

Fall 2023 Weekend Programs Course Catalog

PreK - Grade 8

Northwestern University's Center for Talent Development (CTD) has an array of high-quality, captivating online and in-person enrichment courses available for students on Saturdays. Our courses focus on high-interest topics, include both collaborative group work and individual hands-on projects, and are led by expert instructors who demonstrate the joy in learning. Courses in mathematics, science, design & engineering, and computer science & technology engage students during six Saturdays. Students with demonstrated strengths in verbal/reading and/or math, depending on course, may apply. See <https://www.ctd.northwestern.edu/eligibility> for eligibility details. Visit our [application page](#) to begin your application.

Weekend Enrichment Program Details
Dates: Saturdays, October 7, 14, 21, 28, November 4, 11, 2023 (If needed, inclement weather day: November 18)
Times: 9:00 a.m. - 11:30 a.m.; select afternoon courses (12:00 p.m. - 2:30 p.m.)
Locations: Evanston - view the Weekend Enrichment Program web page for details.
Tuition: \$375

PreK - Kindergarten

Kid Chemists

Did you know there are four states of matter? Discover the exciting world of chemistry by studying how substances interact. Conduct hands-on, age-appropriate experiments and watch engaging demonstrations to discover what composes matter in its various states. Chemical bonding and reactions add an “element” of surprise to this investigation into the chemistry that surrounds us.

Open Enrollment: no eligibility requirements

SUBJECT: Science

Mathemagicians

What's the “magic” behind mathematics? Understand and develop a toolbox of math “tricks” for fast and accurate whole number computation. Solve a range of hands-on number problems and puzzles using the four operations of addition, subtraction, multiplication, and division. Create original math problems or puzzles using the special strategies investigated in class. See how magical math really can be!

Open Enrollment: no eligibility requirements

SUBJECT: Mathematics

Kindergarten - Grade 1

Mind Bogglers: Predictions and Probability

If there are three kinds of cookies, what is the chance you'll get the one you want? What are the odds of your team winning the game? These are questions of probability and prediction! Challenge and stretch your analytical skills as you learn to make educated predictions and consider probability—all through the exploration and creation of word problems, chance games, and brain teasers.

Open Enrollment: no eligibility requirements

SUBJECT: Mathematics

Grades 1 – 2

Intro to Coding: Stories and Sequences

Design and build animated stories, games and more using age-appropriate, colorful, interactive applications that support “drag and drop” blocks of code. Through hands-on, unplugged experiences, as well as screen-based activities, develop the vocabulary, critical thinking and problem-solving skills needed for future coding courses, and interact with technology in an active way. Fundamental computer science concepts such as symbols and algorithms are explored as students develop coding and spatial reasoning skills through dramatic play, construction, engineering, and storytelling.

Open Enrollment: no eligibility requirements

SUBJECT: Technology and Engineering

Simple Machines: An Introduction to Engineering

Work like an engineer to develop an understanding of simple machines, applying terms like work, energy, force, and effort through hands-on experiments. Explore foundational physics concepts with wheels and axles, wedges, pulleys, screws, inclined planes, and levers. Discover where these machines are used in everyday life, and then apply their knowledge to create your own multi-step machines that perform simple tasks.

Open Enrollment: no eligibility requirements

SUBJECT: Technology and Engineering

Detective Math

A good detective looks for clues and investigates patterns to solve a mystery. Through interactive games and story-problem riddles, sharpen your detective skills. Identify patterns to break math codes, apply problem solving strategies to decipher logic problems, and create simple equations based on the clues found in story problems. Test your new math and deductive reasoning skills on other detectives by creating your own stories, riddles, and mysteries!

Open Enrollment: no eligibility requirements

SUBJECT: Mathematics

Grades 3 – 4

Novel Engineering

Enhance your design and engineering skills as you bring to life ideas you've read about in literature! Could you design the central intelligence building on the dark planet of Camazotz? Or the space station of Sanity and Tallulah? In this arts-inspired engineering course, read and analyze excerpts from a variety of novels and then design an environment not yet visualized from those stories. Projects involve drawing, creative storytelling, and constructing three-dimensional structures.

Qualifying Area: Reading OR Math

SUBJECT: Technology and Engineering

Crash Course in Physics

How do engineers apply physics concepts in their designs? In this fast-paced adventure, investigate physics topics such as force, acceleration, friction, gravity, and potential and kinetic energy by designing and building objects and vehicles that move and crash. In an inquiry-based, collaborative setting, develop hypotheses, make observations, and communicate how physics informs the engineering design process.

Qualifying Area: Reading OR Math

SUBJECT: Science

Puzzling Problems: Logic, Strategy and Mathematical Thinking

How many solutions can you find for a single problem? Use puzzles and games to investigate real-world mathematical situations and collaborate with peers to find solutions to demanding problems. Explore connections between problems in measurement, probability, and geometry using critical thinking and deductive reasoning skills. Develop your own logic puzzles and math-oriented strategy games to challenge your classmates and family.

Qualifying Area: Math

SUBJECT: Mathematics

Grades 5 – 6

Creative Writing: Short Story

In this writing workshop, channel your creative ideas into generating a short story. Analyze professional writing techniques, practice writing and revising, and present your work to an audience. Combining elements of great storytelling and the short fiction form, create the piece that has been percolating in your imagination.

Qualifying Area: Reading

SUBJECT: English & Language Arts

Forensic Investigations

A half-eaten tuna sandwich, a blood spot, and lipstick on a glass: these might seem like completely unrelated elements at a crime scene but for forensic scientists, these could be clues to solve crimes. Explore the procedures utilized in crime scene investigation and forensic science through hands-on labs and applied activities where students act as a forensics team investigating an active crime scene. Inquiry and problem-solving are a primary focus of this course, furthering students' dexterity with logic, critical thinking and deductive reasoning.

Qualifying Area: Reading OR Math

SUBJECT: Science

Geometry and Measurement

How does understanding geometric figures help us navigate the world around us? Through exploration, practice and application, develop problem-solving skills that deepen your understanding of mathematical ideas and apply them to real world settings using geometry.

Qualifying Area: Math

SUBJECT: Mathematics

Grades 7 – 8

Debate: Ethical Arguments

What tools are needed to engage in respectful debate around real life ethical issues? How can you make your voice heard by others when discussing a hot-button topic? Learn principles and practices of communication while wrestling with age-appropriate, ethically complex questions. Apply research, thoughtful analysis and critical thinking to engage peers in systematic, open-minded debate. In a constructive, collaborative setting, students gain confidence in supporting and explaining their beliefs using reliable sources, body language, vocal presentation, active listening skills and civil discourse.

Qualifying Area: Reading

SUBJECT: Arts and Humanities

Lab Science: Biology

Delve into the work of a scientist and get introduced to a range of important biological concepts using laboratory practices, preparing presentations, and conducting project-based experiments. Topics include biochemistry, microbiology, cell structure, cellular reproduction, DNA, genetics, evolution and ecology.

Qualifying Area: Reading OR Math

SUBJECT: Science