

Middle School Course Descriptions (Grades 6-8)

Course offerings vary by semester and location.

Unmanned Aircraft Systems

Advanced RC Aircraft (Lowry)

Students will design, build, and test an RC aircraft of their own, building on the skills gained during the introductory RC class.

Drone Soccer (Lowry)

Learn to play the fast and exciting game of drone soccer. Learn to build, program, and fly 20cm drone balls and work with a team.

Intro to Drones (Lowry & Centennial)

Learn how to safely fly a variety of drones. The basics of drone simulators, piloting skills, programming, safety, and airspace regulations serve as a foundation to becoming a responsible drone pilot.

Intro to RC Flight (Lowry)

In this course, participants will revisit the fundamentals of flight, learn basic electronics, and practice tools for aircraft building. Students will also develop remote-piloting skills while exploring the ethics and safety of RC flight.

General Aviation Knowledge

AeroMotion (Lowry)

Introduction into Aviation Animation and Filmmaking. Learn the basics of animation and filmmaking as you create dynamic short films from traditional filmmaking techniques to stop motion and 3D modeling software.

Basic Flight Sims (Lowry & Centennial)

Students will use the desktop version of Microsoft Flight Simulator X-Plane to learn basic flight techniques, air traffic control, and navigation.

Fundamentals of Flight (Lowry & Centennial)

This class covers the basic science of flight, focusing on simple aerodynamics, the four forces of flight, three-axis motion, and associated vocabulary. Students will examine wing shapes and control surfaces through a series of increasingly complex paper airplanes, while also exploring the historical context of aviation, starting with the evolution of flying insects.

Wings of War (Lowry & Centennial)

Soar through the dramatic evolution of military aviation and armament. Explore key developments from the early days of flight through modern advancements, examining how technological innovations and tactical doctrines have shaped air warfare.

Aerospace Science

Black Holes (Lowry)

Curious about black holes? This class will go into more depth about the life cycle of stars with a special focus on the end-stage of becoming a black hole.

Human Factors in Space (Lowry)

Get up and moving while we train like astronauts do! This class includes physical activity that is important for humans living in space, and activities that demonstrate different scenarios astronauts run into, and the science of how the human body works differently in space. We will create different experiments and mission scenarios to learn about zero-g living and engineering.

Introduction to Astronomy (Lowry)

Learn about the wonders of the night sky! We will explore objects in our solar system and others, galaxies, black holes, and more. Students will learn how to be a “backyard astronomer”, and will be able to attend a field trip to an observatory to look through telescopes and see the objects we learn about!

Life in the Universe (Lowry)

Do you think aliens are real? We will explore what ‘life’ is, where we might find it, and what conditions are necessary for life to form. Use your imagination to consider what sort of life and planets may exist in the universe, and how future scientists may be able to detect them!

Space Farming (Lowry)

To survive in space, humans will have to learn how to grow plants in space. We will think like astronauts on the ISS, and someday on Mars, who are growing their own food. We will also collaborate with NASA botanists.

Aerospace Engineering

3D Printing (Lowry & Centennial)

This class will focus on the basics of additive manufacturing and introduce students to filament and resin printing. As students develop their skills, they’ll use our 3D printers to produce a rocket car of their own design.

Aerobots LEGO Space Challenge (Lowry)

Aerobots LEGO Space Challenge is a next-level LEGO EV3 Robotics and Coding activity designed to connect robotics to the exploration of space. Because this is a competitive team activity, participating students will be chosen by the robotics team coach based on knowledge and experience. Students are required to complete limited assignments outside of class and attend practices and competitions.

AeroCode (Lowry)

Intermediary-level coding course focused outside of block coding and in elevated concepts and real-world applications. Learn how to code using a variety of programming languages, including Python, JavaScript, C++, and more.

CodeLaunch (Lowry & Centennial)

Entry-level programming for future developers. Through hands-on projects and interactive lessons, you’ll learn the basics of block coding to create simple games, animations, and applications while building a strong foundation in coding principles.

Flight Craft (Lowry & Centennial)

In this hands-on course, students will learn how to design and construct model aircraft using both traditional craftsmanship and modern technology. From handcrafting detailed models to utilizing resin and 3D printers, you'll explore various techniques to bring your aviation creations to life

MagicaVoxel (Lowry & Centennial)

An Introduction to 3D Modeling: For students new to 3D modeling and rendering, this is an ideal introduction to a range of simple software tools that provide visually spectacular results. Although the class includes technical components, the larger process will focus on creativity and artistic expression.

SpaceBots (Lowry)

Learn all about LEGO Robotics. Construct and program space-related missions and more with official LEGO parts, materials and coding.

