Lessons include waste management and recycling, air and water pollution, composting, desalination, and microplastics.

Projects include oil spill simulations, water quality testing, designing and building air purifiers, and paper recycling experiments.

## Materials Engineering
Grades 5-6

Students see for themselves how engineers are meeting the demand for stronger, lighter, and more environmentally friendly materials in this chemical engineering-themed course.

Course topics include information about metals, polymers, ceramics, and composites, understanding where raw materials come from, and typical refining and manufacturing methods.

The course features numerous experiments and hands-on projects such as testing the mechanical, physical, and chemical properties of materials, designing improvements to everyday objects, and investigating characteristics of nanomaterials.

## Military Engineering
Grades 5-6

Students explore physics and engineering in a historical context by building models of medieval siege engines.

Students construct and operate classroom-safe miniature catapults, ballistae, onagers, trebuchets, and other ancient artillery engines. They learn the application of geometry and physics in their designs. For a final project, students participate in launch-distance competitions.

Engineering topics include simple machines, tension, torque, two-dimensional kinematics, and the design process.

## Raspberry Pi Projects
Grades 5-6

Students explore the basics of computer engineering and programming by configuring, customizing, and using Raspberry Pi computer systems in the context of electronics and programming challenges.

Projects include building a video game controller, creating a security camera, plotting a virtual city map, programming a "flying birds" game, and installing and using a Linux distribution.

## Prototyping and 3D Printing
Grades 5-6

Working in pairs, students use second generation personal 3D printers and computer assisted design software to plan, design, fabricate, assemble, and refine solutions to real-world challenges and problems.

Design challenges include model vehicles, animated figures, structural models, artistic exercises, and original inventions.

## Vehicle Engineering
Grades 5-6

What makes it go? In this mechanical engineering course, students step into the role of engineers of both land and water vehicles.

Topics such as learning about the components of cars and how they work, gearboxes, air resistance, and manufacturing techniques will get students up to speed on the principles of vehicle engineering.

Students will apply their knowledge to projects such as a model car race, a speedboat race, testing designs for brakes and tires, and crash testing. For a final project, students work in teams to assemble a working RC car from scratch.

## Inventing and 3D Printing
Grades 7-9

Working in pairs, students use second generation personal 3D printers to fabricate and test their own original invention prototypes.

Students use computer assisted design software to create digital models for printing. They also have the option of using digital scanners.

For the final project, each group pitches their project to the class and demonstrates their prototype.

## Arduino Engineering
Grades 7-9

Middle school students explore electronics, computers, and programming by building projects with Arduino, an open-source electronics prototyping platform (http://www.arduino.cc).

Projects include LED Dice, a binary counter, a Morse code translator, a lie detector, and a motion-sensing alarm.

## Biomedical Engineering
Grades 7-9

Students apply engineering principles to physiology and medicine, developing understanding through classroom demonstrations, discussions, and experiments. They also propose and prototype medical equipment, prostheses, and artificial organs using 3D printers, computer simulations, and traditional modeling materials.

Projects introduce basic concepts of biochemistry, cell physiology, cell cycles, cell division, DNA structure and synthesis, protein synthesis and gene expression, tissue structure, human anatomy, and genetic engineering.

## Aerospace Engineering
Grades 7-9

Students learn about the design of aircraft, rockets, and spacecraft in the context of mechanical engineering.

Topics include the physics of flight, the evolution of aircraft design, propeller and jet engines, principles of rocketry, satellites and their applications, and human space flight.

Projects include wind tunnel testing of airfoils, aircraft model building, model rocketry using household materials, collecting atmospheric data from a weather ballon, and tracking the path of the International Space Station.

## Raspberry Pi Engineering
Grades 7-9

Students use Raspberry Pi computers to build embedded computing projects and explore computer hardware. This course combines computer engineering, electronics, and programming,

Students build projects such as video game controllers, security cameras, and GPS trackers, and learn about input, output, processing, basic Python programming, and storage.

# ROBOTICS, VR, AND DRONES

## Intro to Robotics
Grades 3-4

Platform: LEGO Mindstorms NXT.

This course's theme is a gentle introduction to building robots, with a wide variety of projects.

Example projects include trash removal, a robotic arm, and navigating a maze. The spotlight skill for the course is using sensors to change what the robot does.

## Construction Robots
Grades 3-4

Platform: LEGO Mindstorms NXT.

This course's theme is the integration of robotics, architecture, and construction machinery.

Example projects include a hammer car, a forklift robot, and a crane. The spotlight skills for the course are building for stability, and using physics for your advantage.

## Robots in Space
Grades 3-4

Platform: LEGO Mindstorms NXT.

This course's theme is the use of robots in space travel, navigation, and exploration.

Example projects include a Mars rover, a space shuttle, a lunar walker, and asteroid mining. The spotlight skill for the course is programming robots to address specific project requirements.

## Robotics Zoo
Grades 3-4

Platform: LEGO Mindstorms NXT.

This course's theme is the integration of robotics and biology: students study the characteristics of animals and then build robotic analogues.

Example projects include a study of the spider, the frog, the elephant, and the stegosaurus. The spotlight skill for the course is building and modifying unusual designs.

## Mobile Robotics
Grades 5-6

Platform: LEGO Mindstorms EV3.

This course's theme is learning about a wide variety of sensors and incorporating sensors into robot designs.

Example projects include following a line, detecting walls, and remote control navigation. The spotlight skill for the course is using sensor data to change what the robot does.

## Robotics Engineering
Grades 5-6

Platform: LEGO Mindstorms EV3.

This course's theme is integrating the engineering process, project management, problem solving, and teamwork.

Example projects include top spinning, mini golf, and hill climbing. The spotlight skills for this course are keeping a design journal, and revising designs through trial and error.

## Robotics Olympiad
Grades 5-6

Platform: LEGO Mindstrorms EV3.

This course's theme is an introduction to competitive challenges in which robots face off against other robots.

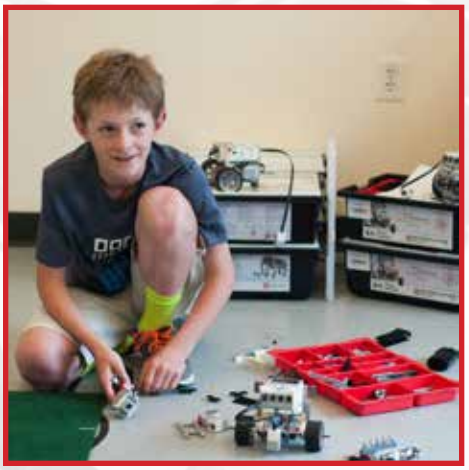
Example projects include soccer, go kart racing, and obstacle courses. The spotlight skill for the course is optimizing robot designs to gain an advantage.

## Intro to VEX IQ Robotics
Grades 5-6

Platform: VEX IQ.

This course's theme is a comprehensive overview of the VEX IQ platform.

Example projects include an autopilot robot, a claw robot, and robot soccer. The spotlight skill for the course is using classical engineering components such as pulleys and levers in robotics in combination with sensor data.

## Intro to Drones
Grades 5-6

Ready for liftoff? Students fly enthusiast caliber drones and learn about modern drone technology. The course is taught by FAA certified remote pilots.

After students complete the necessary flight instruction, safety training, and practice time, they participate in activities such as obstacle courses, aerial cinematography, airborne surveying, and a team-based engineering challenge.

Lesson topics include the components of drones, general aviation knowledge, commercial and industrial applications of drones, and ethical and future considerations of drone technology.

## Intro to Virtual Reality
Grades 5-6

Students learn how virtual reality (VR) tech works as they explore a wide variety of software, apps, and games that are both fun and educational.

VR activities include visiting ancient cultures, soaring though space, and navigating environments from the ocean floor to the inside of a human cell. Students' creations come to life around them as they paint and sculpt in 3D, and even venture into the world of Minecraft.

Fairfax Collegiate provides all the equipment for students to work in pairs. Apps are sourced from the Oculus platform.

## Robotics Combat
Grades 7-9

Platform: LEGO Mindstorms EV3.

This course's theme is building and customizing robots to compete in daily head-to-head battles.

Example projects include jousting, a grenade drop battle, and sumo wrestling. The spotlight skill for the course is optimizing robot designs to gain an advantage.

## Competitive Robotics
Grades 7-9

Platform: LEGO Mindstorms EV3.

This course's theme is an assortment of competitive events that include both individual and head-to-head contests.

Example projects include drag racing, rock paper scissors, and a reaction time game. The spotlight skill for the course is revising designs through trial and error.

## VEX IQ Robotics
Grades 7-9

Platform: VEX IQ.

This course's theme is the investigation of competitive challenges with multiple objectives and requirements.

Projects include stacking cubes, and collecting and sorting objects by color. The spotlight skill for the course is proposing, building, iterating on, and comparing multiple solutions to a problem.

## Drones
Grades 7-9

Take STEM to new heights! Students fly enthusiast caliber drones after completing required flight instruction, safety training, and practice time. The course is taught by FAA certified remote pilots.

The course includes activities such as obstacle courses, a search and rescue simulation, a team-based engineering challenge, and a detailed unit on programming drones using publicly available APIs. Prior experience with computer programming is not required.

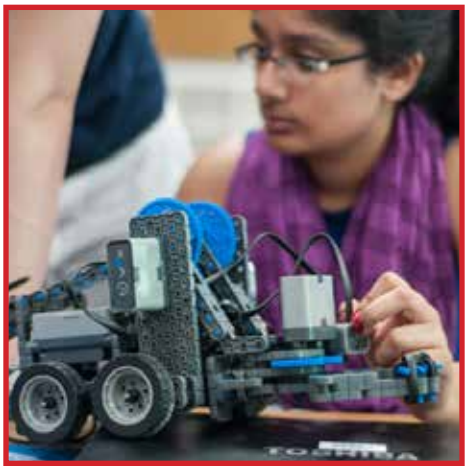
Lesson topics include the physics of drone flight, general aviation knowledge, commercial and industrial applications of drones, and ethical and future considerations of drone technology.

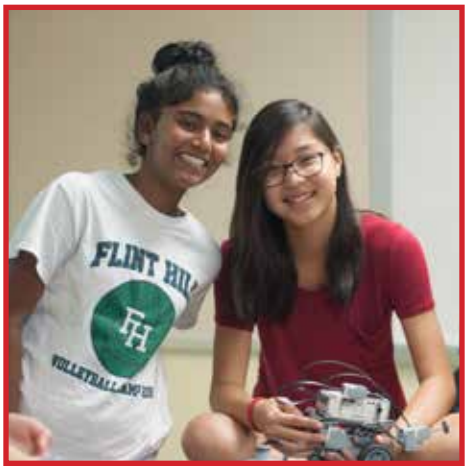
## Virtual Reality
Grades 7-9

Students in this course are both users and creators of virtual reality (VR) technology. Students work in pairs using equipment provided by Fairfax Collegiate.

In the first week, students use VR to visit world landmarks, soar through space, and navigate environments from the ocean floor to the inside of a human cell.

In the second week, students learn how to use the Unity software development platform to program and play games in VR, and to build their own 3D worlds to explore.





# PROGRAMMING

## Scratch Programming
Grades 3-4

Students have fun and develop enthusiam for programming by experimenting with Scratch, a popular graphical programming tool for children.

Scratch programs are composed of graphical blocks which specify program logic and control graphics, photos, and sounds.

Projects include creating a variety of interactive stories, games, and animations.

## GameMaker: Studio
Grades 5-6

Students have fun and learn programming by creating games using GameMaker: Studio, a powerful graphical programming tool.

The course covers GameMaker programming using both the drag-and-drop interface and the GML scripting language.

Projects include modifying and creating a variety of games.

## Intro to Javascript
Grades 5-6

Students learn JavaScript by writing games that run in web browsers such as Google Chrome.

Students discuss examples of browser games, sketch designs for the games they wish to create, use HTML and CSS to create the user interfaces for their games, and learn how to select and modify HTML elements using JavaScript.

## Intro to Python
Grades 5-6

Students get started with programming by learning Python, today's leading language for computer science instruction.

The course provides a comprehesive introduction to the key features of Python at a measured pace which is comfortable for a broad range of students.

For the final project, students write their own Python games.

## Mobile Games
Grades 5-6

Students explore programming tablets and smartphones by writing games using App Inventor, an easy-to-learn graphical programming tool.

Projects include reaction, memory, and painting games. Fairfax Collegiate provides Android tablets for students' use.

## Game Programming
Grades 7-9

Students learn programming by coding games in BlitzPlus, a simple but powerful game programming language.

The first week is an introduction to programming. Topics include variables, control structures, loops, functions, arrays, types, and graphics.

The second week students design and write their own simple games.

## C# Game Programming
Grades 7-9

Students design and program 3D games using the Unity 5 game engine, a popular indie game development tool.

Topics include scripting, graphics, objects, terrain, and levels. Students use open source digital assets and also create their own graphics and sounds.

As a final project, students design and create their own multi-platform games.

## App Inventor
Grades 7-9

Students write a variety of mobile apps using App Inventor, a graphical tool for programming smartphones and tablets.

Projects explore key features of modern mobile devices including touchscreen input, high resolution displays, accelerometers, location services, Bluetooth, barcode scanning, and digital photography and video.

Fairfax Collegiate provides Android tablets for students' use.

## JavaScript Programming
Grades 7-9

Students learn JavaScript, the programming language that runs in web browsers and powers modern web apps.

The course begins with an introduction to programming and JavaScript. Students learn about variables, math operators, if/then statements, loops, functions, and arrays. Next, students learn how to interact with web pages using JavaScript, and how to use the development tools packaged in leading web browsers.

The second week students use JavaScript to create their own web apps and browser-based games.

## Python Programming
Grades 7-9

Students learn the Python programming language and prepare for high school Python-based courses.

Topics include Python language syntax, the fundamental data structures, organizing Python programs using functions, classes, and modules, and reading and writing text files.

Projects include text-based utilities and games.

## Small Java
Grades 7-9

This course prepares students for Java language-based high school computer science courses.

The course combines classroom instruction and practice projects. Students explore fundamental data structures including strings, arrays, lists, and maps. They also learn about Java classes and object-oriented programming.

## Intro to Computer Science
Grades 9-12

High school students learn the Java programming language and prepare for computer science courses including AP Computer Science Principles and AP Computer Science A.

Topics include Java keywords, control structures, data structures, the Java Class Library, types, object-oriented programming, and generics. Exercises include console-based utilities, simple GUI games, and student projects.

## Algorithms
Grades 9-12

This course presents a hands-on tour of concepts at the core of high school computer science and beyond.

Students gain experience in programming algorithms used for sorting, searching, as well as creating data structures. Examples and projects use the Python programming language.

# ART AND DESIGN

## Illustrated Stories
Grades 3-4

Students read, write, and draw accompanying artwork for illustrated stories in different genres.

Students practice writing complete sentences, paragraphs, and stories. Genres include comic strips, graphic novels, manga, children's picture books, and storyboards.

For a final project, students write and illustrate a story in the genre of their choice.

## Graphic Design
Grades 5-6

Students learn how to execute sophisticated single-page design projects using universal design principles, layout pads, and the GIMP, the leading free open-source image editing software package.

Design topics include space, grouping, alignment, emphasis, grids, color theory, typography, and digital images.

Projects include store signs, menus, banners, posters, and advertisements.

## Architectural Design
Grades 5-6

Students learn about architecture and about Google SketchUp, a free digital drafting software package.

Architecture topics include the history of residential architecture, international housing styles, and form and function in residential design.

Students practice 2D drafting and 3D modeling. As a final project, each student creates and presents his or her "dream house" using Google SketchUp.

## HTML Web Design
Grades 5-6

Students learn HTML and create their own web pages.

Topics include the structure of a web page, HTML tags, HTML attributes, hyperlinks, CSS styles, and HTML elements and attributes.

Students use digital cameras, Paint.NET, and GIMP to create images for the web.

As a final project, each student creates and publishes a small website.

## Drawing
Grades 5-6 & Grades 7-9

This is a course for beginners and teaches drawing as a foundation for all forms of visual expression.

Topics include sketches, shapes, angles, perspective, horizon, vanishing points, reflections, contrast, shadows, light effects, and composition.

Exercises include still life drawings, portraits, landscapes, and cartoons.

Materials are provided and include specialized pencils, sketch pads, drawing boards, and drawing tools.

## Photography
Grades 7-9

Students learn digital SLR photography starting with basic camera operation.

Subjects include plants and flowers, food, portraits, products, sports and action, and architecture.

Exercises emphasize exposure, composition, color, and lighting. Students achieve artistic effects by manually controlling the components of exposure: aperture, shutter speed, and ISO.

Fairfax Collegiate provides Canon EOS DSLR cameras for students to use.

## HTML, CSS, and Javascript
Grades 7-9

Students learn basic web design principles and write and style web pages using HTML and CSS.

Design topics include colors, alignment, contrast, fonts, images, white space, navigation, and usability.

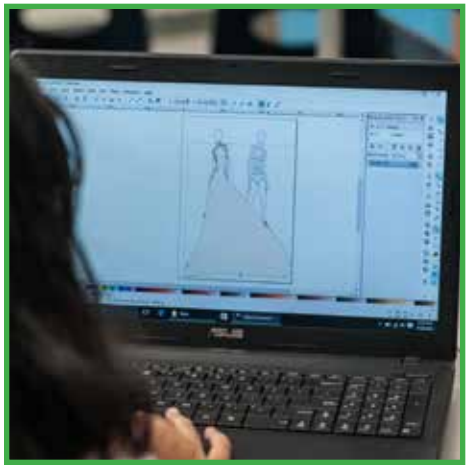
Students learn to import and embed CSS and media files. They experiment with new HTML5 features, and author pages using open source tools: Notepad++ and GIMP. For a final project, each student creates and publishes a small website.

## Fashion Design
Grades 7-9

Students design their own clothing and accessories using both traditional and digital techniques.

The first week, students learn basic principles of hand-drawn fashion design, including drawing strokes, color balance, texture, croquis, garment and accessory categorization, poses, and historical trends. They use light boxes and art supplies to create designs using both hand-drawn figures and premade templates.

The second week, students apply these concepts and skills using the vector-drawing program InkScape. They use layers, colors, shapes, and shading to create a virtual fashion line. As a final project, students assemble their designs into a portfolio.



# MINECRAFT AND GAMING

## Minecraft Exploration
Grades 3-4

Turn Minecraft into an educational experience this summer! This course guides beginners and skilled players alike through a diverse range of experiences that challenge them to experiment, think, and work cooperatively.

Students learn how to install and run Minecraft mods, set up and join a curated private server, customize graphics and gameplay, compose digital music, learn engineering and programming concepts through the use of redstone circuits and the ComputerCraft mod, and much more.

## Minecraft Modding
Grades 3-4

Using programming and design utilities, students create mods for the immensely popular computer game Minecraft. Students use MCreator to design, build, and test their own custom mods.

Topics include using mods to create new blocks, items, creatures, environments, achievements, triggers, and events. As a final project, students design and code their own fully functional Minecraft mods, and export them to use at home with Minecraft Forge.

## Math Games
Grades 3-4

Explore the fun and practical side of math with this game-themed course.

Students learn and play a variety of math-centered board games and puzzles to practice and improve their quantitative and logical reasoning skills. Examples of games include Equate, 24 Game, and Swish. Recurring themes include number sense, mental math, game theory, and spatial reasoning.

As a final project, students choose a game and make a new version with an altered ruleset. Then, they give a short presentation on their new game and playtest it with their classmates.

## Minecraft and Python
Grades 5-6

Students use their experiences with the computer game Minecraft as a gateway to learn the fundamentals of the Python programming langauge.

Students write Python scripts using variables, types, conditional statements, loops, collections, and algorithms to build massive structures and cities inside of Minecraft.

In the second week, students learn to use game programming concepts to build customized Minecraft minigames.

## Minecraft RPG Design
Grades 5-6

In this course, students unleash their creativity to build a complete Minecraft role-playing game world from scratch. Instruction focuses on immersive world design and storytelling as well as the required technical skills.

Using MCreator and other tools for support, projects include components such as custom NPCs, dialog trees, quests, new tools and items, and custom skins and models for characters and enemies.

Students take their projects home for use with Minecraft Forge.

## Brain Games
Grades 5-6

Explore the fun and practical side of math with this game-themed course.

Students learn and play a variety of modern board games and card games to challenge and improve their quantitative and critical thinking skills. Examples include Khet, Carcassonne, and Splendor. Recurring themes include resource management, dealing with incomplete information, and testing hypotheses for achieving optimal outcomes.

As a final project, students plan and create their own original board game.

## E-Sports Arena
Grades 7-9

Students build modern gaming PCs and then take on the role of e-sports athletes.

The course begins with a unit on PC gaming technology. Students learn how the components of a computer influence its performance. Then each student assembles a full-fledged gaming PC using parts provided by Fairfax Collegiate.

Next, students use these computers to play two e-sports games: StarCraft II and Rocket League. Instructors teach students the rules, tactics, and strategy of each game. Students compete in teams and practice leadership and team skills.

StarCraft II's Entertainment Software Ratings Board rating is "Teen", and Rocket League's ESRB rating is "Everyone".

## Minecraft Mods with Java
Grades 7-9

Using programming and design utilities, students create modifications to the computer game Minecraft.

Students learn basic Java programming in the context of designing, implementing, and customizing mods. No previous coding experience is required.

Topics include using mods to create new blocks, items, creatures, environments, achievements, triggers, and events. As a final project, students design and code their own fully functional Minecraft mods, and export them to use at home with Minecraft Forge.

## RPG Design
Grades 7-9

Students design their own role-playing games using RPG Maker VX Ace.

Instruction emphasizes crafting visual, audio, and storytelling components to create compelling adventures.

Topics include scripting, data management, game balancing, storytelling, graphic design, sprites and tilesets, and the design process. Students share and publish their projects.

# FILMMAKING

## Intro to Filmmaking
Grades 3-4

Students learn about filmmaking and, as a class, create two short films, one each week.

Each week begins with the class brainstorming ideas for a short film, writing an original script, and creating a shot list and storyboard.

Next the students shoot their film using tripods, advanced video cameras, boom microphones, costumes, and props.

Finally, as a class, students edit their film, add music and credits, and export the film to a private Vimeo acount for home viewing.

## Filmmaking
Grades 5-6

Students learn how to plan, write, shoot, and edit digital video short films. Classes generally complete two films, one each week.

With the guidance of instructors, students brainstorm ideas for short films, write original scripts, and create shot lists and storyboards.

Students shoot their films using tripods, advanced video cameras, boom microphones, costumes, and props.

Students edit their films, add music and credits, complete post-production, and export their films to a private Vimeo account for home viewing.

## Stop-Motion Animation
Grades 5-6

Students use still cameras, audio recorders, and video editing software to create stop-motion animation films. These can be narrative (scripted) or experimental videos created from LEGO blocks, modeling clay, action figures, and other "found objects".

This introductory course covers the basics of using household objects and miniature construction to create a compelling story. The course provides an overview of photography, sound recording, and video editing as part of the filmmaking process.

## Video Production
Grades 7-9

Students plan, write, shoot, and edit their own films on digital video.

The course begins with exercises covering acting, script writing, storyboarding, shot listing, location scouting, camera operation, lighting, and sound.

The majority of the course is devoted to group production of two short films using tripods, advanced video cameras, boom microphones, costumes, props, and (optionally) lighting kits.

Students edit their films and export them to a private Vimeo account.

## Web Video
Grades 7-9

Students plan, write, edit, and share a variety of genres of web video including parodies, advertorials, product reviews, vlogs, and tutorials.

Production concepts include location scouting, interviewing, B-roll footage, green screen effects, adding pictures and screenshots, and multicam setups.

Production equipment includes DSLR cameras, simple lighting kits and on-camera lights, audio recorders, and stick, shotgun, and lavaliere microphones. Students use Adobe Premiere Elements to edit and optionally upload videos to personal Vimeo, YouTube, Facebook, and Twitter accounts.

# ALEXANDRIA AND ANNANDALE SCHEDULES

## Alexandria[D]: Beth El Hebrew Congregation, 3830 Seminary Rd., Alexandria, VA 22304

### Session II: Jul 1-Jul 12

**Morning**
Structural Engineering 3-4
Writing Fundamentals 3-4
Math Fundamentals 5-6
Elementary Debate 5-6
Physics 5-6
E-Sports Arena 7-9
Python Programming 7-9
PSAT Prep 7-9
High School Writing 7-9

**Afternoon**
Math Fundamentals 3-4
Construction Robots 3-4
Environmental Engineering 5-6
Brain Games 5-6
Strategic Reading 5-6
Raspberry Pi Engineering 7-9
Intro to Algebra 7-9
Middle School Debate 7-9
Neuroscience 7-9

### Session III: Jul 15-Jul 26

**Morning**
Spy Science 3-4
Writing Fundamentals 3-4
Forensic Science 5-6
Intro to VEX IQ Robotics 5-6
Expository Writing 5-6
Intro to Algebra 7-9
Photography 7-9
C# Game Programming 7-9
Model UN 7-9

**Afternoon**
Illustrated Stories 3-4
Intro to Filmmaking 3-4
Vehicle Engineering 5-6
Fairfax Collegiate Math 5-6
Minecraft and Python 5-6
Forensic Science 7-9
TJ Exam Prep 7-8
VEX IQ Robotics 7-9
Reading for Meaning 7-9

### Session IV: Jul 29-Aug 9

**Morning**
Chemistry Concepts 3-4
Story Writing 3-4
Military Engineering 5-6
Robotics Olympiad 5-6
Mobile Games 5-6
HTML, CSS, and JavaScript 7-9
Video Production 7-9
PSAT Prep 7-9
Research Writing 7-9

**Afternoon**
Fairfax Collegiate Math 3-4
Intro to Robotics 3-4
HTML Web Design 5-6
Filmmaking 5-6
Writing Skills and Grammar 5-6
Competitive Robotics 7-9
Intro to Geometry 7-9
App Inventor 7-9
Animal Physiology 7-9

### Session V: Aug 12-Aug 23

**Morning**
Fairfax Collegiate Math 3-4
Robotics Zoo 3-4
Chem Workshop 5-6
Intro to Virtual Reality 5-6
Creative Writing 5-6
Arduino Engineering 7-9
Robotics Combat 7-9
Intro to Algebra 7-9
Middle School Debate 7-9

**Afternoon**
Hands-On Science 3-4
Reading Reinforcement 3-4
Robotics Engineering 5-6
Problem Solving 5-6
Elementary Debate 5-6
Web Video 7-9
TJ Exam Prep 7-8
Virtual Reality 7-9
Writers' Workshop 7-9

## Annandale: St. Michael Catholic School, 7401 St. Michael's Ln, Annandale, VA 22003

### Session I: Jun 17-Jun 28

**Morning**
Construction Robots 3-4
Spy Science 3-4
Fairfax Collegiate Math 5-6
Minecraft and Python 5-6
Intro to VEX IQ Robotics 5-6
Middle School Debate 7-9
Forensic Science 7-9
PSAT Prep 7-9
High School Writing 7-9

**Afternoon**
Math Games 3-4
Writing Fundamentals 3-4
Elementary Debate 5-6
Forensic Science 5-6
Expository Writing 5-6
Aerospace Engineering 7-9
Intro to Algebra 7-9
Game Programming 7-9
VEX IQ Robotics 7-9

### Session II: Jul 1-Jul 12

**Morning**
Fairfax Collegiate Math 3-4
Chemistry Concepts 3-4
Filmmaking 5-6
GameMaker Studio 5-6
Creative Writing 5-6
Fashion Design 7-9
Competitive Robotics 7-9
Intro to Geometry 7-9
TJ Exam Prep 7-8

**Afternoon**
Minecraft Modding 3-4
Story Writing 3-4
HTML Web Design 5-6
Military Engineering 5-6
Robotics Olympiad 5-6
Video Production 7-9
Newtonian Physics 7-9
TJ SIS Essay Prep 7-8
Writers' Workshop 7-9

### Session III: Jul 15-Jul 26

**Morning**
Minecraft Exploration 3-4
Power Engineering 3-4
Prototyping and 3D Printing 5-6
Drawing 5-6
Problem Solving 5-6
HTML, CSS, and JavaScript 7-9
Robotics Combat 7-9
Web Video 7-9
Analytic Writing 7-9

**Afternoon**
Word Problems 3-4
Robotics Zoo 3-4
Robotics Engineering 5-6
Filmmaking 5-6
Writing Skills and Grammar 5-6
Inventing and 3D Printing 7-9
Drawing 7-9
Intro to Geometry 7-9
Minecraft Mods with Java 7-9

### Session IV: Jul 29-Aug 9

**Morning**
Public Speaking 3-4
Math Fundamentals 3-4
Intro to JavaScript 5-6
Forensic Science 5-6
Strategic Reading 5-6
Raspberry Pi Engineering 7-9
Intro to Algebra 7-9
Middle School Debate 7-9
TJ Exam Prep 7-8

**Afternoon**
Space Engineering 3-4
Reading Reinforcement 3-4
Graphic Design 5-6
Fairfax Collegiate Math 5-6
Elementary Debate 5-6
Small Java 7-9
Genetics 7-9
TJ SIS Essay Prep 7-8
Writers' Workshop 7-9

[D]Dietary Restrictions at this facility. Please do not bring meat or shell fish. Lunches may include dairy products and tuna fish. Questions? Please call 703 481-3080.
[†]Indoor break location. The supervised twenty-minute morning and afternoon breaks are indoors at these facilities.

# MCLEAN AND TYSONS SCHEDULES

## McLean: Redeemer Lutheran Church, 1545 Chain Bridge Rd., McLean, VA 22101

### Session I: Jun 17-Jun 28

**Morning**
Robotics Engineering 5-6
Speech 5-6
Raspberry Pi Engineering 7-9
Newtonian Physics 7-9
TJ Exam Prep 7-8
Analytic Writing 7-9
Intro to Precalculus 9-12
SAT Prep 9-12

**Afternoon**
Vehicle Engineering 5-6
The Writing Process 5-6
Intro to Algebra 7-9
Python Programming 7-9
Middle School Debate 7-9
TJ SIS Essay Prep 7-8
Intro to Computer Science 9-12
College Application Essays 9-12

### Session II: Jul 1-Jul 12

**Morning**
Fairfax Collegiate Math 5-6
Intro to Virtual Reality 5-6
Robotics Combat 7-9
Lasers 7-9
TJ Exam Prep 7-8
Writers' Workshop 7-9
Algorithms 9-12
Academic Writing 9-12

**Afternoon**
Chem Workshop 5-6
Expository Writing 5-6
HTML, CSS, and JavaScript 7-9
Intro to Geometry 7-9
TJ SIS Essay Prep 7-8
Virtual Reality 7-9
Intro to Algebra II 9-12
ACT Prep 9-12

### Session III: Jul 15-Jul 26

**Morning**
HTML Web Design 5-6
Creative Writing 5-6
E-Sports Arena 7-9
JavaScript Programming 7-9
Middle School Debate 7-9
Genetics 7-9
Intro to Calculus 9-12
SAT Prep 9-12

**Afternoon**
Military Engineering 5-6
Elementary Debate 5-6
Arduino Engineering 7-9
Intro to Algebra 7-9
PSAT Prep 7-9
High School Writing 7-9
Intro to Computer Science 9-12
College Application Essays 9-12

### Session IV: Jul 29-Aug 9

**Morning**
Prototyping and 3D Printing 5-6
Writing Skills and Grammar 5-6
Fairfax Collegiate Math 7-8
Photography 7-9
Mock Trial 7-9
TJ Exam Prep 7-8
Algorithms 9-12
Academic Writing 9-12

**Afternoon**
Fairfax Collegiate Math 5-6
Leadership 5-6
Inventing and 3D Printing 7-9
C# Game Programming 7-9
Forensic Science 7-9
Reading for Meaning 7-9
Intro to Algebra II 9-12
SAT Prep 9-12

### Session V: Aug 12-Aug 23

**Morning**
Materials Engineering 5-6
Elementary Debate 5-6
Writing for Middle School 5-6
Biomedical Engineering 7-9
Intro to Geometry 7-9
App Inventor 7-9
Neuroscience 7-9
TJ Exam Prep 7-8

**Afternoon**
Math for Middle School 5-6
Minecraft and Python 5-6
Forensic Science 5-6
Inventing and 3D Printing 7-9
Fairfax Collegiate Math 7-8
Model UN 7-9
TJ SIS Essay Prep 7-8
High School Writing 7-9

## Tysons: BASIS Independent McLean, 8000 Jones Branch Dr., Mclean, VA 22102

### Session I: Jun 17-Jun 28

**Morning**
Intro to Filmmaking 3-4
Story Writing 3-4
Prototyping and 3D Printing 5-6
Mobile Robotics 5-6
Creative Writing 5-6
Fairfax Collegiate Math 7-8
E-Sports Arena 7-9
Mock Trial 7-9
Genetics 7-9

**Afternoon**
Intro to Robotics 3-4
Hands-On Science 3-4
Environmental Engineering 5-6
Minecraft RPG Design 5-6
Leadership 5-6
Biomedical Engineering 7-9
Web Video 7-9
C# Game Programming 7-9
Research Writing 7-9

### Session II: Jul 1-Jul 12

**Morning**
Persuasive Speaking 3-4
Chemistry Concepts 3-4
Robotics Olympiad 5-6
Math for Middle School 5-6
Intro to Python 5-6
Inventing and 3D Printing 7-9
Middle School Debate 7-9
Forensic Science 7-9
TJ SIS Essay Prep 7-8

**Afternoon**
Math Fundamentals 3-4
Writing and Revising 3-4
Elementary Debate 5-6
Forensic Science 5-6
Writing Skills and Grammar 5-6
Biomedical Engineering 7-9
Intro to Algebra 7-9
App Inventor 7-9
TJ Exam Prep 7-8

### Session III: Jul 15-Jul 26

**Morning**
Fairfax Collegiate Math 3-4
Spy Science 3-4
Architectural Design 5-6
Raspberry Pi Projects 5-6
Robotics Engineering 5-6
Video Production 7-9
Python Programming 7-9
TJ SIS Essay Prep 7-8
High School Writing 7-9

**Afternoon**
Construction Robots 3-4
Reading Reinforcement 3-4
Filmmaking 5-6
GameMaker Studio 5-6
The Writing Process 5-6
Raspberry Pi Engineering 7-9
Competitive Robotics 7-9
Intro to Geometry 7-9
TJ Exam Prep 7-8

### Session IV: Jul 29-Aug 9

**Morning**
Scratch Programming 3-4
Writing Fundamentals 3-4
Problem Solving 5-6
Elementary Debate 5-6
Intro to Virtual Reality 5-6
Robotics Combat 7-9
Role-Playing Game Design 7-9
PSAT Prep 7-9
Writers' Workshop 7-9

**Afternoon**
Math Fundamentals 3-4
Robotics Zoo 3-4
Materials Engineering 5-6
Minecraft and Python 5-6
Strategic Reading 5-6
Fashion Design 7-9
Intro to Algebra 7-9
Middle School Debate 7-9
Virtual Reality 7-9

# VIENNA AND FAIRFAX SCHEDULES

## Vienna: Green Hedges School, 415 Windover Ave. NW, Vienna, VA 22180

### Session I: Jun 17-Jun 28

**Morning**
Word Problems 3-4
Robots in Space 3-4
Structural Engineering 3-4
Reading Reinforcement 3-4
Military Engineering 5-6
Filmmaking 5-6
GameMaker Studio 5-6
Elementary Debate 5-6

**Afternoon**
Persuasive Speaking 3-4
Intro to Filmmaking 3-4
Minecraft Modding 3-4
Structural Engineering 3-4
Architectural Design 5-6
Math for Middle School 5-6
Forensic Science 5-6
Strategic Reading 5-6

### Session II: Jul 1-Jul 12

**Morning**
Fairfax Collegiate Math 3-4
Minecraft Exploration 3-4
Robotics Zoo 3-4
Power Engineering 3-4
Raspberry Pi Projects 5-6
Filmmaking 5-6
Human Biology & Anatomy 5-6
Creative Writing 5-6

**Afternoon**
Intro to Filmmaking 3-4
Math Games 3-4
Space Engineering 3-4
Writing Fundamentals 3-4
Problem Solving 5-6
Minecraft and Python 5-6
Mobile Games 5-6
Speech 5-6

### Session III: Jul 15-Jul 26

**Morning**
Minecraft Modding 3-4
Intro to Robotics 3-4
Chemistry Concepts 3-4
Writing and Revising 3-4
Stop-Motion Animation 5-6
Fairfax Collegiate Math 5-6
Intro to JavaScript 5-6
Leadership 5-6

**Afternoon**
Public Speaking 3-4
Math Fundamentals 3-4
Scratch Programming 3-4
Intro to Engineering 3-4
Robotics Olympiad 5-6
Minecraft RPG Design 5-6
Physics 5-6
Writing Skills and Grammar 5-6

### Session IV: Jul 29-Aug 9

**Morning**
Persuasive Speaking 3-4
Intro to Filmmaking 3-4
Fairfax Collegiate Math 3-4
Spy Science 3-4
Robotics Engineering 5-6
Brain Games 5-6
Chem Workshop 5-6
Writing for Middle School 5-6

**Afternoon**
Minecraft Exploration 3-4
Construction Robots 3-4
Hands-On Science 3-4
Story Writing 3-4
Environmental Engineering 5-6
Filmmaking 5-6
Fairfax Collegiate Math 5-6
Elementary Debate 5-6

## Fairfax[D]: Gesher Jewish Day School, 4800 Mattie Moore Ct., Fairfax, VA 22030

### Session I: Jun 17-Jun 28

**Morning**
Public Speaking 3-4
Story Writing 3-4
Materials Engineering 5-6
Human Biology & Anatomy 5-6
Writing Skills and Grammar 5-6
Drones 7-9
Video Production 7-9
Fairfax Collegiate Math 7-8
Small Java 7-9

**Afternoon**
Intro to Filmmaking 3-4
Intro to Engineering 3-4
Intro to Drones 5-6
Problem Solving 5-6
Intro to Python 5-6
Fashion Design 7-9
Neuroscience 7-9
PSAT Prep 7-9
Writers' Workshop 7-9

### Session II: Jul 1-Jul 12

**Morning**
Fairfax Collegiate Math 3-4
Minecraft Modding 3-4
Intro to JavaScript 5-6
Intro to VEX IQ Robotics 5-6
The Writing Process 5-6
Fairfax Collegiate Math 7-8
Mock Trial 7-9
Genetics 7-9
TJ SIS Essay Prep 7-8

**Afternoon**
Hands-On Science 3-4
Reading Reinforcement 3-4
Graphic Design 5-6
Fairfax Collegiate Math 5-6
Elementary Debate 5-6
Game Programming 7-9
TJ Exam Prep 7-8
VEX IQ Robotics 7-9
Analytic Writing 7-9

### Session III: Jul 15-Jul 26

**Morning**
Persuasive Speaking 3-4
Minecraft Exploration 3-4
Mobile Robotics 5-6
Filmmaking 5-6
Speech 5-6
Raspberry Pi Engineering 7-9
Intro to Algebra 7-9
Forensic Science 7-9
Writers' Workshop 7-9

**Afternoon**
Robots in Space 3-4
Writing Fundamentals 3-4
Minecraft and Python 5-6
Chem Workshop 5-6
Creative Writing 5-6
Video Production 7-9
Role-Playing Game Design 7-9
Middle School Debate 7-9
TJ Exam Prep 7-8

### Session IV: Jul 29-Aug 9

**Morning**
Robotics Zoo 3-4
Writing Fundamentals 3-4
Minecraft RPG Design 5-6
Physics 5-6
Expository Writing 5-6
Arduino Engineering 7-9
Robotics Combat 7-9
Intro to Geometry 7-9
TJ Exam Prep 7-8

**Afternoon**
Fairfax Collegiate Math 3-4
Chemistry Concepts 3-4
Architectural Design 5-6
Robotics Engineering 5-6
Math for Middle School 5-6
JavaScript Programming 7-9
Lasers 7-9
TJ SIS Essay Prep 7-8
High School Writing 7-9

### Session V: Aug 12-Aug 23

**Morning**
Math Fundamentals 3-4
Spy Science 3-4
Raspberry Pi Projects 5-6
Filmmaking 5-6
Fairfax Collegiate Math 5-6
Drones 7-9
Python Programming 7-9
Forensic Science 7-9
Reading for Meaning 7-9

**Afternoon**
Construction Robots 3-4
Story Writing 3-4
Intro to Drones 5-6
Forensic Science 5-6
Writing Skills and Grammar 5-6
Raspberry Pi Engineering 7-9
Video Production 7-9
Intro to Algebra 7-9
PSAT Prep 7-9

[D]Dietary Restrictions at this facility. Please do not bring meat or shell fish. Lunches may include dairy products and tuna fish. Questions? Please call 703 481-3080.
[†]Indoor break location. The supervised twenty-minute morning and afternoon breaks are indoors at these facilities.

# CHANTILLY AND DULLES SCHEDULES

## Chantilly: St. Timothy Catholic School, 13809 Poplar Tree Rd., Chantilly, VA, 20151

### Session I: Jun 17-Jun 28

**Morning**
Minecraft Modding 3-4
Writing and Revising 3-4
Raspberry Pi Projects 5-6
Chem Workshop 5-6
Photography 7-9
Lasers 7-9
Reading for Meaning 7-9
Intro to Algebra II 9-12
Academic Writing 9-12

**Afternoon**
Math Fundamentals 3-4
Chemistry Concepts 3-4
Filmmaking 5-6
Writing for Middle School 5-6
Arduino Engineering 7-9
Intro to Algebra 7-9
Minecraft Mods with Java 7-9
Algorithms 9-12
SAT Prep 9-12

### Session II: Jul 1-Jul 12

**Morning**
Public Speaking 3-4
Writing Fundamentals 3-4
Minecraft and Python 5-6
Writing Skills and Grammar 5-6
Drones 7-9
Aerospace Engineering 7-9
Video Production 7-9
Intro to Calculus 9-12
SAT Prep 9-12

**Afternoon**
Robotics Zoo 3-4
Spy Science 3-4
Intro to Drones 5-6
Elementary Debate 5-6
Web Video 7-9
Intro to Geometry 7-9
Research Writing 7-9
Intro to Computer Science 9-12
College Application Essays 9-12

### Session III: Jul 15-Jul 26

**Morning**
Fairfax Collegiate Math 3-4
Space Engineering 3-4
Robotics Olympiad 5-6
Strategic Reading 5-6
Intro to Algebra 7-9
Python Programming 7-9
TJ Exam Prep 7-8
Algorithms 9-12
Academic Writing 9-12

**Afternoon**
Math Games 3-4
Story Writing 3-4
Fairfax Collegiate Math 5-6
Intro to Python 5-6
Newtonian Physics 7-9
TJ SIS Essay Prep 7-8
High School Writing 7-9
Intro to Algebra II 9-12
ACT Prep 9-12

### Session IV: Jul 29-Aug 9

**Morning**
Illustrated Stories 3-4
Intro to Filmmaking 3-4
Vehicle Engineering 5-6
Elementary Debate 5-6
Drones 7-9
Neuroscience 7-9
Writers' Workshop 7-9
Intro to Precalculus 9-12
SAT Prep 9-12

**Afternoon**
Structural Engineering 3-4
Reading Reinforcement 3-4
Intro to Drones 5-6
Creative Writing 5-6
Video Production 7-9
Fairfax Collegiate Math 7-8
Middle School Debate 7-9
Intro to Computer Science 9-12
College Application Essays 9-12

## Dulles: St. Veronica Catholic School, 3460-B Centreville Rd., Chantilly, VA 20151

### Session II: Jul 1-Jul 12

**Morning**
Intro to Filmmaking 3-4
Intro to Engineering 3-4
Prototyping and 3D Printing 5-6
Architectural Design 5-6
Strategic Reading 5-6
Raspberry Pi Engineering 7-9
Robotics Combat 7-9
Intro to Algebra 7-9
Loudoun AOS Prep 7-8

**Afternoon**
Illustrated Stories 3-4
Intro to Robotics 3-4
Materials Engineering 5-6
Robotics Engineering 5-6
Filmmaking 5-6
Inventing and 3D Printing 7-9
JavaScript Programming 7-9
Model UN 7-9
High School Writing 7-9

### Session III: Jul 15-Jul 26

**Morning**
Structural Engineering 3-4
Writing Fundamentals 3-4
Problem Solving 5-6
Human Biology & Anatomy 5-6
Intro to Virtual Reality 5-6
Biomedical Engineering 7-9
Game Programming 7-9
PSAT Prep 7-9
Writers' Workshop 7-9

**Afternoon**
Word Problems 3-4
Robotics Zoo 3-4
Environmental Engineering 5-6
Elementary Debate 5-6
Writing Skills and Grammar 5-6
Inventing and 3D Printing 7-9
Fairfax Collegiate Math 7-8
Animal Physiology 7-9
Virtual Reality 7-9

### Session IV: Jul 29-Aug 9

**Morning**
Fairfax Collegiate Math 3-4
Intro to Engineering 3-4
Elementary Debate 5-6
Forensic Science 5-6
The Writing Process 5-6
Drawing 7-9
Intro to Algebra 7-9
Python Programming 7-9
Loudoun AOS Prep 7-8

**Afternoon**
Minecraft Modding 3-4
Story Writing 3-4
Drawing 5-6
Fairfax Collegiate Math 5-6
GameMaker Studio 5-6
Aerospace Engineering 7-9
Model UN 7-9
Forensic Science 7-9
High School Writing 7-9

# RESTON AND ASHBURN SCHEDULES

## Reston[D‡]: Northern Virginia Hebrew Congregation, 1441 Wiehle Ave., Reston, VA 20190

### Session I: Jun 17-Jun 28

**Morning**
Minecraft Exploration 3-4
Space Engineering 3-4
Stop-Motion Animation 5-6
Mobile Games 5-6
Writing Skills and Grammar 5-6
Competitive Robotics 7-9
Animal Physiology 7-9
TJ SIS Essay Prep 7-8
Virtual Reality 7-9

**Afternoon**
Scratch Programming 3-4
Writing Fundamentals 3-4
Brain Games 5-6
Physics 5-6
Intro to Virtual Reality 5-6
Video Production 7-9
Intro to Geometry 7-9
JavaScript Programming 7-9
TJ Exam Prep 7-8

### Session II: Jul 1-Jul 12

**Morning**
Word Problems 3-4
Construction Robots 3-4
Vehicle Engineering 5-6
Leadership 5-6
Writing for Middle School 5-6
Drawing 7-9
Arduino Engineering 7-9
Fairfax Collegiate Math 7-8
Forensic Science 7-9

**Afternoon**
Spy Science 3-4
Story Writing 3-4
Drawing 5-6
Robotics Engineering 5-6
Problem Solving 5-6
Role-Playing Game Design 7-9
C# Game Programming 7-9
Middle School Debate 7-9
Reading for Meaning 7-9

### Session III: Jul 15-Jul 26

**Morning**
Hands-On Science 3-4
Reading Reinforcement 3-4
Elementary Debate 5-6
Forensic Science 5-6
Strategic Reading 5-6
Fashion Design 7-9
Robotics Combat 7-9
Fairfax Collegiate Math 7-8
TJ Exam Prep 7-8

**Afternoon**
Fairfax Collegiate Math 3-4
Intro to Engineering 3-4
Graphic Design 5-6
Materials Engineering 5-6
Math for Middle School 5-6
Middle School Debate 7-9
Neuroscience 7-9
TJ SIS Essay Prep 7-8
Research Writing 7-9

### Session IV: Jul 29-Aug 9

**Morning**
Math Games 3-4
Writing and Revising 3-4
Robotics Olympiad 5-6
Intro to Python 5-6
Creative Writing 5-6
Biomedical Engineering 7-9
Intro to Geometry 7-9
Minecraft Mods with Java 7-9
Newtonian Physics 7-9

**Afternoon**
Robots in Space 3-4
Power Engineering 3-4
Math Fundamentals 5-6
Minecraft and Python 5-6
Speech 5-6
Inventing and 3D Printing 7-9
Game Programming 7-9
PSAT Prep 7-9
High School Writing 7-9

### Session V: Aug 12-Aug 23

**Morning**
Intro to Filmmaking 3-4
Writing Fundamentals 3-4
Prototyping and 3D Printing 5-6
Fairfax Collegiate Math 5-6
Human Biology & Anatomy 5-6
Raspberry Pi Engineering 7-9
Photography 7-9
TJ SIS Essay Prep 7-8
Writers' Workshop 7-9

**Afternoon**
Fairfax Collegiate Math 3-4
Chemistry Concepts 3-4
Filmmaking 5-6
Minecraft RPG Design 5-6
Writing Skills and Grammar 5-6
Inventing and 3D Printing 7-9
Intro to Algebra 7-9
Middle School Debate 7-9
TJ Exam Prep 7-8

## Ashburn: St. Theresa Catholic School, 21370 St. Theresa Ln., Ashburn, VA 20147

### Session I: Jun 17-Jun 28

**Morning**
Fairfax Collegiate Math 3-4
Robotics Zoo 3-4
Prototyping and 3D Printing 5-6
Robotics Olympiad 5-6
Creative Writing 5-6
HTML, CSS, and JavaScript 7-9
App Inventor 7-9
Model UN 7-9
Loudoun AOS Prep 7-8

**Afternoon**
Illustrated Stories 3-4
Power Engineering 3-4
Graphic Design 5-6
Intro to JavaScript 5-6
Elementary Debate 5-6
Inventing and 3D Printing 7-9
Robotics Combat 7-9
Intro to Geometry 7-9
Forensic Science 7-9

### Session II: Jul 1-Jul 12

**Morning**
Robots in Space 3-4
Reading Reinforcement 3-4
Fairfax Collegiate Math 5-6
Minecraft RPG Design 5-6
Forensic Science 5-6
Photography 7-9
Small Java 7-9
PSAT Prep 7-9
High School Writing 7-9

**Afternoon**
Math Fundamentals 3-4
Scratch Programming 3-4
Mobile Robotics 5-6
Stop-Motion Animation 5-6
Writing Skills and Grammar 5-6
Intro to Algebra 7-9
Minecraft Mods with Java 7-9
Middle School Debate 7-9
Animal Physiology 7-9

### Session III: Jul 15-Jul 26

**Morning**
Minecraft Modding 3-4
Story Writing 3-4
Brain Games 5-6
Elementary Debate 5-6
Writing for Middle School 5-6
Drones 7-9
Intro to Geometry 7-9
App Inventor 7-9
Lasers 7-9

**Afternoon**
Construction Robots 3-4
Chemistry Concepts 3-4
Intro to Drones 5-6
Math Fundamentals 5-6
Mobile Games 5-6
Aerospace Engineering 7-9
Mock Trial 7-9
Loudoun AOS Prep 7-8
Writers' Workshop 7-9

### Session IV: Jul 29-Aug 9

**Morning**
Minecraft Exploration 3-4
Writing Fundamentals 3-4
Problem Solving 5-6
Human Biology & Anatomy 5-6
Intro to VEX IQ Robotics 5-6
Raspberry Pi Engineering 7-9
Web Video 7-9
TJ Exam Prep 7-8
Analytic Writing 7-9

**Afternoon**
Word Problems 3-4
Spy Science 3-4
Raspberry Pi Projects 5-6
Filmmaking 5-6
Writing Skills and Grammar 5-6
Intro to Algebra 7-9
E-Sports Arena 7-9
TJ SIS Essay Prep 7-8
VEX IQ Robotics 7-9

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[‡]Indoor break location. The supervised twenty-minute morning and afternoon breaks are indoors at these facilities.

## www.FairfaxCollegiate.com

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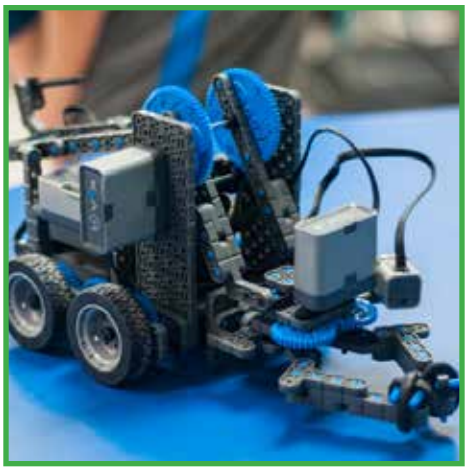

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3830 Seminary Rd.

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7401 St. Michael's Ln.

**Ashburn**
St. Theresa Catholic School
21370 St. Theresa Ln.

**Chantilly**
St. Timothy Catholic School
13809 Poplar Tree Rd.

**Dulles**
St. Veronica Catholic School
3460-B Centreville Rd.

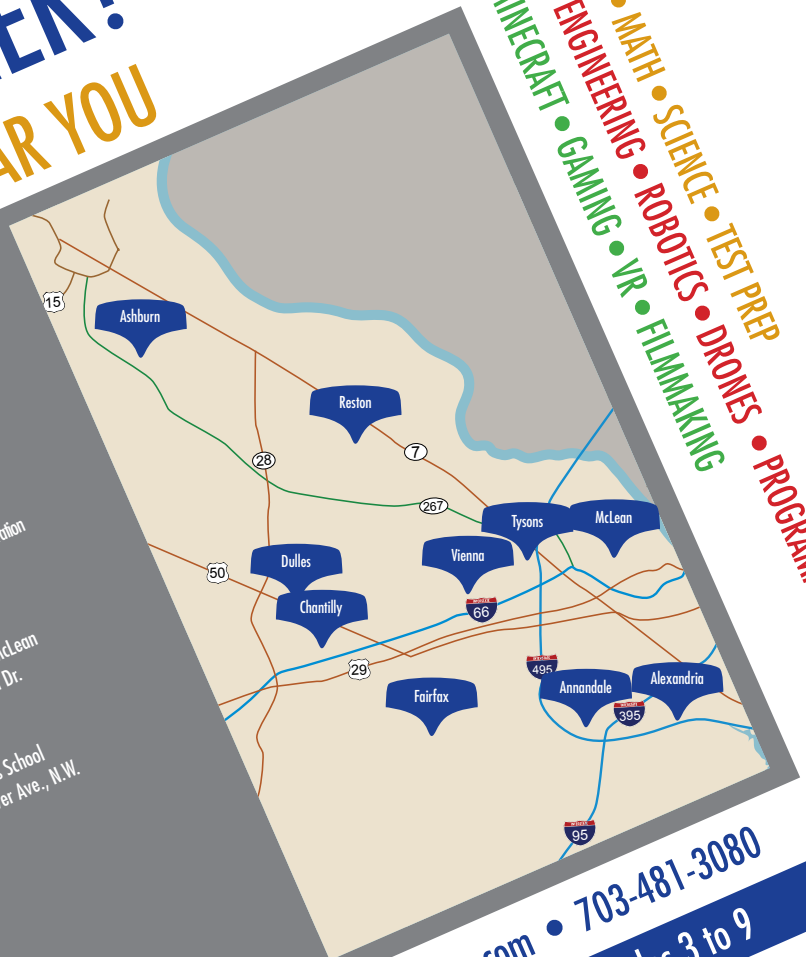
**Fairfax**
Gesher Jewish Day School
4800 Mattie Moore Ct.

**McLean**
Lutheran Church of the Redeemer
1545 Chain Bridge Rd.

**Reston**
Northern Virginia Hebrew Congregation
1441 Wiehle Ave.

**Tysons**
BASIS Independent McLean
8000 Jones Branch Dr.

**Vienna**
Green Hedges School
415 Windover Ave., N.W.

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