Center for Talent Development
SCHOOL OF EDUCATION & SOCIAL POLICY

Center for Talent Development
Northwestern University

NORTHWESTERN UNIVERSITY

2012 Summer Program

For academically gifted students in PreK through grade 12

NEW THIS YEAR!

- **PROGRAMS AT ELMHURST COLLEGE FOR GRADES 4–6**
- **CREATIVE STUDIES COURSES**

PROGRAM SITES:

- **Chicago, Elmhurst, Evanston, Naperville, Palatine & Skokie, Illinois**

www.ctd.northwestern.edu

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On the cover: Lasting friendship, academic challenge and hands-on exploration of complex subject matter are benefits of the Center for Talent Development's acclaimed Summer Program.

Welcome to the Center for

Creative projects inspire innovation.

Parents Can Make the Difference

The National Association for Gifted Children (NAGC) is an organization of parents, teachers, administrators, other professionals and community leaders who unite to address the unique needs of children and youth with demonstrated gifts and talents as well as those children who may be able to develop their talent potential with appropriate educational experiences. Visit the NAGC website to join this organization and add your name to the ranks of supporters working to raise awareness of the needs of gifted learners nationwide. Learn more at www.nagc.org.

"My favorite parts were every day because I always learned something new and had fun."

— 2011 Spark student

Center for Talent Development has been accredited as a nonpublic supplementary school by the North Central Association Commission on Accreditation and School Improvement (NCA CASI) since April 1, 1994. NCA CASI is recognized by the U.S. Department of Education and has more than 100 years of experience in improving educational quality.

CONTACT INFORMATION

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FOLLOW US

web: www.ctd.northwestern.edu/summer
"Talent Talk" blog: Ctdblog.northwestern.edu
facebook: www.facebook.com/CTDatNU
twitter: @CTDatNU

Applications and other forms are available on the website. Click on Downloads in the left-margin menu.

Talent Development 2012 Summer Program

2012 marks a milestone for the Center for Talent Development (CTD). **We celebrate 30 years of innovation, breakthroughs and results in the field of gifted education.**

CTD was founded by a team of visionary educators and leaders in 1982. One year later the Summer Program was introduced. We've come a long way since then.

Today, our Summer Program is recognized nationally and internationally as a premiere summer learning opportunity and unique, life-changing experience for academically talented students. Ask our students and they are likely to report on the fun, friendships and "ah-ha" moments they have enjoyed.

The 2012 Summer Program is better than ever. **Building upon our past we are offering one, two and three-week sessions for children in grades 4 through 12** on the Northwestern University campus in Evanston, Illinois. **Responding to demand, we are expanding to offer programs for grades 4 through 6 at Elmhurst College in Elmhurst, Illinois.** We continue to offer a myriad of weeklong courses at sites in and around Chicago for younger children, PreK through grade 3.

I'm particularly proud of our Creative Studies series designed to encourage innovation. Children learn to push the realm of possibility and discover there is more than one solution to a given problem.

This year Creative Studies is expanding to our youngest Summer Program participants, PreK through grade 3. We are introducing the concept into our math curriculum with a new Math Studio option. Children can explore math fundamentals in the morning and then experiment with art applications in the afternoon. You'll find a full description in this catalog.

Creative Studies is also part of the Apogee program this summer. Introduction to Graphic Design blends art and technology in engaging and relevant visual communication projects.

So, if your child has already experienced the CTD Summer Program, be sure to apply again for a banner season that features new offerings for all grade levels in all subject matters. If you have been waiting, our anniversary year is the opportune time to experience the excellence of CTD.

Paula Olszewski-Kubilius

Paula Olszewski-Kubilius, PhD

Director, Center for Talent Development at Northwestern University

CTD 2012 SUMMER PROGRAM AT A GLANCE

LEAPFROG

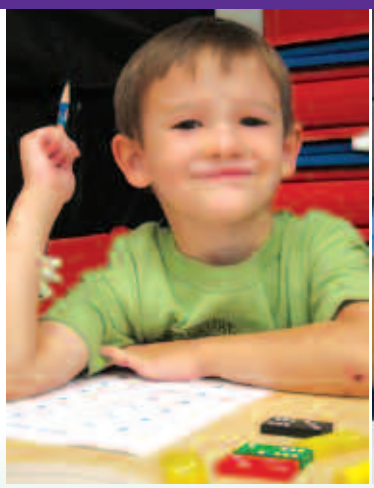
LEAPFROG *PreK (age 4) through grade 3*

Leapfrog provides fast-paced enrichment courses for students who have demonstrated a keen, early interest in learning. CTD offers half and full-day, one-week sessions both morning and afternoon in Skokie, Chicago, Naperville and Palatine, Illinois. Visit the Summer Program website for specific locations.

Courses vary by location and program. For courses and detailed program information, see pages 6 to 18.

Leapfrog Favorites (July 2 to 6, no class on July 4)
Skokie Site Only: Select courses available in a 4-day, half-day format. See page 8 for details.

Leapfrog Week 1 (July 9 to 13)
Leapfrog Week 2 (July 16 to 20)
Leapfrog Week 3 (July 23 to 27)
Site Locations: Skokie, Chicago, Naperville* and Palatine
Morning & afternoon half-day courses. All-day courses for students completing grade 3.



**During Week 3 only morning, half-day Leapfrog courses will be offered at the Naperville site. Afternoon and full-day courses will be offered at this site Week 1 and Week 2.*

SPARK

SPARK *completing grade 4 **

**Courses held at Elmhurst College are open to students completing grade 4 or 5. At the Northwestern University site, applications from students completing grade 5 will be considered on a case-by-case basis.*

NEW THIS YEAR: *Courses available at Elmhurst College, Elmhurst, Illinois*

Spark is a weeklong program for bright, academically talented young people searching for a fun and mind-stretching summer learning experience. Students at the Northwestern University site may choose to live on campus or commute from home. The Elmhurst College site is commuter only. Course descriptions are on pages 19 through 21.

Elmhurst College Dates (commuter):
Dates: One-Week Session 1: Monday, June 25 – Friday, June 29
One-Week Session 2: Monday, July 9 – Friday, July 13

Northwestern University Dates (residential and commuter):
One-Week Session 1: Sunday, July 15 – Friday, July 20
One-Week Session 2: Sunday, July 22 – Friday, July 27
One-Week Session 3: Sunday, July 29 – Friday, August 3

SOLSTICE

SOLSTICE *completing grades 4–6*

NEW THIS YEAR: *Courses available at Elmhurst College, Elmhurst, Illinois*

The Solstice program provides academically talented students with challenging enrichment courses. The two-week timeframe is great for students wanting extended study of a subject but who cannot commit to a three-week program. Students at the Northwestern University site may choose to live on campus or commute from home. The Elmhurst College site is commuter only. Course descriptions are on page 22.

Dates: Sunday, June 24 – Friday, July 6
(Elmhurst site starts Monday, June 25)

Application period begins January 1, 2012
Application deadline is May 14, 2012 (June 8 for Leapfrog Program)

Apply early! Courses are filled on a first-come, first-served basis.

APOGEE

APOGEE *completing grades 4 – 6*

Designed for bright, curious students completing grades 4 through 6, the Apogee program gives academically talented students the opportunity to take enrichment courses that deepen their knowledge and understanding of a particular subject. Students may reside on the Northwestern University Evanston, Illinois campus or commute from home. For course offerings, see pages 23 through 27.

Dates: Three-Week Session 1: Sunday, June 24 – Friday, July 13
Three-Week Session 2: Sunday, July 15 – Friday, August 3

SPECTRUM

SPECTRUM *completing grades 7 & 8**

**Students completing grade 9 may apply; applications will be considered on a case-by-case basis*

NEW THIS YEAR: *3-week enrichment course offerings*

The Spectrum program engages students completing grades 7 or 8 in challenging accelerated enrichment and high school level honors courses. Students may choose from 3-week honors enrichment or credit-bearing courses and can live on the Northwestern University Evanston, Illinois campus or commute from home. For complete course offerings see pages 28 through 34.

Dates: Three-Week Session 1: Sunday, June 24 – Friday, July 13
Three-Week Session 2: Sunday, July 15 – Friday, August 3

EQUINOX

EQUINOX *completing grades 9 – 12*

The Equinox program offers rigorous, accelerated courses and the opportunity to earn high school credit at the honors and Advanced Placement® (AP) levels. Students can experience life on the Northwestern University Evanston, Illinois campus as a residential participant or commute from home. For complete course offerings, see pages 35 through 41.

Dates: Three-Week Session 1: Sunday, June 24 – Friday, July 13
Three-Week Session 2: Sunday, July 15 – Friday, August 3

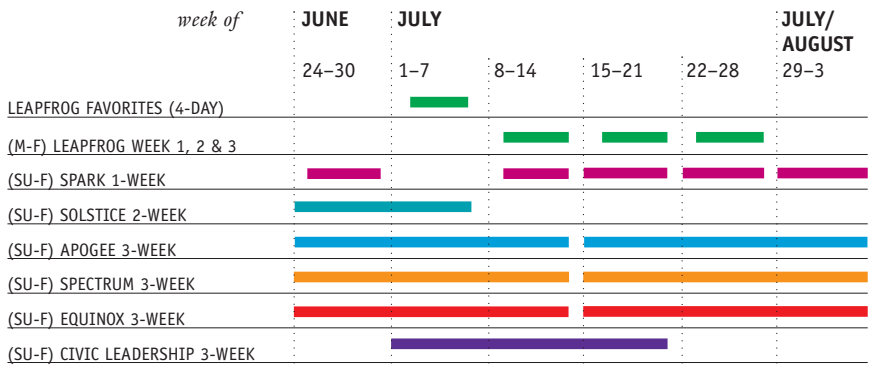
CIVIC LEADERSHIP

CIVIC LEADERSHIP INSTITUTE *completing grades 9 – 12*

The Civic Leadership Institute combines an innovative service-learning curriculum with an unforgettable residential experience in the heart of downtown Chicago. The program helps outstanding high school students develop the knowledge, experience and leadership skills they need to make a positive impact on the world. For details, see page 42.

Dates: Three-Week Session: Sunday, July 1 – Friday, July 20

2012 SUMMER PROGRAM SCHEDULE



CREATIVE STUDIES *INSPIRATION. INNOVATION. SUCCESS.*

Leonardo Da Vinci, Steve Jobs, Temple Grandin, Jeanne Gang – These individuals and others like them have used their talents and creative insights to change the world. Creative thinkers and problem solvers utilize concrete tools and generate abstract ideas and understand that both are necessary and complementary.

Center for Talent Development recognizes the importance of critical and creative thinking, innovation and media awareness to both educational and professional success. As such, CTD has developed a series of arts-integrated course offerings, identified as Creative Studies courses, to allow for creative exploration, skill development and knowledge application in fun and meaningful ways.

These unique, hands-on courses broaden students' knowledge base, introduce different ways of looking at the world and present media that students will utilize in future careers but are not included in traditional school curriculum.

Students who love to draw, build or design begin to see the connection between their interests and the making of visual culture. Our gifted students may be the innovators of their generation, and Creative Studies courses lay the groundwork for using visual language as part of their innovation toolkit encouraging them to apply their gifts in "thinking outside the box."

This summer Creative Studies courses are offered in Leapfrog (PreK–Grade 3) and Apogee (Grades 4–6). Read through the descriptions below and sign up for these great offerings at www.ctd.northwestern.edu/summer/apply.

Creative thinking opens young minds to new ideas and solutions.

LEAPFROG CREATIVE STUDIES COURSES

Math Studio

Math Studio is a unique afternoon course offering for students completing Kindergarten through grade 3.

In these studio courses led by artist-educators, students extend their math learning through arts exploration. Each studio classroom will offer group activities as well as centers for drawing, reading, puzzles, and dramatic play. Math Studio instructors collaborate with the Leapfrog math instructors to connect the afternoon arts activities with the math curriculum, allowing students to apply their learning in new and creative ways. Math Studio is designed to strengthen creative thinking and expression using academic subject matter. See below for descriptions of each week's content.

Weeks 1, 2 & 3 P.M.

Week 1 (July 9-13)

Codes & Symbols Math Studio

Students extend their growing knowledge of codes, patterns, and sequences through activities such as creating maps, building Rube Goldberg machines, dramatizing story sequences and creating musical patterns.

"My favorite part was trying things out. I loved trying things that I had never known before." — CTD student

= Creative Studies Course

"When your son comes home and is so excited that he can hardly speak fast enough, you know it is a home run!"— CTD parent

Graphic design blends the exciting, innovative worlds of technology and art.

Children explore new applications of math and other subjects through art.

Week 2 (July 16-20)

Puzzles & Games Math Studio

Clay, foam and wood are just three of the many materials students use to deepen their understanding of the math concepts applied in puzzles and games. Students invent games, build puzzles, try out each other's products and analyze the game-like qualities in the world around them.

Week 3 (July 23-27)

Business Math Studio

Creating a business is more than producing or selling "stuff". Students create an arts-themed business (theatre, gallery, etc.) starting at the macro level (locating the business, identifying how it fits into the community and its systems) and working toward implementation. After producing plans and identifying needed resources, students construct using blocks, pipe and wire. Finally, through music and dramatic play students take on roles like designer, performer and manager to create short productions and demonstrate their learning.

APOGEE CREATIVE STUDIES COURSE

Introduction to Graphic Design

Graphic design surrounds us: from the website or brochure you are reading to food packaging and advertisements on buses. This course teaches students the fundamental elements of visual communication, from typography to branding to product design. Through a series of real world exercises and hands-on studio sessions using Adobe Illustrator, Photoshop and iMovie, students build a foundation in design for print, online and multi-platform visual communication. Complementing the technical aspect of the course, literature serves as a source of inspiration and design narrative for the typography, branding, and motion graphic exercises.

Note: Additional $120 lab fee required.

Offered: Session 2

Sunday, July 15–Friday, August 3

LEAPFROG HALF-DAY COURSES (for students PreK–grade 3)

APPLY EARLY! ADMISSION BEGINS JANUARY 1

LEAPFROG HIGHLIGHTS FOR 2012

- New hands-on Math Studio courses in our Creative Studies series
- A 4-day week of "Leapfrog Favorites" in Skokie July 2-6 (no classes on July 4)
- Half-day and all-day course offerings at all locations

Please read the following information carefully. More details and information on application procedures are found on pages 16 through 18.

LEAPFROG provides innovative academic challenges for students PreK through grade 3. Courses include substantial and engaging hands-on activities designed to help youngsters with demonstrated strength in math or verbal areas acquire and practice new concepts in challenging and interesting ways. Leapfrog courses are designed to accommodate two grade levels: PreK/K, K/1, 1/2, and 2/3 (with the exception of Math Studio which includes K-grade 3). This structure provides more course options and allows students with similar skills and abilities to be grouped together. Enrollment in PreK through K/1 courses is approximately 16 students; grades 1/2 and 2/3 courses accommodate approximately 18 students.

Leapfrog provides course choices in English & writing, mathematics, and science (see following pages for specifics).

Leapfrog courses are offered in Chicago, Naperville, Palatine and Skokie. For specific locations, please see the Summer Program website at www.ctd.northwestern.edu/summer. You may enroll your child in one or multiple weeks of Leapfrog courses.

Select courses that best fit your child's academic strengths as determined through test scores and/or other academic measures.

Program Dates:
Leapfrog Favorites (Skokie Location Half-Day Only): July 2 – July 6 (No class on Wednesday, July 4)
Week 1: July 9 – July 13
Week 2: July 16 – July 20
Week 3: July 23 – July 27

Please note that there are three different Leapfrog choices:

- **Half-day A.M. courses** meet from 9 a.m. to 12 noon daily for five consecutive days (Monday through Friday). These courses are available in Chicago, Naperville, Palatine and Skokie. The half-day A.M. Leapfrog Favorites courses meet from 9 a.m. to 12 noon daily for four days (no class on July 4) in Skokie only.
- **Half-day P.M. courses** meet from 1 p.m. to 4 p.m. Monday through Friday. Three weeks of P.M. courses are available in Chicago, Palatine and Skokie. Two weeks of P.M. courses are available in Naperville.
- **All-Day Courses** are available for students completing grade 3 (with the exception of Introduction to Robotics which is available to students completing grade 2 or grade 3). The all-day courses are available at all Leapfrog locations but not all courses are available at every site. See the course chart on page 14 for details. All-day classes meet from 9:15 a.m. to 3:45 p.m. with a break for lunch. See page 14 for details.

Notes:

- Parents/guardians may enroll their children in an A.M. course, a P.M. course, or both.
- Lunch/recess option: All students enrolled in both an A.M. course and a P.M. course are automatically enrolled in the 12 noon to 1 p.m. lunch/recess option at no extra cost. The lunch/recess option is not available during Leapfrog Favorites.

LEAPFROG COURSE REFERENCE CHART

Students enroll in a course for the grade level completed in spring 2012.

KEY

CH	Chicago	**AM**	9 a.m.–12 noon
NP	Naperville	**PM**	1 p.m.–4 p.m.
PA	Palatine		
SK	Skokie		

LEAPFROG FAVORITES

Half-Day Courses

JULY 2-6 (No Classes July 4)

Course Number (Grade Level)	Course Title	Subject Area	CH AM	CH PM	NP AM	NP PM	PA AM	PA PM	SK AM	SK PM
0-A(PreK/K)	If I Ran the Zoo	English & Writing							●	
0-A(K/1)	Click! Telling Stories with Photos	English & Writing							●	
0-A(1/2)	Peter & the Wolf: When Orchestras Tell Stories	English & Writing							●	
0-A(2/3)	Space Station	English & Writing							●	
0-B(PreK/K)	Playground Math	Mathematics							●	
0-B(K/1)	Blocks & Blueprints	Mathematics							●	
0-B(1/2)	Treasure Maps	Mathematics							●	
0-B(2/3)	Math for Sports	Mathematics							●	
0-C(PreK/K)	Smelly Science	Science							●	
0-C(K/1)	Underwater Adventure	Science							●	
0-C(1/2)	Designing Sailing Ships	Science							●	
0-C(2/3)	Rocket Science	Science							●	

Half-Day Courses

Course Number (Grade Level)	Course Title	Subject Area	CH AM	CH PM	NP AM	NP PM	PA AM	PA PM	SK AM	SK PM
WEEK 1										
1-A(PreK/K)	Pirates & Treasures	English & Writing	●		●		●		●	●
1-A(K/1)	Monsters & Mermaids	English & Writing	●		●		●		●	●
1-A(1/2)	Gods & Goddesses	English & Writing	●		●		●		●	●
1-A(2/3)	Castles & Dragons	English & Writing	●		●		●		●	●
1-S(K-3)	Codes & Symbols Math Studio	Mathematics		●						●
1-B(PreK/K)	Number Secrets	Mathematics	●		●		●		●	●
1-B(K/1)	Code Breakers	Mathematics	●		●		●		●	●
1-B(1/2)	Math for Spies	Mathematics	●		●		●		●	●
1-B(2/3)	Secret Passwords	Mathematics	●		●		●		●	●
1-C(PreK/K)	Zoo Vets	Science	●	●	●	●	●	●	●	●
1-C(K/1)	Blood & Bones: The Human Body	Science	●	●	●	●	●	●	●	●
1-C(1/2)	Grossology: Fascinating Systems of the Human Body	Science	●	●	●	●	●	●	●	●
1-C(2/3)	Brain Surgery	Science	●	●	●	●	●	●	●	●
WEEK 2										
2-A(PreK/K)	The Secrets of the Sphinx	English & Writing	●		●		●		●	●
2-A(K/1)	The Mysterious Disappearance of Amelia Earhart	English & Writing	●		●		●		●	●
2-A(1/2)	The Bermuda Triangle	English & Writing	●		●		●		●	●
2-A(2/3)	The Many Mysteries of Space	English & Writing	●		●		●		●	●
2-S(K-3)	Puzzles & Games Math Studio	Mathematics		●						●
2-B(PreK/K)	Puzzles & Problems	Mathematics	●		●		●		●	●
2-B(K/1)	Games & Strategies	Mathematics	●		●		●		●	●
2-B(1/2)	Mind Bogglers: Predictions & Probability	Mathematics	●		●		●		●	●
2-B(2/3)	Brain Twisters: Multiplication & Fractions	Mathematics	●		●		●		●	●
2-C(PreK/K)	Building Bridges	Science	●	●	●	●	●	●	●	●
2-C(K/1)	Digging Canals & Tunnels	Science	●	●	●	●	●	●	●	●
2-C(1/2)	Designing Sailing Ships	Science	●	●	●	●	●	●	●	●
2-C(2/3)	Raising Skyscrapers & Towers	Science	●	●	●	●	●	●	●	●
WEEK 3										
3-A(PreK/K)	Open Your Own Restaurant	English & Writing	●		●		●		●	●
3-A(K/1)	On Safari	English & Writing	●		●		●		●	●
3-A(1/2)	Life in Ancient Egypt	English & Writing	●		●		●		●	●
3-A(2/3)	The Amazon Rainforest	English & Writing	●		●		●		●	●
3-S(K-3)	Business Math Studio	Mathematics		●						●
3-B(PreK/K)	Coins & Currency: Money In Our World	Mathematics	●		●		●		●	●
3-B(K/1)	Bank On It: Savings & Checking	Mathematics	●		●		●		●	●
3-B(1/2)	Budgeting A Business	Mathematics	●		●		●		●	●
3-B(2/3)	Taking Stock: The Ins & Outs of the Stock Market	Mathematics	●		●		●		●	●
3-C(PreK/K)	Wildfire!	Science	●	●	●		●	●	●	●
3-C(K/1)	Honeybees in Danger!	Science	●	●	●		●	●	●	●
3-C(1/2)	Oil Spill!	Science	●	●	●		●	●	●	●
3-C(2/3)	Plastic Pileup!	Science	●	●	●		●	●	●	●

Leapfrog courses offer a healthy mix of learning and fun.

"We have felt very welcomed by staff these past two years. I especially appreciated being greeted at the front door by the site director! A nice touch... gave the impression of care and concern for parents and students!" — 2011 Leapfrog parent

LEAPFROG HALF-DAY COURSES (for students PreK–grade 3)

SELECTING COURSES

To enroll in Leapfrog courses, students must have a score in the 95th percentile or higher on an in-grade, nationally normed standardized achievement test. If test scores submitted are more than 2 years old, CTD may request additional information or updated test scores to complete the application. Students completing grades 2 or 3 that do not have test scores, or that have scores below the 95th percentile, may submit an Admission Portfolio. Students completing grade three who have taken the EXPLORE test through NUMATS may submit their scores for admission (scores do not have to be in the 95th percentile for this above-grade-level test).

- English & writing courses require a verbal score in the 95th percentile
- Mathematics courses require a math/quantitative score at the 95th percentile
- Science and technology courses require a verbal OR math score at the 95th percentile

Identify the appropriate section for your child based on his/her current grade level. The course code and grade level precede each course title.

See page 16 for more information about eligibility.

LEAPFROG FAVORITES, JULY 2-6

A select group of our most popular Leapfrog courses will be offered at our Skokie location. All courses meet from 9 a.m. to 12 noon daily. There is no class on July 4.

ENGLISH & WRITING FAVORITES

Students with strong verbal ability may enroll in an English & Writing course. Students must have a verbal score in the 95th percentile or higher on an in-grade, nationally normed standardized achievement test or submit an Admission Portfolio (portfolio option available only to students completing grades 2 or 3). See page 16 for more information about eligibility.

Identify the appropriate section for your child based on his/her current grade level. The course code and grade level precede each course title.

O-A (PreK/K) If I Ran the Zoo
Students take on the roles of zookeepers and veterinarians to make important decisions about which animals to keep in their zoo and how to care for them. The young zookeepers conduct research and design animal habitats, create signs and other zoo literature, and discuss ethical issues related to zoo life and endangered animals. Early literacy skills are developed through drawing, dictation, and emergent writing.

O-A (K/1) Click! Telling Stories with Photos
Photographs are both inspiration and illustration as students combine words and images in the creation of original stories and poems. Students take their own photos as well as collect photos from families, magazines, and other sources.

O-A (1/2) Peter & the Wolf: When Orchestras Tell Stories
Prokofiev's Peter and the Wolf is just one orchestral work that tells an entertaining story. Young authors investigate the stories behind a number of famous orchestral pieces and write and illustrate the stories that they hear in a variety of well-loved works.

The best way to learn is by doing.

O-A (2/3) Space Station
A space colony is going to be established on another planet. Students take on the roles of young astronauts preparing to live together in space and in a strange new world. What will they need to bring? How will they prepare for their journey? Students work together, researching and writing their ideas and plans, to determine how the colony will be established and then blast off on their imaginary journey.

MATHEMATICS FAVORITES

Students with an identified strength in math, based on test scores or other academic measures, may enroll in a Mathematics course. Students must have a mathematics score in the 95th percentile or higher on an in-grade, nationally normed standardized achievement test or submit an Admission Portfolio (portfolio option available only to students completing grades 2 or 3). See page 16 for more information about eligibility.

Identify the appropriate section for your child based on his/her current grade level. The course code and grade level precede each course title.

"The CTD program was my daughter's favorite summer activity. It provided the right amount of structure, fun, and education." — 2011 Leapfrog parent

0-B (PreK/K) Playground Math
How many rectangles can be found in a set of monkey bars? How do you measure the angle of a slide and how does the angle of incline help you go down faster (or slower)? Students are introduced to a variety of tools and geometric concepts for hands-on exploration of everyone's favorite play space: The playground!

0-B (K/1) Blocks & Blueprints
A blueprint is a drawing that shows the design of a building or an outdoor area. Using blocks and other construction materials, students create models of buildings and spaces, then use geometry tools and concepts to draw blueprints and scaled diagrams of their creations.

0-B (1/2) Treasure Maps
Making maps, or cartography, is a process that involves many different geometry skills. Adding the mystery of buried treasure makes the process even more fun! Students apply principles of geometry and concepts of cartography to create their own treasure maps and use classmates' maps to find their treasure!

0-B (2/3) Math for Sports
How high do you have to jump to dunk a basketball? Student Mathletes dive into problem solving as they dunk, spin, jump and sprint like Olympic athletes. Concepts include velocity, angles, rate and ratio. Students use critical-thinking and problem-solving skills as they collect and interpret data during mathletic activities.

SCIENCE FAVORITES

Students with strong math or verbal ability may enroll in a Science course. Students must have either a mathematics or verbal score in the 95th percentile or higher on an in-grade, nationally normed standardized achievement test or submit an Admission Portfolio (portfolio option available only to students completing grades 2 or 3). See page 16 for more information about eligibility.

Identify the appropriate section for your child based on his/her current grade level. The course code and grade level precede each course title.

0-C (PreK/K) Smelly Science
A human nose can distinguish up to 10,000 different scents! And not all smells are good. Through class readings and discussions, our young scientists learn about what makes things smell. Experimenting with items such as plants, garbage, and perfume, students uncover the origins of different odors and investigate how the sense of smell affects everything from memory to behavior.

0-C (K/1) Underwater Adventure
Do fish sleep? Do whales talk? Students investigate the unique characteristics and lives of aquatic animals. Through model making, readings and research activities students are introduced to many different kinds of water animals and learn about biodiversity, interdependence and life cycles.

0-C (1/2) Designing Sailing Ships
Following in the footsteps of naval architects, novice designers examine the different methods of assembling ships complete with keels, hulls, and masts. Students implement and test their designs, evaluating the strengths and weaknesses of their ships.

0-C (2/3) Rocket Science
How do rockets blast off? Why do balloons fly in circles if you let the air out? Junior rocket scientists investigate the basic principles behind Newton's Third Law that says that for every action, there is an equal and opposite reaction. In small, collaborative groups students conduct experiments with objects and create simple rockets to learn about how objects move and why the size, shape and construction of materials matter. Interactive web tools and demonstrations are also used to support students' application of basic laws of physics.

ENGLISH & WRITING COURSES

Students with strong verbal ability may enroll in an English & Writing course. Students must have a verbal score in the 95th percentile or higher on an in-grade, nationally normed standardized achievement test or submit an Admission Portfolio (portfolio option available only to students completing grades 2 or 3). See page 16 for more information about eligibility.

Identify the appropriate section for your child based on his/her current grade level. The course code and grade level precede each course title.

Week 1 (July 9 – 13)

HISTORY, STORIES & MYTHS
Since the beginning of time, humans have shaped and defined history using their imaginations and influence. From pirates and monsters to myths and dragons, students sharpen their writing, research and critical–thinking skills as they explore the roots, truths and falsehoods surrounding these subjects. Readings coupled with writing projects, visual displays and drama activities provide students with opportunities to examine facts and fiction.

1-A (PreK/K) Pirates & Treasures
Through fictional and non-fictional literature, students discover pirates and treasures, decipher codes, and hunt for clues using readings and maps. The historical and cultural forces that surrounded pirating in different parts of the world at different time periods are also studied. To develop writing skills, students pen journals and stories.

1-A (K/1) Monsters & Mermaids
Students expand their reading, researching and listening skills through the exploration of fantastic tales about mysterious creatures, such as the Loch Ness monster and singing mermaids. Writing skills are advanced as students craft their own accounts of monster sightings in formats such as illustrated newspaper accounts, live reports and short stories.

LEAPFROG HALF-DAY COURSES (for students PreK–grade 3)

1-A (1/2) Gods & Goddesses
How did Zeus escape being swallowed by his father? Why is Aphrodite the goddess of love and beauty? In this course, students go back in time to find answers to questions such as these. As students discuss their readings they strengthen their vocabulary, comprehension and analytical skills. Students create their own stories exploring events and natural phenomena through the actions of gods and goddesses, synthesizing their newfound knowledge.

1-A (2/3) Castles & Dragons
The colorful history of Medieval England comes alive through the legends and stories of knights and quests. After gaining a base knowledge of medieval history through research and engaging activities, students collaborate to create their own projects representing the ideas and stories that have captured their imaginations.

Week 2 (July 16 - 20)
UNSOLVED MYSTERIES
Unanswered questions and lingering mysteries stump students as they consider solutions to cold cases in history. Critical-thinking skills are enhanced as students analyze literature and try to determine what happened and why. Writing activities and projects encourage students to synthesize the information they uncover.

2-A (PreK/K) The Secrets of the Sphinx
The Great Sphinx of Giza is an ancient monument built near Egyptian pyramids. A sphinx is a mysterious creature that is usually drawn by artists as part human and part animal. Many questions remain unanswered about how and why the ancient Egyptians constructed monuments and created art in the image of the sphinx. In pairs and small groups, students polish their critical thinking skills as they examine maps and photographs, build models, and read stories about this ancient creature.

2-A (K/1) The Mysterious Disappearance of Amelia Earhart
Many have studied the disappearance of the famous airline pilot Amelia Earhart, but few clues have been found. Creative projects such as writing editorial news stories and drawing detailed time lines allow students to enhance their understanding of her disappearance and form and document their own theories and opinions.

2-A (1/2) The Bermuda Triangle
Christopher Columbus was the first to make note of curious conditions in the Bermuda Triangle, a region of the Atlantic Ocean. Since that time, hundreds of ships and planes have disappeared in the area. Students read stories and personal accounts about these strange happenings in the Bermuda Triangle and formulate their own theories about the causes as they expand their writing and critical thinking skills.

2-A (2/3) The Many Mysteries of Space
Space is endless and so are the questions about its origins, composition, and unique features. Students explore several of the mysteries of space including black holes, quasars, wormholes and dark matter by reviewing the research, reading about recent discoveries, and considering the visual evidence. Students delve into a space topic of interest and present the story behind the phenomenon.

Week 3 (July 23 - 27)
YOU'RE IN THE STORY!
Stories are a powerful way to communicate ideas, emotions and information. Settings from a restaurant to the Amazon Basin provide the backdrop for students to create and act out their own stories. Students strengthen language and literacy skills through dramatic play, creative writing and storytelling, reading and research, and collaborative problem solving.

3-A (PreK/K) Open Your Own Restaurant
Everyone loves a good meal and what's more fun than eating out? Students create a restaurant as the setting for their own stories and imaginative play. Groups of students work together to design their restaurant by developing scripts, murals, posters and menus. The restaurant comes alive as students hone their language and early writing skills through creative storytelling and dramatization.

3-A (K/1) On Safari
As photographers on a safari trip to Kenya, students learn about African topography and the animals that are found in Kenyan game reserves. Students imagine and create their own game reserve, research the local Maasai culture and create a safari guidebook. Along the way, students encounter a variety of challenges that they must discuss, research and solve together.

3-A (1/2) Life in Ancient Egypt
By creating a story about a community that lives in the Nile River Valley, students investigate the culture and history of the ancient Egyptians. While role-playing members of Egyptian families, students learn about daily life, agriculture and trade and hardships such as drought. The creation of stories, murals, skits and posters challenge students to communicate their ideas using a variety of skills.

3-A (2/3) The Amazon Rainforest
The global impact of deforestation is examined as students analyze a lumber company's plan to buy a reserve. Through their roles as biologists, game wardens and indigenous people students explore the Amazon Basin's ecosystem as a habitat and source of materials. Models, skits, articles and stories are used as students use critical thinking skills and persuasive writing to determine the fate of the reserve.

MATHEMATICS COURSES

Students with an identified strength in math, based on test scores or other academic measures, may enroll in a Mathematics course. Students must have a mathematics score in the 95th percentile or higher on an in-grade, nationally normed standardized achievement test or submit an Admission Portfolio (portfolio option available only to students completing grades 2 or 3). See page 16 for more information about eligibility. Identify the appropriate section for your child based on his/her current grade level. The course code and grade level precede each course title.

NEW! MATH STUDIO

Students at our Skokie and Chicago sites are invited to enroll in an afternoon Math Studio course. Led by artist-educators, students extend their math learning through arts exploration. Each studio classroom will offer group activities as well as centers for drawing, reading, puzzles, and dramatic play. Math studio instructors collaborate with the Leapfrog math instructors to connect the afternoon arts activities with the math curriculum, allowing students to apply what they've learned in new and creative ways. Math Studio is designed to strengthen creative thinking and expression using academic subject matter. See descriptions on pages 4-5.

Week 1 (July 9 – 13)

CODES AND SYMBOLS

The world is full of codes and symbols and math skills help you decipher them! From number patterns to complex ciphers, young code breakers develop strategies and discover the secrets behind a fascinating variety of codes.

1-B (PreK/K) Number Secrets

How many different ways can you depict the number three? A digit is just one symbol that represents a numerical concept. Amazing secrets are revealed as students practice identifying and using symbol systems to represent mathematical ideas.

1-B (K/1) Code Breakers

Breaking a code often involves identifying a pattern. Morse code, for example, is a pattern of dots and dashes. Students identify patterns of numbers, letters, sounds, and symbols and use what they have learned to create their own secret codes.

1-B (1/2) Math for Spies

There's more to being a spy than just wearing a disguise. Spies also have to be expert mathematicians. In this course, aspiring spies use math to create secret codes, plot the coordinates of enemy hideouts, and discover, through logical reasoning, the identities of other spies.

1-B (2/3) Secret Passwords

How do computer passwords work? Why are some passwords better than others? This course explores a variety of methods for using and creating passwords and passcodes, and develops the mathematical and critical-thinking skills necessary to create master passwords.

NEW! 1-S (K-3) Codes & Symbols Math Studio

See description on page 4.
Offered: P.M. in Skokie & Chicago for students in K through grade 3

Week 2 (July 16-20)

PUZZLES & GAMES

Find the right strategy and a solution will emerge! With a focus on logical thinking, young mathematicians use reasoning, estimation and mental math skills as they play games, work through puzzles and tackle word problems.

NEW! 2-B (PreK/K) Puzzles & Problems

Puzzles, tangrams and story problems challenge students to seek solutions using computation, logic and deduction.

NEW! 2-B (K/1) Games & Strategies

Complex games and tough-to-solve problems are no match for students armed with the estimation and reasoning skills they acquire in this course.

NEW! 2-B (1/2) Mind Bogglers: Predictions & Probability

Students' analytical skills are challenged as they make educated predictions and consider probability — all in the context of word problems, chance games and brainteasers.

2-B (2/3) Brain Twisters: Multiplication & Fractions

Sometimes solving a math problem is like untangling a knot. Challenges keep young minds churning as they use fractions and multiplication to arrive at solutions.

NEW! 2-S (K-3) Puzzles & Games Math Studio

See description on page 5.
Offered: P.M. in Skokie & Chicago for students in K through grade 3

Week 3 (July 23 -27)

DOLLARS & CENTS: BUSINESS BASICS

Why do you need money? How do you make money? What does it take to create a successful business? From working with budgeting, currencies, and systems for tracking success to analyzing profit/loss and supply/demand relationships, participants learn about finance and business while applying their mathematical skills.

3-B (PreK/K) Coins & Currency: Money In Our World

Money doesn't grow on trees! Students in this course learn where money actually comes from and its role in the world. Course participants strengthen their computation skills as they explore and compare different currencies, learn the basics of exchange and value, and practice counting and making change through games and simulations.

3-B (K/1) Bank On It: Savings & Checking

"A penny saved is a penny earned." — Benjamin Franklin. Budding bankers explore the concept of a bank and its alternatives. After delving into topics including savings, interest and checking, students practice real-world skills as they establish their own bank and set up different types of bank accounts, make deposits and withdraw money.

3-B (1/2) Budgeting a Business

Are you making money? To answer that question, students create a kid business and set up a budget for their new enterprise. From considering supply and demand to calculating costs and paying employees (and, hopefully, turning a profit), students advance their creative-thinking, problem-solving and computation skills as they learn about building a business budget.

= Creative Studies Course

LEAPFROG HALF-DAY COURSES (for students PreK–grade 3)

3-B (2/3) Taking Stock:
The Ins & Outs of the Stock Market
What is the stock market? Why do people invest money? Students explore these questions and more as they learn about stock shares, dividends, stockbrokers, stockholders and stock exchanges. Computational and critical-thinking skills are employed as students assume roles in a mock stock exchange.

NEW! 3-S (K-3) Business Math Studio
See description on page 5.
Offered: P.M. in Skokie & Chicago for students in K through grade 3

SCIENCE COURSES

Students with strong math or verbal ability may enroll in a Science course. Students must have either a mathematics or verbal score in the 95th percentile or higher on an in-grade, nationally normed standardized achievement test or submit an Admission Portfolio (portfolio option available only to students completing grades 2 or 3). See page 16 for more information about eligibility.

Identify the appropriate section for your child based on his/her current grade level. The course code and grade level precede each course title.

Amazing and engaging Life Science courses offer hands-on projects and lively discussions.

"The instructor clearly understood how to create interesting, hands-on approaches to math and science." — 2011 Leapfrog parent

Week 1 (July 9 – 13)
LIFE SCIENCE
What do living things need to survive? How do different body systems work? Through investigations and simulations, course participants explore environments and systems of living things to discover the fascinating processes that keep them alive and thriving. Students are exposed to fundamental principles of life science, preparing them for more advanced explorations in biology and other related fields.

1-C (PreK/K) Zoo Vets
Junior veterinarians classify and compare animals, with a focus on the unique needs and characteristics of wild animals living in zoos. Students also examine the importance of creating zoo habitats and diets that keep them healthy and reflect the animal's life in the wild.

1-C (K/1) Blood & Bones: The Human Body
Young biologists investigate the systems of cells circulating within humans. Activities range from creating models of cells and organs to using inquiry to explore the effects of exercise on circulation.

1-C (1/2) Grossology: Fascinating Systems of the Human Body
Gross, grosser and grossest… The human body conducts fascinating and sometimes seemingly repulsive functions but all serve a valuable purpose! From spit and vomit to sweat and snot, curious students engage in inquiry-based experiments and activities to study the various systems of the human body, the functions they serve, and the outcomes they produce. Discussions, research and collaborative projects further challenge students to think critically and synthesize information.

1-C (2/3) Brain Surgery
Young neurologists go inside the brain to analyze its systems and understand its connection to the rest of the body. Among other activities, students map the brain, experiment with senses and the brain, and use interactive web tools to investigate the brain.

= Creative Studies Course

Week 2 (July 16 – 20)

ARCHITECTURE & ENGINEERING

What principles of physics, architecture and engineering are behind some of the world's greatest structures? In these courses, activities focus on learning about the origins and construction of existing structures built all around the globe. Through hands-on investigation and inquiry, students are provided with an excellent foundation for future scientific investigations in physics and engineering.

2-C (PreK/K) Building Bridges

Truss, arch, suspension, and more — young engineers learn about bridge structures and study famous examples from around the world. Students create their own bridge models based on the principles of physics and through the process of scientific inquiry.

2-C (K/1) Digging Canals & Tunnels

From the canals of Italy, Egypt and Panama to tunnels for cars, water, and power lines, aspiring engineers consider the development of these critical transportation systems. Students design and construct models and explain their planning process to peers and instructors.

2-C (1/2) Designing Sailing Ships

Following in the footsteps of naval architects, novice designers examine the different methods of assembling ships complete with keels, hulls, and masts. Students implement and test their designs, evaluating the strengths and weaknesses of their ships.

2-C (2/3) Raising Skyscrapers & Towers

How do you build a 200-story building so it won't topple? How does wind influence an architect's design? Student architects must answer these questions and more as they uncover the engineering and physics behind tall towers and stupendous skyscrapers.

Leapfrog promotes "hands-in" learning.

Week 3 (July 23 – 27)

DANGER ZONE! SAVING THE PLANET

Earth supports a mind-boggling range of living things from amoebas to humans. Scientists and engineers are still learning about protecting the Earth's environments and finding innovative ways to conserve its resources. Students engage in inquiry-based experiments that explore the variety of ecosystems on our planet and introduce students to topics in ecology, geology, oceanography, and limnology.

3-C (PreK/K) Wildfire!

Forests and prairies are filled with amazing plants and animals creating a very diverse ecosystem. Wildfires, a threat to these environments, are dangerous to people, plants, animals and their habitats. Students conduct hands-on experiments and observations that demonstrate how ecosystems are impacted by a major event like a wildfire. Students also explore ways people can help prevent wildfires and preserve delicate ecosystems.

3-C (K/1) Honeybees in Danger!

Bees do more than buzz and sting! They are very important to production of our food. Recently, scientists discovered that honeybees have been gradually disappearing from our environment. Students research the causes of the dwindling bee population and study the impact on farming and other important ecosystems. Building models and dioramas, conducting pollination experiments and tasting real honey are just some of the course activities.

3-C (1/2) Oil Spill!

What happens to plants, animals, people and our waterways after an oil spill? Students in this course learn about waterways and aquatic ecosystems and research the impact of pollution, such as oil, on rivers, lakes and oceans. Through visual demonstrations and experiments, students learn about water quality and use problem solving to discover ways to keep our water clean.

3-C (2/3) Plastic Pileup!

People throw away plastic bottles, cups, wrappers and toys every day. What happens to all that plastic after it becomes garbage? Why do we have to worry more about plastic than a banana peel? Through observations and experiments aspiring scientists explore this topic and learn about the concept of "zero waste." The science of decomposition and composting is explored through hands-on (aka "smelly and stinky") experiments that demonstrate what it means to be biodegradable.

LEAPFROG ALL-DAY OPTION (for students completing grade 3)

PROGRAM OVERVIEW

LEAPFROG offers all-day courses for students completing grade three* and looking for the chance to study one subject in greater depth. All-day courses are available at all four Leapfrog locations. Students engage in hands-on experiments and in-depth activities. Courses meet from 9:15 a.m. to 3:45 p.m., Monday through Friday. The week culminates with an *Expo!* of students' work the final Friday of each week at 3 p.m.

**Introduction to Robotics is available for students completing grade 2 or grade 3.*

ALL-DAY COURSE REFERENCE CHART

Students enroll in a course for the grade level completed in spring 2012.

CH=Chicago **NP**=Naperville **PA**=Palatine **SK**=Skokie

Course Number (Grade Level)	Course Title	Subject Area	CH	NP	PA	SK
WEEK 1						
1-D(3)	Animation Station: An Introduction to Computer Animation	Technology			●	●
1-E(2/3)	Introduction to Robotics*	Technology	●	●	●	●
1-F(3)	News & Views: Multimedia Journalism	English & Writing	●	●		●
WEEK 2						
2-D(3)	Girl Power Animation	Technology			●	●
2-E(3)	Building LEGO® Robots*	Technology		●	●	●
2-F(3)	M is for Mystery	English & Writing	●			●
2-G(3)	Life Underground	Science	●	●	●	●
WEEK 3						
3-E(3)	Programming LEGO® Robots*	Technology	●		●	●
3-F(3)	Write It, Tell It, Show It: Animated Storytelling	English & Writing			●	●
3-G(3)	Medical Mysteries	Science	●			●

*Students may enroll in any or all of the Leapfrog robotics courses.

A future in technology starts early.

Week 1 (July 9-13)

1-D (3) Animation Station: An Introduction to Computer Animation

How do you get a dog to run across a computer screen? Computer animation does the trick! In this hands-on course students learn fundamental computer animation using Scratch, a programming language designed to help young people produce rich interactive media. Skill development includes basic drawing tools as well as simple animations, graphic morphing, and graphic layering. Students create a brief animation program to share at the *Expo!* After completing this course, students are prepared for more advanced animation and program design work.

Note: Additional $25 lab fee is required.

Subject: Technology

1-E (2/3) Introduction to Robotics

Developed as an introduction to robotics, the LEGO® WeDo robotics system engages students in technology experiments that focus on science, mathematics, social studies and language concepts. Using icon-based programming software, students write and download programs to LEGO® robots allowing them to manipulate the movements of their models. This course is similar to the CTD SEP Course WeDo Robotics. There are no prerequisites for this course. Students may enroll in any or all Leapfrog robotics courses.

Notes:

- *This course is open to students completing grade 2 or grade 3.*
- *Additional $25 lab fee is required.*

Subject: Technology

1-F (3) News & Views: Multimedia Journalism

In this writing and reporting workshop, students get a taste of the exciting and challenging world of journalism today. Students practice interviewing, researching, writing, editing, and reporting as they try out print, broadcast, and electronic media. Aspiring journalists investigate a topic of interest and work collaboratively on publishable projects. The emphasis is on developing a clear and direct writing style.

Subject: English & Writing

Week 2 (July 16-20)

2-D (3) Girl Power Animation
This is the same animation course taught in Week 1 (see Animation Station, 1-D), but in a girls-only learning environment. The girls-only format is designed to develop girls' leadership skills and encourage achievement in science and technology.
Note: Additional $25 lab fee is required.
Subject: Technology

NEW! 2-E (3) Building LEGO Robots
Students are introduced to the LEGO® NXT robotics system and practice building their own robots. This course is similar to the CTD SEP Course Robotics I with a special focus on constructing various types of robots and introducing how to make them move. There are no prerequisites for this course. Students may enroll in any or all Leapfrog robotics courses.
Note: Additional $25 lab fee is required.
Subject: Technology

NEW! 2-F (3) M is for Mystery: Writing Suspenseful Stories
A is for author and F is for fun when students write stories of clues, suspense and suspects. Young mystery writers learn and practice techniques such as structuring a plot, building suspense, describing a setting and crafting dialogue. Students discuss and analyze classic mystery tales then draft and revise their own mystery stories.
Subject: English & Writing

NEW! 2-G (3) Life Underground
From the construction of tunnels and mines to the design of underground cities, the engineering challenges when building below the surface of the earth are fascinating and challenging. Students explore the science of creating habitable and usable spaces under the surface of the earth through hands-on experiments, model building, research, and discussion.
Subject: Science

Week 3 (July 23-27)

NEW! 3-E (3) Programming LEGO Robots
Using the LEGO® NXT robotics system, students work in teams and apply their problem-solving skills to program robotic systems that respond to feedback from the environment. This course encourages young engineers to apply their math and science skills in a fun, practical environment as they learn basic programming and get robots to follow commands. This course is similar to the CTD SEP Course Robotics II but with a special focus on programming. There are no prerequisites for this course. Students may enroll in any or all Leapfrog robotics courses.
Note: Additional $25 lab fee is required.
Subject: Technology

3-F (3) Write It, Tell It, Show It: Animated Storytelling
This course is for students who want the whole package—writing, storytelling, drawing, and animation! Students write and edit original narratives and record their work as audio tracks. These recordings are then used to create animated shorts based on hand-drawn, collage, or computer-generated illustrations.
Note: Additional $25 materials fee is required.
Subject: English & Writing

3-G (3) Medical Mysteries
Students become medical detectives as they study mysterious symptoms and discover the causes and cures of illness and disease. Hands-on science experiments and multimedia research projects engage students in developing observation skills, problem-solving strategies, and knowledge of biology.
Subject: Science

"My child was excited to go to the program every day. He loved his 2 classes. He loved staying for lunch and recess. He was engaged and challenged which is something different for him at 'school'. "— 2011 Leapfrog parent

Interaction with like-minded peers is an added benefit of Leapfrog courses.

Leapfrog Details, FEES & APPLICATION PROCEDURE

The following pages provide answers to important questions about the Leapfrog Program and the application process. Please read this information carefully and completely. Additional information is available on Center for Talent Development's (CTD) Summer Program website at www.ctd.northwestern.edu/summer. CTD looks forward to receiving your application!

APPLICATION DEADLINE (POSTMARK) IS JUNE 8, 2012

The application period begins January 1, 2012 and applications are reviewed as they are received. Apply early! Although the application deadline is June 8, many courses fill much earlier.

All applications postmarked after June 8, 2012 are charged a $50 late fee (see Course Fees section, next page). Although CTD does its best to accommodate late applications, enrollment may not be possible.

Please be sure to send a complete application packet. Applications are reviewed only after they are complete. After the June 8 deadline, applications that remain incomplete will be deemed inactive, will not be reviewed and no follow up contact will be made.

Notes:

- *Leapfrog application information is on page 18.*
- *Applicants are strongly encouraged to submit their application online at http://www.ctd.northwestern.edu/summer. If you are unable to apply online you may download the paper application form from the website or request one be sent to you.*
- *If you have questions, please e-mail Summer Program staff directly: summer@ctd.northwestern.edu.*

APPLICATION REVIEW PROCESS

Once the CTD Summer Program office receives a completed application, it is forwarded to the appropriate Leapfrog program coordinator for review. Once the application is reviewed and an enrollment decision is made, the program coordinator will notify the applicant via e-mail. The review and notification process takes approximately four weeks from the time that a completed application is received in the office (incomplete applications are not reviewed). Due to the volume of applications, the review process may take longer for applications submitted close to the application deadline.

ELIGIBILITY

Leapfrog courses are specifically designed for students PreK (age 4) through grade 3 who demonstrate exceptional ability and a strong interest in learning.

Students should apply for courses that are in their area of greatest strength. The focus of the program is on advancing higher-order and creative-thinking skills in students' talent areas. Courses are fast-paced and the curriculum is designed for students who function 1.5 to 2 grade levels above their chronological grade placement. Families should select a course grade band based on the grade level the student will have completed by summer 2012 (e.g., a student completing grade 1 should select a K/1 or 1/2 course).

Admission criteria vary by subject area and grade completed, as detailed below.

- **For English and writing courses:** Students must have a verbal score in the 95th percentile or above on an in-grade, nationally normed standardized achievement test.
- **For math and technology courses:** Students must have a mathematics score in the 95th percentile or above on an in-grade, nationally normed standardized achievement test.
- **For science courses:** Students may qualify with a math or verbal score in the 95th percentile or above.

Students who took the EXPLORE test in grade 3 may submit those scores to qualify for Leapfrog courses. Since EXPLORE is an above-grade-level test, students do not need to score in the 95th percentile to qualify.

Because many students in PreK through grade 3 do not have the opportunity for achievement testing within their schools, Center for Talent Development has a testing program (see next section). Comparable evaluations by a school psychologist may be used to demonstrate eligibility for the Leapfrog Program only if achievement scores in the areas of mathematics and language arts are included.

Students in grades 2 or 3 who do not have test scores may choose to submit an Admission Portfolio (see page 18).

TESTING FOR LEAPFROG ADMISSION THROUGH CTD

CTD has developed a testing program for students between the ages of four and nine (or not yet in grade 4). The CTD evaluation consists of achievement tests in letter recognition and reading, early mathematics, general information, and abstract representation. Please refer to CTD's website at http://www.ctd.northwestern.edu/summer/programs/leapfrog/testing/ for additional information and current fees. To arrange for testing, contact CTD at 847/491-3782 extension 6. Call for testing appointments early as it may be several weeks between when an appointment is set and the testing date, due to testers' availability and the volume of requests.

OPTIONAL PARENT ORIENTATION

An optional parent orientation is held on the first day of each week. The parent orientation provides an overview of program philosophy, procedures and policies as well as discussion of future program opportunities. More information will be provided in the acceptance materials.

FREE PARENT SEMINARS

Seminars on topics related to giftedness and parenting gifted children are offered one morning per week. Dates, topics and speakers are made available on the first day of class and will be listed on the CTD website.

BEHAVIORAL EXPECTATIONS

All students are expected to abide by the Leapfrog Honor Code while participating in the program. The Honor Code focuses on respect for self, others and property. It reads, "In order to create a safe and successful learning community, I will be honest and do my own work; treat others with kindness and respect; help keep my classroom and the school grounds clean; and follow the rules and listen to the teachers. I understand that what I do matters to other people and that being part of Leapfrog depends on my following this code."

INSTRUCTORS

Center for Talent Development selects instructors based on their mastery of subject matter, experience, enthusiasm and the ability to differentiate instruction. CTD instructors are particularly skilled at providing engaging and thought-provoking learning experiences for academically talented students.

THIRD-PARTY WEBSITES

CTD's website and CTD program and course materials may refer to third-party websites. Staff members review such websites for inappropriate content before referencing them. However, because web content continuously changes and is not controlled by CTD, CTD disclaims responsibility for the content contained on third-party websites. If you become aware of anything that may be inappropriate, please notify CTD staff immediately.

LUNCH & RECESS OPTION & FOOD POLICIES

The lunch/recess option is offered Monday through Friday from 12 noon to 1 p.m. at all Leapfrog locations. Students are supervised by teaching assistants as they eat lunch and participate in games and recreational activities. Parents must provide a bag lunch that does not require refrigeration or heating. More information will be included in the Leapfrog acceptance materials.

Lunch/Recess Participation

Students enrolled in both a morning and afternoon course are automatically enrolled in the lunch/recess option at no extra charge. Any student enrolled in a morning course for the half-day program may participate in the 12 noon to 1 p.m. lunch/recess option. Cost for the lunch/recess option is $10 per day. Students who are only participating in an afternoon course are not eligible to participate in the lunch/recess option.

Food Policies

All Leapfrog sites are peanut/tree nut free. Also, due to a special food policy at the Solomon Schechter Day School, students enrolled at our Skokie site should bring snacks and lunches that do not contain meat.

COURSE FEES

4-DAY LEAPFROG FAVORITES COURSE (SKOKIE ONLY)	
Course Tuition	$230
Application Fee	$ 60
Total Tuition	$290

PER HALF-DAY COURSE	ONE COURSE	TWO COURSES	THREE COURSES
Course Tuition	$285	$570	$855
Application Fee	$ 60	$ 60	$ 60
Total Tuition	$345	$630	$915

GRADE 3 ALL-DAY COURSES	ONE COURSE	TWO COURSES	THREE COURSES
Course Tuition	$560	$1120	$1680
Application Fee	$ 60	$ 60	$ 60
Total Tuition	$620	$1180	$1740

Notes:

- Payment may be made by credit card or by check or money order payable to Center for Talent Development.
- All Leapfrog applications must include payment for the total tuition plus the nonrefundable $60 application fee.
- Leapfrog students applying for more than one week or more than one course per week pay only one application fee.
- Fees include tuition and materials.
- A late fee of $50 must accompany each application postmarked after June 8, 2012.

REFUNDS & WITHDRAWALS

- All requests for refunds and/or withdrawals must be made in writing and either e-mailed, faxed or mailed to CTD by June 8, 2012. Check with CTD to confirm receipt of request.
- If a student withdraws in writing between the June 8 deadline and the start of the program, CTD will refund 50% of the program fees paid, less the $60 application fee.
- Students who withdraw after the start of a program receive no refund.
- Students dismissed for disciplinary reasons are not eligible for any refund.
- The $60 application fee is not refundable except in cases where all the courses applied for are closed or financial aid is not adequate for participation.
- Refund processing may take eight weeks, starting from the time a written request is received by CTD.

FINANCIAL AID

- CTD offers need-based financial aid awarded as requests are received beginning in January 2012. Families are encouraged to apply early as the amount of aid available is limited and is typically exhausted before the June 8 application deadline.
- The aid awards vary from partial to full tuition support. Awards are based on family income and extenuating circumstances (e.g., loss of job, unforeseen medical expenses, etc.). Most families awarded aid have a total household income of less than $50,000.
- Financial aid will be awarded for up to two half-day courses of Leapfrog or one all-day course of Leapfrog per student.
- To be considered for financial aid, families must complete the Financial Aid Application. All required materials (tax information, statement of need, etc.) must be included in the financial aid submission in order for an application for financial aid to be considered.
- The amount of financial aid granted and the balance due will be reflected on the invoice included in the acceptance materials. Any outstanding balance must be paid by June 8, 2012.

EVALUATIONS

- Leapfrog courses are for enrichment only; students in this program do not receive grades for the course(s) they complete.
- All students are sent a narrative evaluation which includes comments on the student's performance in class and recommendations for future study.
- Evaluations are sent to families via e-mail after the end of the summer program season, usually by September 15.

PROGRAM APPLICATION PROCEDURES

You may apply online at www.ctd.northwestern.edu/summer, download an application from the CTD website or request that an Application for Admission be sent to you.

Note: CTD does not accept faxed applications.

To begin the application process, select the applicant type best suited to you based on the descriptions below.

You are a **new applicant** with qualifying test scores if you meet **one** of the following ***two*** criteria:

- You have never attended a Center for Talent Development (CTD) Program and you have qualifying test scores.
- You have previously attended a CTD program, but you are now applying for a course in a different subject area than the course you completed and you have new qualifying test scores.

You are a **prequalified applicant** if you meet ***both*** of the following criteria:

- You have successfully completed a CTD program course (within the last 3 years).
- You have test scores or an admission portfolio on file at CTD that meets the criteria for the course for which you are applying.

You are an **admission portfolio applicant** if you meet ***both*** of the following criteria:

- You are completing grade 2 or 3.
- You do not have qualifying test scores because you have
  1) never taken a nationally normed standardized achievement test
  or
  2) taken this type of test but not achieved a qualifying test score.

VISA & PASSPORT REQUIREMENTS FOR INTERNATIONAL APPLICANTS (NON-U.S. CITIZENS) APPLYING FOR MORE THAN ONE HALF-DAY LEAPFROG COURSE

Any admitted student who is not a U.S. citizen, U.S. permanent resident or in another visa category that allows for study, and is applying for more than one Leapfrog course (over 18 hours of study) requires sponsorship for a student visa. Failure to comply may negatively impact a student's ability to secure another non-immigrant visa in the future.

- For more information visit www.travel.state.gov/visa/temp/types/types_1268.html.
- All non-U.S. citizens are required to have a passport to attend summer programs in the U.S. The passport must be valid for a minimum of six months after the completion of the program.
- Accepted students who require visa sponsorship may incur additional fees to cover processing and mailing costs.

"Leapfrog has instilled a love of learning in my daughter."— 2011 Leapfrog parent

APPLICATION MATERIALS CHECKLIST

Use the following chart to determine what materials are required in order to submit a complete application.

	APPLICANT TYPE		
	Prequalified	New Student w/test scores	New Student w/Admission Portfolio
APPLICATION FORM	●	●	●
APPLICATION FEE	●	●	●
FULL TUITION	●	●	●
TEST SCORES		●	(if available)
REPORT CARD			●
TWO TEACHER RECOMMENDATIONS			●

Application Notes:

- Test scores refer to nationally normed standardized achievement tests. For a list of accepted tests, please visit our website at www.ctd.northwestern.edu/summer/programs/leapfrog/eligibility/#score
- If test scores submitted are more than two years old, CTD may request additional information or updated test scores to complete the application.
- The report card should be the most recent evaluation of your child's school performance.
- The teacher recommendation form may be downloaded from www.ctd.northwestern.edu/summer/downloads. Two recommendations are required and they should be from individuals who are able to speak to your child's abilities in the subject area closest to the Leapfrog course choice.

Unable to apply online?

Download a copy of the application form at www.ctd.northwestern.edu/summer or request a paper application be sent to you by contacting the CTD Summer Program office.

To ensure prompt delivery, be sure to provide us with the following information:

1) Which application form(s) you are requesting
2) How you would like the material sent: e-mail or postal service
3) Address and contact information: include your name, mailing address (including city, state and zip code) or e-mail address and, in both instances, a phone number in case we need to contact you.

CONTACTING THE SUMMER PROGRAM

By Phone: 847/491-8257 (Summer Program direct line)
By E-mail: summer@ctd.northwestern.edu
By Fax: 847/467-0880

As a program participant, you will receive notifications of other programs and services provided by Center for Talent Development at Northwestern University. We hope you enjoy hearing about other opportunities from CTD. If you do not wish to receive e-mail messages promoting programs or services from CTD contact us at 847/491-3782 ext. 4 to request that your name be removed from our e-mail lists.

SPARK (for students completing grade 4)

APPLY EARLY! ADMISSION BEGINS JANUARY 1

NEW THIS YEAR: Second site at Elmhurst College (commuter only) in Elmhurst, Illinois

SPARK is a weeklong program for academically talented young people searching for a fun and mind-stretching summer learning experience.

Spark is offered in two locations:

- Elmhurst College, Elmhurst, IL
  - 2 weeklong sessions: June 25–29 and July 9–13
  - Open to students completing grade 4 or 5
  - Commuter program only
- Northwestern University, Evanston IL
  - 3 weeklong sessions: July 15–20, July 22–27 and July 29–August 3
  - Open to students completing grade 4; students completing grade 5 may apply and will be considered on a case-by-case basis
  - Students have the option of living on campus or commuting

Students take a single course that meets daily, typically from 8:30 a.m. to 2:45 p.m., although schedules vary slightly by site. The Spark Program culminates with an *Expo!* of student work and families and friends are invited to attend. Please check the details section (page 43) for additional information.

1. Scratch Technology I: An Introduction to Computer Programming (Beginning)
Have you ever wondered how computer games are created? How graphics are manipulated by the click of your mouse? Scratch Technology I is intended for students interested in learning to use computer programs to solve problems and create simple animated games in a structured environment. Students explore fundamental concepts in computer programming using Scratch, a programming language designed to help young people produce rich interactive media while developing meaningful 21st century skills. This class prepares students for computer gaming and future computer programming courses.
Note: No formal computer experience is required.
Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math on standardized achievement test; or Admission Portfolio
Offered: NU Weeks 1 & 2
EC Week 1

ELMHURST COLLEGE COURSE REFERENCE CHART (EC)

COURSE NUMBER	WEEK 1 (June 25–29)
1	Scratch Technology I: An Introduction to Computer Programming (Beginning)
5	Invention Convention: Ingenious Engineering
7	Cell Biology
8	Survivor Math: Extreme Problem Solving

COURSE NUMBER	WEEK 2 (July 9–13)
9	Scratch Technology II: An Introduction to Computer Programming (Advanced)
4	Comic Life: Creating Graphic Stories
6	How Things Work: Electronics
10	The Science of Treasure Hunting

NORTHWESTERN UNIVERSITY COURSE REFERENCE CHART (NU)

COURSE NUMBER	WEEK 1 (July 15–20)
1	Scratch Technology I: An Introduction to Computer Programming (Beginning)
2	Girl Power Tech: A Survey of Animation, Web Design, Electronics & Robotics
3	Flatland & Beyond: Imaginative Geometry
4	Comic Life: Creating Graphic Stories
5	Invention Convention: Ingenious Engineering

COURSE NUMBER	WEEK 2 (July 22–27)
1	Scratch Technology I: An Introduction to Computer Programming (Beginning)
6	How Things Work: Electronics
7	Cell Biology
8	Survivor Math: Extreme Problem Solving

COURSE NUMBER	WEEK 3 (July 29–August 3)
9	Scratch Technology II: An Introduction to Computer Programming (Advanced)
6	How Things Work: Electronics
10	The Science of Treasure Hunting
11	Aliens & Animation: Science Fiction & Fantasy

CTD Summer Program courses encourage creative as well as critical thinking.

SPARK (for students completing grade 4)

NEW! 2. Girl Power Tech: A Survey of Animation, Web Design, Electronics & Robotics

Four exciting tech topics in one girl-positive environment! Each day of the course introduces a technology topic that girls may want to study in the future: computer animation, web design, electronic engineering, and robotics. On the final day of class, female technology professionals will visit the class to talk about their careers.

Notes:

- *Additional $35 lab fee is required.*
- *No formal computer experience is required.*

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math on standardized achievement test; or Admission Portfolio

Offered: NU Week 1

3. Flatland & Beyond: Imaginative Geometry

3-D pictures and movies are cool, but what does a four-dimensional world look like? Questions like this have captivated mathematicians for centuries. Flatland, the 1884 novella by E.A. Abbott, inspired generations of mathematicians to visualize multiple dimensions in creative and sophisticated ways. Taking excerpts from Flatland, students use real and virtual tools to explore one-, two-, three-, and even four-dimensional worlds. Activities include solving tangram puzzles, engaging in geoboard games and drawing on a Lenart Sphere. This course helps students deepen their understanding of geometry and use math concepts for creative problem solving.

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math on standardized achievement test; or Admission Portfolio

Offered: NU Week 1

4. Comic Life: Creating Graphic Stories

Are you a fan of comics and graphic novels? Do you like using both images and words to tell a story? This course gives students a chance to write their own comics using Comic Life® software. Students learn elements of a successful comic as they plot events, develop characters, and practice visual storytelling. This is a great opportunity for students to develop their writing talents while learning photo, graphics, text editing and publishing skills.

Note: Additional $35 lab fee is required.

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in verbal on standardized achievement test; or Admission Portfolio

Offered: NU Week 1
EC Week 2

5. Invention Convention: Ingenious Engineering

Humans continually invent new ways to make their lives easier, safer and more interesting. We create new and improved toys and games. We figure out more efficient ways to transport our stuff and ourselves. In this course students channel their creative instincts, brainstorming, designing and constructing inventions that really work. The work begins with the study of great inventors and how and why certain products or machines were invented. Then, after brainstorming, students develop ideas for new inventions and plan how to make them. Next students create and test their ideas. Final projects are displayed and demonstrated at the class *Expo!*

Note: Additional $35 lab fee is required.

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math on standardized achievement test; or Admission Portfolio

Offered: NU Week 1
EC Week 1

6. How Things Work: Electronics

How does a DVD player work? What's inside your computer or cell phone? We love working and playing with high-tech gadgets, but how often do we stop to think how these things actually function? In this inquiry-based course, students safely dismantle common household items to discover how they work. Students also examine the development and use of these items and how they might be improved in the future. Through research, experimentation, and discussion students create and build simple electronic machines and circuits.

Note: Additional $35 lab fee is required.

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math on standardized achievement test; or Admission Portfolio

Offered: NU Weeks 2 & 3
EC Week 2

7. Cell Biology

Living things are composed of cells, but just what is a cell? What do cells look like and how do they work? Where do cells come from and how do they reproduce? These questions and more will be answered in this introductory cell biology course. Students learn laboratory skills as they examine the structures of various living cells, observe cells as they reproduce, and discuss the laws of genetic inheritance. Students create models, research the function and structure of cell parts and compare cells found in plants and animals. In addition to lab work, students undertake some independent reading and writing assignments.

Note: Additional $35 lab fee is required.

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in verbal or math on standardized achievement test; or Admission Portfolio

Offered: NU Week 2
EC Week 1

"My favorite part of the residential program at CTD is living with my friends because it's like a six-day slumber party." — 2011 Spark student

NU: Northwestern University, Evanston, Illinois
EC: Elmhurst College, Elmhurst, Illinois

"I loved it so much that next year I want to be two weeks instead of one week."

— 2011 Spark student

Group projects teach more than subject matter expertise.

NEW! 8. Survivor Math: Extreme Problem-Solving

Applying your math skills is the key to survival in this creative problem-solving course. Students role-play a variety of exciting scenarios such as marooned on a desert island, trapped in a disabled space station, cornered by an enemy army, or stranded in a deadly snowstorm. Geometry, algebraic thinking, probability, and measurement are just a few of the mathematic concepts used to save the day.

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math on standardized achievement test; or Admission Portfolio

Offered: NU Week 2
EC Week 1

NEW! 9. Scratch Technology II: Introduction to Computer Programming (Advanced)

Prerequisite: Scratch Technology I or equivalent beginning Scratch course.

Students build on the skills acquired in Scratch Technology I while enhancing and adding to their store of foundational computer programming concepts. The process of creating one- and two- player games challenges students to anticipate and solve problems, use imaginative imagery, and explore new programming concepts.

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math on standardized achievement test; or Admission Portfolio

Offered: NU Week 3
EC Week 2

10. The Science of Treasure Hunting

From archeologists to geocachers, treasure hunters use science and technology to guide their search for valuables around the globe. Students explore the world of treasure hunting by drawing on concepts from geology, oceanography, meteorology, physics, chemistry, and biology. Students conduct hands-on experiments and participate in various types of hunts, honing their navigation skills and using both early search techniques and current technology such as GPS.

Note: Additional $35 lab fee is required.

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in verbal on standardized achievement test; or Admission Portfolio

Offered: NU Week 3
EC Week 2

NEW! 11. Aliens & Animation: Science Fiction & Fantasy Stories Come to Life

From J.K. Rowling to Ray Bradbury, science fiction and fantasy writers create stories that exist only in our imaginations. Through a variety of individual and group writing activities, students develop fantastic story ideas and hone their descriptive and narrative writing skills. These original stories are used to create animated shorts based on hand-drawn, collage, or computer-generated illustrations.

Notes:

- *Additional $35 lab and materials fee is required.*
- *No formal computer experience is required.*

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in verbal on standardized achievement test; or Admission Portfolio

Offered: NU Week 3

SOLSTICE (for students completing grades 4–6)

APPLY EARLY! ADMISSION BEGINS JANUARY 1

NEW THIS YEAR: Second site at Elmhurst College (commuter only) in Elmhurst, Illinois

SOLSTICE provides interdisciplinary, interactive learning experiences for academically talented students completing grades 4, 5 or 6. The program encourages students to explore and develop their academic, social and critical thinking skills.

Solstice, a 2-week program, is offered in two locations:
- Northwestern University, Evanston IL – Students have the option of living on campus or commuting.
- Elmhurst College, Elmhurst, IL – Commuter program only.

Students take a single course that meets daily, typically from 8:30 a.m. to 2:45 p.m., although schedules vary slightly by site. Please check the details section (page 43) for additional information.

COURSE NUMBER	JUNE 24–JULY 6	NU	EC
12	Improvisation & Scene Writing	●	●
13	Heroes or Villains? The Law & Famous Trials	●	●
14	Get Smart! Spies, Gadgets & Intelligence Organizations	●	
15	Musical Math	●	
16	Cool Chemical Capers	●	●
17	Phun Physics	●	●
18	Genetics	●	

NU= Northwestern University Campus; **EC** = Elmhurst College Campus

HUMANITIES & SOCIAL SCIENCES

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in verbal on standardized achievement test; or Admission Portfolio

12. Improvisation & Scene Writing
Are you a writer and performer in need of new material? Students use their imaginations to generate themes and, through interactive instruction on fundamental concepts of improvisation, learn how to write a variety of original pieces. Students develop memorable characters, target a theme, and set and close a scene. Students also learn to critique and revise their written work.

13. Heroes or Villains? The Law & Famous Trials
Why do we have laws and trials? What is due process? Is a fair trial truly possible? This course explores the development of the modern legal system through re-enactments of historical trials including those of Socrates and Joan of Arc to determine if justice was served or if the legal process was tainted. Students learn about the law through famous trials of the past.

MATH, SCIENCE & TECHNOLOGY

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math on standardized achievement test; or Admission Portfolio

14. Get Smart! Spies, Gadgets & Intelligence Organizations
Human societies have developed intelligence networks to protect domestic secrets and protect themselves against threats. Cryptography and code breaking, remote sensing and surveillance are all a part of the intelligence game. Students explore the unique history, math and science behind intelligence gathering, researching spies and missions and developing their own plans, codes and gadgets to experience the world of espionage.

15. Musical Math
Mathematician and philosopher Gottfried Wilhelm von Leibniz said, "Music is the pleasure the human soul experiences from counting without being aware that it is counting." Most people enjoy music, but many consider math to be "difficult." Often they don't realize how closely the two are related! This course explores the relationship between music and mathematics—from rhythm and beats to pitch and patterns. Compositions are examined through a mathematical lens and students create their own mathematical compositions.

16. Cool Chemical Capers
How does soap remove dirt? What preserves packaged cupcakes? Students solve everyday mysteries in this inquiry-based introduction to chemistry. Students investigate the properties of various elements and learn what causes or prevents chemical reactions. They learn how substances can be classified by their properties, including melting temperature, density, hardness, and thermal and electrical conductivity.
Note: Additional $35 lab & materials fee required.

17. Phun Physics
Using Emil Ernerfeldt's Phun 2D physics animations, students learn the laws of physics through hands-on experiments and projects exploring Newton's laws of motion, momentum and energy. This course is for students interested in learning more about the forces that we encounter in our world and their applications.

18. Introduction to Genetics
When someone says, "its in her genes" what does it mean? Genes help determine the color of our eyes and hair, our height and our predisposition to certain illnesses. Students tackle genetics concepts and learn how genes and DNA determine traits through experiments and research. Course participants also discuss advances in the field of genetics, including the Human Genome Project, and consider the ethical, legal and medical issues involved.
Note: Additional $75 lab & materials fee required.

APOGEE (for students completing grades 4–6)

APPLY EARLY! ADMISSION BEGINS JANUARY 1

APOGEE provides interdisciplinary learning experiences for academically talented students completing grades 4, 5 or 6. The program's varied courses encourage students to explore and develop their academic, social and critical–thinking skills while promoting a positive attitude toward academic success.

Apogee, a 3-week program, is offered at Northwestern University's Evanston campus and students have the option of living on campus or commuting. During the program students take a single course that meets daily from 8:30 a.m. to 2:45 p.m. Recreational activities are available to all students at the end of the academic day from 3 p.m. to 5 p.m.

Each Tuesday and Thursday evening, Apogee residents participate in study sessions led by their teaching assistant. Commuter students are welcome, but not required, to attend these study sessions. Please check the Details section (page 43) for additional information.

"I loved the freedom we had in the writing class and the creativity involved. We don't usually do that in school."— 2011 Apogee student

COURSE NUMBER	SESSION 1 (June 24–July 13)	COURSE NUMBER	SESSION 2 (July 15–August 3)
19	Creative Writing: Short Stories	20	Creative Writing: The Next Chapter
21	Playwriting & Drama	22	Writer's Workshop
23	TV, Film & Webisodes	24	Journalism Today
		25	The Story Behind the Story
26	War, Peace & the New World Order	27	Model UN: Exploring International Relations
28	Ancient Wars & Mythology		
29	Order in the Courtroom: The Law Through Fable & Fairy Tale Trials	29	Order in the Courtroom: The Law Through Fable & Fairy Tale Trials
		30	Road to the White House
31	Open for Business		
32	Math: Puzzles & Games	33	Math Madness!
34	Pre-Algebra	34	Pre-Algebra
		35	Algebra I Honors
36	Introduction to Web Design	37	Introduction to Graphic Design
38	Bits & Blocks: Computer Programming	38	Bits & Blocks: Computer Programming
		39	Bits & Blocks 2: Logo to Python
40	Robotics	40	Robotics
41	Architecture: The Growth of Major Cities		
42	Designing Machines That Work: Engineering & Physics	42	Designing Machines That Work: Engineering & Physics
43	Up, Up & Away: The Science of Aerodynamics & Flight	43	Up, Up & Away: The Science of Aerodynamics & Flight
		44	Astronomy & Astrophysics: Beyond the Milky Way
45	Detective Science: An Introduction to Forensics	45	Detective Science: An Introduction to Forensics
46	Zoology	47	Breakout Biology: Infectious Disease

ENGLISH & WRITING

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in verbal on standardized achievement test; or Admission Portfolio

19. Creative Writing: Short Stories
"If a story is in you, it has got to come out." So wrote William Faulkner as he described the process underlying the writing of fiction. Students channel their creative ideas utilizing basic elements of a short story and intertwining these elements to form a polished, dynamic whole. By studying professional writing techniques, practicing writing and revising, and presenting their own work, young writers create a portfolio to take home.
Offered: Session 1

20. Creative Writing: The Next Chapter
Young writers at any stage of book writing—from great idea to the final chapters—are encouraged to join this class where they study examples of successful and well-written novels and plot a course for writing their own pieces. Students identify the elements that make a great novel and apply them to their own process. Daily peer critiques and revision workshops are utilized to help developing writers tap into their creativity and practice the focus, discipline and diligence necessary to complete a novel.
Offered: Session 2

21. Playwriting & Drama
Actors are only as good as the words they are given. Students learn to develop characters, write dialogue, improvise scenes and perform portions of some widely known, as well as their own, plays. Through the study of dramatic traditions in ancient Greek and Shakespearean theater, to farce and modern musical theater, students discover the essential elements shared by playwrights throughout the ages. Field trips, speakers and theater performances are also integrated into the course. In the third week, students perform their plays on stage.
Offered: Session 1

22. Writer's Workshop
"The difference between the right word and the almost right word is the difference between lightning and lightning bug," wrote Mark Twain. Students develop their communication skills as they learn to write various types of essays ranging from expository to persuasive. Through a variety of interactive class and small group activities, students discover how to incorporate feedback from peers and instructors into their writing. They move through drafting and revising stages to produce polished compositions. Students prepare a portfolio of writing samples that they can take home.
Offered: Session 2

23. TV, Film & Webisodes
This is an open casting call for writers, graphic artists, producers, directors and editors! Students interested in behind-the-scenes production of videos and film explore scripting, filming, editing, publishing and presenting using various film techniques. From the first idea to the final product, students hone their storytelling and producing skills. At the *Expo!* families attend a "film festival" showcasing student work.
Note: Additional $75 materials fee required.
Offered: Session 1

24. Journalism Today
What skills are needed to "get" a story, write the text, and meet that deadline in our fast-paced media-frenzied world? How do you produce a story for a newspaper, the television, Internet video or a blog? This introduction to the world of journalism requires students to examine all aspects of the craft, from the initial steps of identifying and researching a story, through writing, editing, rewriting, and publishing a final piece using journalistic best practices. Students practice interviewing techniques and become familiar with forms of journalistic prose such as news stories, editorials, columns, features, and personality profiles.
Offered: Session 2

25. The Story Behind the Story
Welcome to enchanted places, mythical creatures, magical spells, and the human quest for immortality! Before modern novels like Artemis Fowl, Eragon, Coraline and Harry Potter, there were Greek, Egyptian, Norse, Germanic, Old English and Icelandic sagas. Authors like Eoin Colfer, Christopher Paolini, Neil Gaiman and J.K. Rowling weave ancient tales and folklore into their novels. Sometimes they leave obvious clues about the stories they have used. Sometimes they leave messages in code. Students examine how pre-existing styles and subjects of storytelling have shaped modern imaginative fiction. This course offers students who enjoy imaginative fiction the opportunity to read ancient lore and discuss common themes in literature.
Offered: Session 2

CREATIVE STUDIES

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in verbal or math on standardized achievement test; or Admission Portfolio.

NEW! 37. Introduction to Graphic Design
Graphic design surrounds us: from the website or brochure you are reading to food packaging and advertisements on buses. This course teaches students the fundamental elements of visual communication, from typography to branding to product design. Through a series of real world exercises and hands-on studio sessions using Adobe Illustrator, Photoshop, Flash and iMovie, students build a foundation in design for print, online and multi-platform visual communication. Complementing the technical aspect of the course, literature serves as a source of inspiration and design narrative for the typography, branding, and motion graphic exercises.
Note: Additional $120 lab fee required.
Offered: Session 2

HUMANITIES & SOCIAL SCIENCES

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in verbal on standardized achievement test; or Admission Portfolio

NEW! 26. War, Peace & the New World Order
Do you know over 20 different international conflicts and civil wars are happening around the world? Or, that the Arab Spring across 18 countries has resulted in unprecedented leadership change? Using some of the world's current conflicts, both peaceful and violent, students explore causes of war, international involvement, popular movements, and the road to resolution. Students examine various conflicts discovering how movements start, how messages spread (now with social media like Facebook and Twitter) and how war or peaceful changes result. This is an excellent course for students passionate about history, global studies, geography and politics.
Offered: Session 1

27. Model United Nations (UN): Exploring International Relations
In 2000, every country agreed to eight specific humanitarian goals to improve the lives of all children and adults by 2015. Achieving these goals requires cooperation. Understanding international relations begins with researching the geopolitical history and economic systems of specific regions. Students learn the UN's principles and organization, examine current problems and analyze internal struggles within the organization. Students represent a nation and, using research, better understand how countries and cultures have been shaped and are linked to one another. Students serve as ambassadors at a mock Security Council session and present position papers and debate issues. Participants increase their cultural awareness and sharpen their research, analytical, writing and speaking skills.
Offered: Session 2

= Creative Studies Course

28. Ancient Wars & Mythology
The call to war was a constant theme in ancient cultures. Heroes were born of battles against the gods and each other. In Rome Cato the Elder cried, "Delenda est Carthago" (Carthage must be destroyed), and it was. Are these stories merely myths? In this course students read and examine historical documents related to the ancient wars as well as the stories and myths corroborating or dispelling some of these famous battles. Students explore the art of storytelling, discuss mythology, and examine oral tradition as they experiment with creative performance and come to understand the wars and mythology of ancient times.
Offered: Session 1

29. Order in the Courtroom: The Law Through Fable & Fairy Tale Trials
What do Jack from the Beanstalk, Hansel and Gretel, and Little Red Riding Hood, have in common? Each character is under 12 years old, gifted, and capable of tackling extraordinary challenges in order to live "happily ever after." Through the multiple lenses of law, literature, and theater, students in this course explore the moral dilemmas at the core of traditional tales. Is Jack guilty of manslaughter? Does Rumpelstiltskin deserve a pile of gold for breach of contract? An interdisciplinary mix of speaking and writing activities prepares students to take on the varied roles of lawyer, witness, juror, and storyteller. Order in the Courtroom focuses on developing advanced skills in oral argument, moral reasoning, mediation, conflict resolution, and the classic art of great storytelling all while learning about the legal process.
Offered: Sessions 1 & 2

30. Road to the White House: Campaign, Debate, Election, Victory
What must you do to fulfill the dream of getting to the White House? What does success take other than hard work and ambition? Aspiring politicians in this course investigate both the conventional and unorthodox roads former U.S. presidents took to the White House. Students examine the development of the rules and requirements for becoming president and consider the role of parties, platforms, and campaigns. To solidify their understanding of the political system, students engage in a campaign process, from establishing their candidacy and platform to building a "war chest" and making critical decisions that will impact the public trust. Students prepare for and participate in debates, write acceptance and concession speeches, and present their inauguration speeches. This class is for the student fascinated by history, politics, and the uniquely American road to the White House.
Offered: Session 2

BUSINESS

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in verbal or math on standardized achievement test; or Admission Portfolio.

NEW! 31. Open for Business
Looking to build a booming business? Trying to understand why some businesses fail and others succeed? Students learn about the market system and the choices and risks faced by individuals, businesses, and governments looking to provide goods or services. Students learn about scarcity, incentives, trade and market behavior as they study real businesses and simulate their own. This course is for the budding entrepreneur, helping him/her to identify the risks and potential returns of running a business and introducing the skills and background necessary to get started.
Offered: Session 1

MATHEMATICS

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math on standardized achievement test; or Admission Portfolio. For Algebra I, a score of ≥ 22 in math on the EXPLORE test taken in grades 3 to 6 is required. See the Algebra I course description for details.

32. Math: Puzzles & Games
After a typist wrote 10 letters and addressed the 10 corresponding envelopes, a careless mailing clerk inserted the letters in the envelopes at random, one letter per envelope. What is the probability that all 10 letters were inserted in the proper envelopes? Students in this course examine a wide variety of math topics through the lens of puzzles and games including chess, Go, Sudoku, modern strategy games, card and carnival games of chance, and game shows. Concepts range in complexity from pre-algebra to high school level math, including an advanced exploration of probability and statistics. The course culminates with a student-designed carnival applying the statistical and probabilistic concepts learned in class.
Offered: Session 1

33. Math Madness!
Caution: These problems may drive you wild! But, armed with motivation, persistence and problem-solving skills, you're bound to triumph. Using problems from *The Art of Problem Solving* and MATHCOUNTS, students learn concepts from pre-algebra, algebra, and geometry and utilize a wide range of problem-solving tactics. Math Madness! activities engage students who love number problems and puzzles, and who seek a greater challenge in mathematics.
Offered: Session 2

34. Pre-Algebra
What does it mean to solve for x? Why do we care about balanced equations? Pre-Algebra offers an innovative approach to the study of introductory algebraic skills in an environment that provides for both self-paced and cooperative learning. This course builds upon the essential skills of arithmetic as they apply to algebra, and is designed for math-minded students who enjoy working in teams and learning new techniques to solve math problems. Pre-Algebra solidifies students' understanding of math concepts necessary for success in algebra.
Offered: Sessions 1 & 2

35. Algebra I
Prerequisites: Successful completion of a full year of pre-algebra and EXPLORE test math score of ≥ 22. Students may not qualify for Algebra I using an in-grade-level achievement test.
Algebra I Honors is an instructor-led honors-level high school mathematics course covering equations and functions, properties of real numbers, solving and graphing linear equations and functions, solving and graphing linear inequalities, exponents and exponential functions, polynomials and factoring, quadratic equations and functions, radicals and geometry connections, and rational equations and functions. Students completing this course are prepared for Algebra II.
Note: Students who earn a grade of C or better and complete 12 chapters receive 2 semesters of credit through Center for Talent Development. Students who plan to use this course as a replacement for Algebra I in their regular school should communicate with school personnel prior to participating to determine if credit and placement might be acquired.
Offered: Session 2

TECHNOLOGY

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math on standardized achievement test; or Admission Portfolio. Students applying to Introduction to Graphic Design *may also qualify with a verbal score.*

36. Introduction to Web Design
Using a hands-on, project-based approach, students learn the terminology, basic concepts, and design techniques necessary for the development of a web page. Given a specific project, students consider design issues specific to web-based presentations; learn about effective page layout, navigation, and text; and delve into the design process. Students use Kompozer® and are introduced to an authoring software application and basic Hypertext Markup Language (HTML) as they create a well-designed and properly functioning web site. Technical issues such as file size and correct resolution of images are also covered. Photoshop and Flash are used to create images and animation.
Note: Additional $120 lab fee required.
Offered: Session 1

NEW! 37. Introduction to Graphic Design
See course description in the Creative Studies section on page 24.

38. Bits & Blocks: Computer Programming
Have you wondered how you control every movement on the screen while playing video games? Students unlock the mysteries behind the computer screen as they investigate fundamental concepts in computer programming. Using MicroWorlds software, students explore and test their ideas and develop their own 2-D multimedia projects and computer games, complete with animation, sound effects, movie clips, and music. This course encourages students to use their imagination and math skills, solve problems, and think creatively while developing simple computer programs. Students receive a copy of MicroWorlds.
Note: Additional $150 lab & software fee required.
Offered: Sessions 1 & 2

39. Bits & Blocks 2: Logo to Python
Prerequisite: Successful completion of Bits & Blocks or equivalent introduction to computer programming course
Redesign the games you play! Learn how to make tomorrow's must-have game! This course takes MicroWorlds programming to the next level, helping Logo programmers extend their game design experience into the world of Python. Students participate in case studies and analyze action games looking at levels, character abilities obstacles and enemies, health and lives, graphics and interface, and scoring and victory. Using their analysis, students use MicroWorlds to reverse engineer or redesign particular games. In the process, students develop deeper understanding of flow control and rudimentary data encapsulation and messaging. This understanding is then applied to game development in a Python programming environment.
Note: Additional $120 lab fee is required.
Offered: Session 2

40. Robotics
Have you always wanted a robot to do your chores? Are you fascinated by "smart" technology? In this course, students learn the basics of engineering, building and programming robots. Using the LEGO NXT Robotics Design System, students work in small groups to create robots that perform simple tasks, all the while learning basic principles of engineering, honing their math skills and testing their creativity.
Note: Additional $120 lab fee is required.
Offered: Sessions 1 & 2

SCIENCE

Admission Criteria: EXPLORE test; ≥ 95% national percentile rank in math (or verbal score ≥ 95% for Detective Science, Breakout Biology and Zoology) on standardized achievement test; or Admission Portfolio

41. Architecture: The Growth of Major Cities
A city's expansive skyline draws eyes upwards and jaws downwards — it's impressive and continually changing. Through readings and site visits to great Chicago architectural landmarks, students study the roles that math, history, science and the arts played in the creation of modern cities. Drawing from their experiences in the course, students discuss the relationship between space and architectural concerns including aesthetics, building materials, budget and function. Students

= Creative Studies Course

are challenged to use these concepts as well as cultural, economic, organizational and environmental concerns as they develop their own drawings and structures and "build" cities of the present and future.
Note: Additional $120 materials fee required.
Offered: Session 1

42. Designing Machines That Work: Engineering & Physics
How do machines work? How do you build the strongest bridge with the lightest building material? In this active classroom environment, students learn about the fundamentals of physics as they investigate engineering concepts such as the conservation of energy, Newton's law of gravity, and the theory of motion. They test these theories — and their own ingenuity — by generating creative alternatives to practical problems faced in scientific and technological fields today. To complement the lab work, field trips and presentations serve as catalysts for new ideas.
Note: Additional $120 materials fee required.
Offered: Sessions 1 & 2

43. Up, Up & Away: The Science of Aerodynamics & Flight
The mysteries of flight have intrigued human beings for centuries. Like the Wright brothers and Charles Renard, students study the principles that underlie aerodynamics — motion, force, energy, density, and the work of Galileo, Newton, and Bernoulli — and apply these concepts daily in lab and project work. Students follow the historical development of flying machines by constructing their own kites, parachutes, hot air balloons, gliders, helicopters, planes and rockets. This course introduces students to the concepts of physics and aeronautical engineering.
Note: Additional $120 materials fee required.
Offered: Sessions 1 & 2

Engineering students build the most aerodynamic car!

44. Astronomy & Astrophysics: Beyond the Milky Way
Explore the properties of stars, black holes, galaxies, and more; learn about the continuous expansion of the universe; and consider the possibility of extraterrestrial life! Students learn basic physics and mathematical concepts while studying topics such as stellar evolution and classification, solar physics and relativity. Students research planets, galaxies and contemporary theories about life and communication in the cosmos while learning about the tools and methods used to collect data in space.
Offered: Session 2

45. Detective Science: An Introduction to Forensics
"Eliminate all other possible solutions to the crime and there's only one left; it must be the answer, no matter how absurd." This was a guiding philosophy of Sherlock Holmes and still is for the detectives of popular TV dramas. In this course, students learn the forensic science involved in solving crimes, including how to collect fingerprints, crack secret codes, and examine corrosion evidence. Earth sciences, technology, life sciences, and physical sciences are combined to solve new mysteries every day. The course also includes studying detective fiction, from writers Blue Balliett and Ellen Raskin.
Note: Additional $120 materials fee required.
Offered: Sessions 1 & 2

46. Zoology
Lions and tigers and bears, oh my! The animal kingdom is vast and often mysterious. Participants learn the basics of animal biology related to structure and physiology. Students investigate evolutionary mechanisms that lead to the diversity of vertebrate and invertebrate animals. While conducting hands-on and virtual dissections and fieldwork, students identify, compare, and contrast the critical features used to classify animals into major groups.
Note: Additional $120 lab & materials fee required.
Offered: Session 1

47. Breakout Biology: Infectious Disease
Infectious diseases have plagued and puzzled humanity from the beginning of time. From the common cold to West Nile virus, infectious diseases continue to roam our planet. Students learn about the fields of microbiology, immunology and epidemiology as they are introduced to the microbes that cause diseases, such as bacteria, viruses, parasites, fungi and prions. They also investigate host-agent-environmental relationships and disease causation in an effort to understand how people manage and prevent disease. Students study how the human immune system works to keep us healthy. They look at advances in medical technology that have helped combat disease, have eliminated some, and allow us to continue to find cures for others. Students learn to question and hypothesize, identify and manipulate variables, observe, measure and record data, and analyze and interpret results.
Note: Additional $120 lab & materials fee required.
Offered: Session 2

SPECTRUM (for students completing grades 7 & 8)

APPLY EARLY! ADMISSION BEGINS JANUARY 1

SPECTRUM is a great opportunity for students completing grades 7 and 8* by summer 2012 to learn at a pace faster than is possible during the regular school year. Participants have the chance to study one subject in depth with peers who share similar interests and abilities.

Spectrum engages students in challenging, fast-paced enrichment and high school level honors courses. There are two program options available:

- Accelerated enrichment (fast-paced interdisciplinary, in-depth, non-credit courses)
- Accelerated honors (high school honors courses, credit-bearing)

Classes are held from 8:30 a.m. to 2:45 p.m. Monday through Friday for three consecutive weeks. Two evenings each week, Spectrum residents participate in study sessions led by their teaching assistant. Commuter students are encouraged, but not required, to participate in the study sessions. In the Accelerated Honors program, courses are taught at the high school honors level, and each 3-week course carries one or two semesters of high school credit offered through Center for Talent Development (CTD). The Accelerated Enrichment program courses are also taught at the high school level, but courses are designed to engage students in a topic of interest and allow them to study it in depth while applying critical and creative thinking skills.

CTD offers the Spectrum Program at Northwestern University's Evanston campus and students may reside on campus or commute.

**Students completing grade 9 may apply for Spectrum courses. Applications will be considered on a case-by-case basis.*

Please check the Details section (page 44) for additional information.

What better place to experiment than the lab?

COURSE NUMBER	SESSION 1 (June 24–July 13)	COURSE NUMBER	SESSION 2 (July 15–August 3)
Enrichment Courses			
48	Competition Math	50	Public Speaking
49	Biomechanics: Understanding Human Movement	51	Illusions & Solutions: The Art of Math

COURSE NUMBER	SESSION 1 (June 24–July 13)	COURSE NUMBER	SESSION 2 (July 15–August 3)
Accelerated Honors Courses			
52	Creative Writing Honors	52	Creative Writing Honors
53	Non-Fiction Writing Honors: Great Orators & Speech Writing	54	Non-Fiction Writing Honors: The Art of the Essay
55	Literary Analysis Honors: Short Stories	56	Science Fiction & Fantasy Writing Honors
57	Plays & Players	58	Vocabulary Honors: Greek and Latin in Today's World
59	Taking Action: Leadership & Service Honors	59	Taking Action: Leadership & Service Honors
60	Persuasion & Debate Honors	60	Persuasion & Debate Honors
61	Bubbles & Crashes: Introduction to Economics Honors	62	Crime & Punishment: Understanding the Justice System Honors
63	Geopolitics Honors		
64	Brain & Behavior: Introduction to Psychology Honors	65	IP* Algebra I Honors
		66	IP* Algebra II & Trigonometry Honors
		67	IP* Geometry Honors
68	Algebra I Honors	68	Algebra I Honors
69	Algebra II & Trigonometry Honors	69	Algebra II & Trigonometry Honors
70	Geometry Honors	70	Geometry Honors
71	Introduction to Computer Programming Honors: Java		
72	Robotics Honors	72	Robotics Honors
		73	Architecture: A Study in Math & Physics Honors
		74	Materials & Engineering Design Honors
75	Introductory Physics Honors		
76	Forensic Science Honors		
77	Topics in Chemistry Honors	77	Topics in Chemistry Honors
78	Topics in Biology Honors	79	Aquatic Ecosystems Honors
80	Introduction to Biomedicine Honors	80	Introduction to Biomedicine Honors
		81	Biology Honors

*IP-Individually Paced

"Academically, I think this is as good as it gets."— 2011 Spectrum student

"I liked the quick pace because we can learn so much more in three weeks." — 2011 Spectrum student

ENRICHMENT COURSES

NEW! 48. Competition Math
Do you participate in MATHCOUNTS® or have an interest in competition-based problem solving? Even if you haven't joined a math team yet, this course will introduce you to the concepts and techniques of applied math and solving competition math problems, the likes of which are seen in AMC, the Art of Problem Solving and other national math contests. This course covers the major areas of competition math — Algebra, Geometry, Number Theory, Counting and Probability — and is ideal for students who enjoy math and solving challenging problems.
Subject: Math
Admission Criteria: SAT M ≥ 450; ACT M ≥ 19; or Admission Portfolio
Offered: Session 1

NEW! 49. Biomechanics: Understanding Human Movement
Ever wonder how divers, gymnasts, skaters or skiers flip so effortlessly in the air? The laws of mechanics apply to our bodies and affect the ways we are able, or not able, to move. Through sports and physical exercise, students study anatomy and Newton's Laws of Mechanics to learn about the physical structure of the human body and its movements. Students also explore developments in sports medicine that have resulted from the study of biomechanics. Discussions, experiments, guest speakers and field trips teach students about this important and exciting area of study.
Subject: Science
Admission Criteria: SAT V or Crit. R ≥ 440 + SAT M ≥ 450; ACT R ≥ 19 + ACT M ≥ 19; ACT S ≥ 19; or Admission Portfolio
Offered: Session 1

NEW! 50. Public Speaking
Does being told to "visualize the audience in their underwear" REALLY help make it easier to speak to crowds? What are the principles of effective public speaking? Through readings, discussions, writing and performance, students learn both the art of and the techniques involved in effective public speaking. By preparing for and practicing various types of public speaking (i.e., informative, persuasive, extemporaneous, and ceremonial), students strengthen their writing and public speaking skills. This course prepares students for future writing and humanities/social science work.
Subject: English & Writing
Admission Criteria: SAT V or Crit. R ≥ 440; ACT R ≥ 20; or Admission Portfolio
Offered: Session 2

51. Illusions & Solutions: The Art of Math
Some of history's greatest minds have been fascinated by the art/math combination, including Archimedes, Leonardo da Vinci, Fibonacci, Frank Lloyd Wright and Johannes Kepler. Math is also clearly visible in the work of artists such as M.C. Escher and Pablo Picasso. This course explores the connections between mathematics and art: how artists use math to achieve artistic goals; how art can be used to explain mathematical ideas; and the critical mathematical formulas and principles used by artists and scholars. Students look at the work of famous artists, architects, and inventors, study the math within their work, and are given opportunities to explore the creative side of mathematics and apply it to various art forms such as tessellations, optical illusions and fractals.
Subject: Interdisciplinary
Admission Criteria: SAT M ≥ 450; ACT M ≥ 19; or Admission Portfolio
Offered: Session 2

ACCELERATED HONORS COURSES

ENGLISH & WRITING

52. Creative Writing Honors
Prerequisite: Graded creative writing assignment
In this course, students learn to read, write and think like writers through the reading of different creative genres that may include fiction, poetry and short story. Writing material and inspiration are gathered from a variety of sources and activities such as writing prompts, open discussions and field trips. The elements of effective writing are learned and applied in focused writing exercises, peer group response, literary analysis and instruction in craft. Class participants develop a portfolio of their own work. This course allows students to become more astute readers of literature and to understand more clearly how a writer employs aspects of craft to creative advantage.
Offered: Sessions 1 & 2
Admission Criteria: SAT V or Crit. R ≥ 470; ACT R ≥ 22; or Admission Portfolio
High school credit offered: 1 semester

53. Non-Fiction Writing Honors: Great Orators & Speech Writing
Prerequisite: Graded writing assignment
What makes a great orator? Is it the words, the delivery, or both? Learning how to write and deliver a speech is a critical communication skill for anyone looking ahead to college or pursuing a career involving leadership. Students listen to and analyze famous speeches from the likes of Winston Churchill, Martin Luther King, Jr. and others to determine what makes their orations memorable. Students identify the elements of excellent speech writing, including content, structure and delivery. Students then create their own speech, from rough draft to final product and presentation. This course is excellent preparation for advanced writing coursework and debate programs.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 470; ACT R ≥ 22; or Admission Portfolio
High school credit offered: 1 semester

54. Non-Fiction Writing Honors: The Art of the Essay

Prerequisite: Graded writing assignment

"The role of a writer is not to say what we all can say, but what we are unable to say." — Anaïs Nin. Exceptional essayists use the written word to present a point a view, prompt a reader to action, or bring an issue to life. In this writing intensive course, students learn the fundamentals of effective essay writing, becoming better readers and critical thinkers in the process. Using a range of essays as models, students discuss and practice essay writing, focusing on the persuasive, critical, narrative and personal forms. Students learn about audience, purpose, point of view and more. This class prepares students for advanced writing or AP English courses.

Offered: Session 2

Admission Criteria: SAT V or Crit. R ≥ 470; ACT ≥ 22; or Admission Portfolio

High school credit offered: 1 semester

55. Literary Analysis Honors: Short Stories

Prerequisite: Graded writing assignment

"The answers you get from literature depend on the questions you pose." — Margaret Atwood. As students read, discuss and write about the short story, they learn to analyze literary works critically and coherently. Selections may include classics by Nathaniel Hawthorne, Mark Twain, Virginia Woolf, Edgar Allan Poe, or Jack London, as well as contemporary works. Along with placing each reading in its biographical, historical, and cultural context, participants identify literary and aesthetic techniques and characteristics. Students improve their ability to write essays with purpose and clarity. This class is an excellent prelude to honors or AP literature courses.

Offered: Session 1

Admission Criteria: SAT V or SAT Crit. R ≥ 510 or ACT R ≥ 24 or Admission Portfolio

High school credit offered: 1 semester

56. Science Fiction & Fantasy Writing Honors

Prerequisite: Graded creative writing assignment

Science fiction and fantasy writers create new, extraordinary worlds, allowing readers to imagine things that never were but might be some day or simply to engage with creative minds at play. Through readings, discussion, movie excerpts, writing exercises and workshops, students learn how to use character development, point of view, plot and setting effectively to produce a text in this genre. Students read novels and short stories from authors such as Jules Verne, H.G. Wells, Nancy Farmer and Terry Pratchett. By the end of the course students have gained a better understanding of the science fiction and fantasy genre within a historical context, improved their writing and editing skills and produced their own short story and dramatic presentation.

Offered: Session 2

Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio

High school credit offered: 1 semester

NEW! 57. Plays and Players Honors

"All the world's a stage and all the men and women merely players…." — William Shakespeare

This course combines analysis, practicum, and creative play for students interested in plays, playwriting, theatre, acting, and the collaborative creative process. Participants will read and analyze contemporary plays, participate in theater exercises, and create and perform works for a final performance. This course is ideal for students interested in exploring new texts, stretching and deepening their writing abilities, learning new and innovative communication skills, and developing leadership and collaboration proficiencies and prepares students for advanced writing and humanities coursework.

Offered: Session 1

Admission Criteria: SAT V or Crit. R ≥ 470; ACT R ≥ 22; or Admission Portfolio

High school credit offered: 1 semester

58. Vocabulary Honors: Greek & Latin in Today's World

A knowledge of Greek and Latin roots and words is the foundation for an advanced English vocabulary and facilitates reading comprehension. Through word games, class discussions and independent and group projects, students in this course acquire an extensive foundation of Latin and Greek roots, prefixes and suffixes that allows them to understand, remember and utilize thousands of English words. The course also surveys classic literature and contemporary media helping students to both build their lexicon (great for college prep and advanced coursework) and deepen knowledge and comprehension as they play with words, explore history, and learn how language changes.

Offered: Session 2

Admission Criteria: SAT V or SAT Crit. R ≥ 510 or ACT R ≥ 24 or Admission Portfolio

High school credit offered: 1 semester

HUMANITIES & SOCIAL SCIENCES

59. Taking Action: Leadership & Service Honors

Each year, more than three million Americans experience homelessness. More than 11 million go hungry. One out of every six children in America lives in poverty. Why? What can young people do about it? As a recent student remarked, "Everyone knows social issues exist and wants to help – this course teaches how to do so." An offering of CTD's Civic Education Project, this innovative curriculum integrates academic study with meaningful community service for an experience that participants routinely describe as "eye-opening" and "life-changing." Students split their time between the classroom and supervised hands-on service projects with community organizations ranging from homeless shelters to Head Start programs to top political offices. Through academic research, small group work, and facilitated reflection, students investigate the root causes and proposed

solutions of pressing social problems and gain a deeper understanding of complex social issues. This course enhances communication, critical thinking, and problem-solving abilities and prepares students for a lifetime of leadership and civic engagement.
Note: Additional $65 field study fee required
Offered: Sessions 1 & 2
Admission Criteria: SAT V or Crit. R ≥ 470; ACT R ≥ 22; or Admission Portfolio
High school credit offered: 1 semester

60. Persuasion & Debate Honors
Effective listening is critical to effective speaking — a persuasive communicator needs both skills. Persuasion & Debate Honors is grounded in rhetorical tradition, modern theories and practices in the language arts. Students address salient issues and develop skills in critical thinking, public speaking, argumentation, and writing through lectures and discussions, reflective writing, persuasive essays, speeches and structured debates. This course focuses on the principles and practices of effective communication in a variety of speaking situations that students will encounter in school and later in life. After completing this course, students will be prepared for advanced study in honors English, humanities, and social sciences and will be able to participate in various forms of competitive debate.
Offered: Sessions 1 & 2
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

61. Bubbles & Crashes: Introduction to Economics Honors
What caused the housing market bubble to burst? How did the U.S. economy slide into recession? Through readings by prominent economists, discussions and case studies, students examine economic booms and crises of the past and present, focusing on concepts such as supply and demand, the law of diminishing returns, marginal utility and the theory of the firm and industry. Students interested in political science, international relations, or other advanced social science courses are encouraged to apply.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

62. Crime & Punishment: Understanding the Justice System Honors
"Justice is incidental to law and order." — J. Edgar Hoover. This course investigates the cycle of justice, including the relationship between law enforcement, the judicial system, and the correctional system. Through readings, discussions and review of historical cases, students explore the ethical questions surrounding the execution of justice and the role of various officials involved in the process. This is an excellent course choice for students interested in law and politics.
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

63. Geopolitics Honors
Prerequisite: Graded writing assignment
Since the end of WWII, international relations has been dominated by U.S. foreign policy. Geopolitics Honors provides an introduction to modern foreign policy using the study of media, theories and roles of international organizations. Students analyze means of cooperation, such as economic globalization, environmental agreements and diplomacy, and study issues of conflict that may include nationalism, human rights and security using examples such as the recent unrest in several Arab countries and the rapid economic development of China. Readings and discussions are complemented by guest presentations, field trips and structured writing experiences, helping students hone their critical-thinking and persuasive-writing abilities.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

64. Brain & Behavior: Introduction to Psychology Honors
Why do people do what they do? Why are we the way we are? What makes some behavior "normal" and other behavior "abnormal?" This course focuses on the structures and functions of the brain, neurons, and nervous system; the relationship between brain activity and thought and behavior; and the role of biological, environmental, social and individual factors in psychological experience. By participating in dynamic lectures, group activities, debates and hands-on projects, students examine key theories, individuals and experiments in the field of psychology in order to gain a better understanding of scientific research and psychological thought. This is an excellent introduction for students interested in behavioral science or advanced-level psychology courses.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 470; ACT R ≥ 22; or Admission Portfolio
High school credit offered: 1 semester

"[The best part was] meeting kids who were focused on their studies. Being exposed to new ideas...coming to the realization that 'there is a lot I don't know'!"

— 2011 Spectrum student

MATHEMATICS

Spectrum offers a variety of mathematics courses presented in two formats: teacher-led (instructor paces the instruction and leads class meetings) and individually paced (students pace themselves with instructor support and the instructor serves as a facilitator or "guide on the side"). Although the content of the courses is equivalent, the requirements of the students as learners vary greatly. (See box in center column for details.)

The following information applies to all IP courses.

Note: A graphing calculator is required.
Offered: Session 2
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 2 semesters

65. IP Algebra I Honors
(see course description #68 for list of topics and prerequisites)

66. IP Algebra II & Trigonometry Honors
(see course description #69 for list of topics and prerequisites)

67. IP Geometry Honors
(see course description #70 for list of topics and prerequisites)

68. Algebra I Honors
Prerequisite: Pre–Algebra
Algebra I Honors is an instructor-led honors-level high school mathematics course covering equations and functions, properties of real numbers, solving and graphing linear equations and functions, solving and graphing linear inequalities, exponents and exponential functions, polynomials and factoring, quadratic equations and functions, radicals and geometry connections, and rational equations and functions. Students completing this course are prepared for Algebra II.
Note: A graphing calculator is required.
Offered: Session 1 & 2
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 2 semesters

Who Should Take Individually Paced (IP) Math Courses & Why?
Individually paced (IP) learning is a research-validated approach for gifted students, particularly in mathematics. Grounded in research conducted by Johns Hopkins University's Study of Mathematically Precocious Youth, IP courses are designed for students with high mathematical ability, high self-motivation, and strong independent learning skills. The format lets students work independently at a pace commensurate with their abilities.

In IP math courses, instructors work with students to assess their needs, monitor their progress by setting schedules for students to complete the required work and provide instruction when necessary. Still, students direct their own learning and must advocate for themselves in the learning process. Mastery must be demonstrated for students to progress to subsequent chapters in the text. If a student is unable to complete an entire two-semester course independently, s/he may continue his/her work after the session, at an additional cost, through CTD's Gifted LearningLinks Summer Bridges online learning program.

69. Algebra II & Trigonometry Honors
Prerequisite: Algebra I
Algebra II & Trigonometry Honors is an advanced instructor-led algebra course focusing on topics of systems, equations, polynomial arithmetic, complex numbers, solutions of quadratic equations, exponential and logarithmic functions, sequences, series, graphs of polynomial functions, conic sections, and concepts in trigonometry including trigonometric identities. Students completing this accelerated course are prepared for future coursework in math, physics and engineering.
Note: A graphing calculator is required.
Offered: Sessions 1 & 2
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 2 semesters

70. Geometry Honors
Prerequisite: Algebra I
Geometry Honors is an instructor-led course in two- and three-dimensional geometry. Topics include formal proofs, logic and deductive reasoning, constructions, congruence and similarity, parallels and perpendiculars, polygons and circles, transformations and problem solving using advanced technology.
Note: A graphing calculator is required.
Offered: Sessions 1 & 2
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 2 semesters

TECHNOLOGY

71. Introduction to Computer Programming Honors: Java
Prerequisite: Algebra I
Students learn computer programming using the Java programming language. Utilizing a PC-compatible computer, a Java compiler, and the logical and problem-solving capabilities of Java, students investigate mathematical concepts. They also explore progressively more sophisticated mathematical ideas drawn from number theory, statistics and probability, and other areas of mathematics. This class prepares students to take AP Computer Science A.
Note: Students will need to bring a PC-compatible computer for use in the course. Students who do not have a computer should contact the Spectrum Program Coordinator to discuss alternatives.
Offered: Session 1
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 1 semester

Strong friendships form in the CTD Summer Program

72. Robotics Honors
Prerequisite: Algebra I
Did you know that mp3 players, microwaves, copy machines, cell phones, and universal remote controls are all robotic systems? This hands-on course focuses on mechanical construction, characteristics of sensors, motors and batteries, and control strategies for autonomous robots. Students are members of class teams that design, build and program complete robots that participate in competitions. Biologically inspired approaches to the design and control of autonomous robots are emphasized.
Note: Additional $120 materials fee required.
Offered: Sessions 1 & 2
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 1 semester

The Materials Science concrete lab is great for experimentation.

SCIENCE

73. Architecture: A Study in Math & Physics Honors
What is the "golden ratio" and how does it help us find important architectural relationships? Students not only study the history and types of bridges and skyscrapers, but are also introduced to the scientific principles and mathematical concepts that support these structures. Students apply these concepts as they participate in various hands-on activities that lead up to the design and construction of their own bridges and towers. Scale model drawings are used in the design process, and students build a model of their drawings. Each structure is tested for structure efficiency. This interactive course is ideal for students interested in the fields of math, science, engineering and architecture.
Notes:
- *A scientific or graphing calculator is required.*
- *Additional $120 lab fee required.*

Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 480 + SAT M ≥ 520; ACT R ≥ 21 + ACT M ≥ 19; ACT S ≥ 21; or Admission Portfolio
High school credit offered: 1 semester

74. Materials & Engineering Design Honors
Engineering bridges the gap between imagination and the laws of nature. Examining the relationship between science and technology, students consider solutions to current product design issues. In this laboratory and project-based course, students engage in inquiry and design, and work through modules such as composites, concrete, biodegradable materials, food packaging and sports materials to learn scientific concepts and connect them to real-world applications. Each module culminates in a design project that integrates information learned in chemistry, physics, and biology. The course is good preparation for advanced study in chemistry and physics, as well as engineering.
Note: Additional $120 lab fee required.
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 480 + SAT M ≥ 520; ACT R ≥ 21 + ACT M ≥ 19; ACT S ≥ 21; or Admission Portfolio
High school credit offered: 1 semester

75. Introductory Physics Honors
Prerequisite: Algebra I
"Enhance the way you see the physical world." — Paul G. Hewitt, physicist, instructor and author. Students build a strong conceptual understanding of physical principles ranging from force and motion to classical mechanics. With this foundation, students are equipped to understand the equations and formulas of physics and to make connections between concepts and their everyday world. Introductory Physics Honors is a first year high school physics course and prepares students for advanced or AP Physics.
Notes:
- *A scientific or graphing calculator is required.*
- *Additional $120 lab fee required.*

Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 480 + SAT M ≥ 520; ACT R ≥ 21 + ACT M ≥ 19; ACT S ≥ 21; or Admission Portfolio
High school credit offered: 2 semesters

76. Forensic Science Honors
The word "forensic" comes from the Latin word meaning "before the forum." Forensic Science Honors examines the application of science to the criminal justice system. Utilizing lecture and laboratory, students collect, preserve, and analyze crime scene evidence in a hands-on experience, learning scientific methods, procedures and techniques. Labs may include trace analysis of hair, fiber, stain, epithelial cells, fingerprints, and DNA. This class is an excellent prelude to future science and laboratory coursework.
Note: Additional $120 lab fee required.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; ACT S ≥ 22; or Admission Portfolio
High school credit offered: 1 semester

77. Topics in Chemistry Honors
Do you know the common name for acetylsalicylic acid? Hint: it can relieve a headache and reduce the risk of heart attack and stroke. This course is designed to expand students' understanding of the chemistry in everyday surroundings. This laboratory-based course exposes students to the fundamentals of chemistry, including atomic theory, stoichiometry, reactions, bonding, periodic trends, and acids and bases. Daily lab experiments allow students to learn hands-on while practicing important lab safety techniques, providing a foundation for advanced study in chemistry.
Notes:
- *A scientific calculator is required.*
- *Additional $120 lab fee required.*

Offered: Sessions 1 & 2
Admission Criteria: SAT V or Crit. R ≥ 480 + SAT M ≥ 520; ACT R ≥ 21 + ACT M ≥ 19; ACT S ≥ 21; or Admission Portfolio
High school credit offered: 1 semester

78. Topics in Biology Honors
Biology is the study of living organisms and includes layers from molecular to cellular and the whole organism to the ecosystem and biosphere. Students practice lab design and presentations, problem-based and project-based experiments. Among the topics explored are experimental method, biochemistry, cell structure, cellular reproduction, evolution, and ecology. This course is recommended for students with some knowledge of laboratory techniques, or those who have not had a full-year of high school laboratory science. This course prepares students for high school biology.
Note: Additional $120 lab fee required.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 470; ACT R ≥ 21; ACT S ≥ 21; or Admission Portfolio
High school credit offered: 1 semester

79. Aquatic Ecosystems Honors
Our understanding of aquatic ecosystems is still evolving, but we do know human activity has had an impact on these environments. In this intensive, field-study-based course, students investigate Chicago–area aquatic ecosystems, including the Chicago River, Lake Michigan, and the Skokie Lagoons to explore the ecology, reproduction and health of the aquatic life. Students collect samples, gather data, and work in groups to develop hypotheses and design experiments to test their ideas. This course is ideal for students interested in environmental science and policy and for those preparing to take biology coursework.
Note: Additional $120 lab fee required.
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 470; ACT R ≥ 21; ACT S ≥ 21; or Admission Portfolio
High school credit offered: 1 semester

80. Introduction to Biomedicine Honors
For millions of years the human body has been evolving, yet it still presents many challenges and mysteries. The industry of biomedicine is growing rapidly as scientists research how to understand disorders and cure diseases. In this course, students explore connections between groundbreaking medical research that has revealed insights into the body's molecular and cellular processes and how that knowledge is applied to medical practice and treatments. Through laboratory work, readings and discussions, students are introduced to the fundamentals of this specialized branch of science and develop their laboratory techniques. Examination of essential biochemical reactions that occur in the body acquaint students with topics in chemistry; physics is included in the form of investigating biomechanics; and areas of biology such as cell biology are explored. This course is an excellent introduction for students interested in the study of medicine or advanced laboratory courses.
Note: Additional $120 lab fee required.
Offered: Session 1 & 2
Admission Criteria: SAT V or Crit. R ≥ 470; ACT R ≥ 21; ACT S ≥ 21; or Admission Portfolio
High school credit offered: 1 semester

81. Biology Honors
Prerequisite: Completion of a laboratory science course
Biology comes alive in this fast-paced high school honors course, emphasizing the principles that apply to plants and animals. As a supplement to class discussion, text readings, and demonstrations, students spend class time in a laboratory performing experiments and learning methods of scientific investigation. Biology Honors is designed for students who have the ability to accelerate in science. Students must be willing to commit to the intense demands of mastering one year of biology in three weeks. Students who plan to take biology at their academic year school are encouraged to enroll in either Introduction to Biomedicine Honors or Topics in Biology Honors. This course prepares students for honors human biology and AP Biology.
Note: Additional $120 lab fee required.
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; ACT S ≥ 22; or Admission Portfolio
High school credit offered: 2 semesters

EQUINOX (for students completing grades 9–12)

APPLY EARLY! ADMISSION BEGINS JANUARY 1

EQUINOX is an accelerated program for academically talented students completing grades 9 through 12. Equinox offers rigorous courses and the opportunity to earn high school credit at the honors and Advanced Placement® (AP) levels. During each three-week session, students take a single course that meets from 8:30 a.m. to 2:45 p.m., five days per week.

Please check the Details sections (page 44) for additional information.

Advanced Placement (AP) courses: The College Board requires course review and approval for all institutions offering AP courses. Because the approval timeline is later than our publication deadline, not all courses have completed the approval process by the time this brochure is printed. We will update AP approvals on the Center for Talent Development website by October 15, 2012 at www.ctd.northwestern.edu/summer.

Students ponder philosophy, history and more.

COURSE NUMBER	SESSION 1 (June 24–July 13)	COURSE NUMBER	SESSION 2 (July 15–August 3)
82	Creative Writing Honors	82	Creative Writing Honors
		83	Advanced Creative Writing Honors
84	Persuasive Storytelling		
85	21st Century Literature & College Composition		
86	Economics of Everything Honors	87	Global Economy Honors
88	International Relations Honors	89	Law & Politics Honors
90	AP Psychology	91	Abnormal Psychology Honors
92	Philosophy Honors: Truth & Ambition	93	Ethics & Contemporary Issues
		94	AP Art History
		95	IP* Algebra II & Trigonometry Honors
		96	IP* Pre-Calculus Honors
		97	IP* AP Calculus
98	Algebra II & Trigonometry Honors	98	Algebra II & Trigonometry Honors
99	Pre-Calculus Honors	99	Pre-Calculus Honors
100	AP Calculus AB	101	AP Statistics
		102	AP Computer Science A
103	Going Small: Engineering & Design Honors		
104	Physics Honors	104	Physics Honors
		105	AP Physics C
106	Chemistry Honors	106	Chemistry Honors
107	Advanced Chemistry Honors	108	Medicinal Chemistry Honors
109	AP Chemistry	110	Culinary Science & Nutrition: Eat to Live, Live to Eat
111	Biology Honors	112	AP Biology
113	Human Biology Honors	114	Genetics Honors
115	Neuroscience Honors		

*IP-Individually Paced

INTERESTED IN ENGINEERING? Think About...
Engineering & Design
Physics
AP Physics C
AP Calculus AB

THINKING PRE-LAW? Consider...
Law & Politics
International Relations
Ethics
Philosophy
Persuasive Storytelling
AP Psychology
Abnormal Psychology

CONSIDERING PRE-MED? Take...
Culinary Science & Nutrition
Human Biology
Genetics
Neuroscience
AP Biology
Chemistry
Medicinal Chemistry
Advanced Chemistry
AP Chemistry

INTERESTED IN COMMUNICATIONS? Consider...
Creative Writing
Advanced Creative Writing
Persuasive Storytelling
21st Century Literature & College Composition
AP Art History
Ethics
Philosophy

WANT TO STUDY BUSINESS? Take...
International Relations
Law & Politics
Economics of Everything
Global Economy
Ethics

ENGLISH & WRITING

82. Creative Writing Honors
Prerequisite: Graded writing sample, preferably creative writing
To write well, one needs to read well. Reading contemporary literature, students refine their critical-thinking and writing skills through analysis, discussion, and extensive writing exercises. Students focus on structure, imagery, detail, dialog, and narrative across genres, including poetry, fiction and creative non-fiction. Student-created pieces are critiqued in small-group workshops and complemented by teacher feedback. The final project consists of a portfolio of student work created during the course.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Sessions 1 & 2
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

83. Advanced Creative Writing Honors
Prerequisite: Graded creative writing sample with teacher comments; some workshop experience or previous creative writing course preferred
Designed for students with some experience and considerable interest in creative writing, this course pairs adventurous reading with rigorous writing in a variety of genres, including poetry, fiction and creative non-fiction. Assignments advance students' skills through intensive attention to imagery, voice, setting, character and narrative. Student writing benefits from daily large- and small-group critique sessions, plus peer and instructor comments. Students study college-level texts and learn and employ high-level analytical skills. Final projects consist of one extended piece of creative writing or several smaller pieces.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

NEW! 84. Persuasive Storytelling
Prerequisite: Graded writing assignment; some experience in public speaking recommended
The ability to connect with your audience is an essential skill. Some say Steve Jobs' success was tied to his ability to hold audiences in rapt attention. In this course, participants learn to engage and inform others, telling stories that enlighten, reveal new truths, and convince their audiences of both truth and fiction. Through intensive reading, analysis, and discussion of contemporary monologists, solo performers, and playwrights such as Eric Bogosian, Anna Deavere Smith, Spalding Gray, and Mike Daisey, students learn basic tenets and outlines of effective storytelling. Students also study 21st Century storytelling through *This American Life*, *The Moth*, and Chicago's *2nd Story*. Projects include student-generated stories involving research, writing, and performance techniques. This course is perfect for students interested in developing powerful public speaking and communication skills.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

NEW! 85. 21st Century Literature & College Composition: Secrets Revealed
Prerequisites: Graded English course writing assignment; one year of high school honors English
Using secrets as a guiding theme, students examine current works of fiction, poetry, drama, and non-fiction and develop skills necessary to be successful in college literature courses. Through reading, analysis, discussion, research, and writing assignments, students discover common themes, reveal historical references and contexts, and discuss 21st Century Literature as a genre. Shared writing generates both peer and instructor feedback, formal critique and revisions prepare students for college-level writing, and the unraveling of secrets while reading great stories is fun for all.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

HUMANITIES & SOCIAL SCIENCES

120. Civic Engagement and Contemporary Social Issues
Students interested in service and social issues may wish to consider the Civic Leadership Institute. See page 42 for details.

86. Economics of Everything Honors
Prerequisite: Graded writing assignment
If, as Levitt and Dubner (*Freakonomics*) have proposed, economics is the study of human behavior, then is your life governed by the economic choices you make? Economics of Everything introduces students to economic theory, including incentives, supply and demand, competition, markets and prices, and the role of government in economic systems. Students apply their knowledge to contemporary case studies, reading, analyzing, and discussing authors such as Levitt, Dubner, Schelling, Becker, Ehrenreich and others. This course is an excellent foundation for students interested in international studies, economics, and business.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

87. The Global Economy Honors
Prerequisite: Graded writing assignment
What factors have led to the global economy? Students are introduced to the basic principles of economics by examining contemporary global economic issues, exploring the forces that lead to globalization and analyzing and interpreting events from the standpoint of multiple stakeholders.

Students research how the economic system operates and explore their role in it. Topics such as informal economies, the role of human rights, non-governmental organizations, sustainable development and trade policies are addressed through case studies, discussions, research and critiques. This interdisciplinary course draws from international studies and economics scholarship, preparing students for advanced courses in economics and global studies.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

Participation and lively discussion are common in the Summer Program classroom.

88. International Relations Honors
Prerequisite: Graded writing assignment
As Thomas Friedman states in *The World is Flat*, "knowing how to deal with people of other nations is critical to success." Through an interdisciplinary approach, students analyze current issues, including immigration, terrorism, religious fundamentalism, environmental degradation, cultural diffusion, oil politics, technological advances, and more. Students interested in political science, public policy and global studies are encouraged to take this course.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

89. Law & Politics Honors
Prerequisite: Graded writing assignment
In this course, students analyze, discuss, and research the history and significance of the U.S. Constitution, Supreme Court and federal structure, and gain an appreciation for the interplay of law and politics in American society. The course provides an in-depth analysis of the 1st, 4th, and 14th Amendments to the Constitution, and allows students to interpret current events using the Bill of Rights as a backdrop. In a final project, students participate in a moot court to apply the principles and theories they have researched and discussed.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

90. Psychology
(AP designation pending)
Prerequisite: Graded writing assignment
AP Psychology covers principles of each of psychology's major subfields and the methods psychologists use in research and practice. Topics include the biological basis of behavior, sensation and perception, cognition, personality, social psychology and abnormal psychology. Students review case studies, participate in class discussions and analyze experiment design, while practicing AP-style questions and essays. This course prepares students for the AP Psychology exam.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 2 semesters

NEW! 91. Abnormal Psychology Honors
Prerequisite: Graded writing assignment
What is considered "abnormal" in the field of human psychology? This course offers an introduction to historical and modern views of abnormal behavior and a survey of the etiology, nature, development, and treatment of mental illness. Students will study a range of behaviors and disorders including affective disorders, personality disorders and childhood disorders, as well as different types of psychoses. This is an excellent course for students interested in psychology, law or mental health services.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

"In addition to boosting her confidence, the course fueled an even greater intellectual curiosity."— 2011 Equinox parent

92. Philosophy Honors: Truth & Ambition
Prerequisite: Graded writing assignment
As lovers of wisdom, philosophers desire truth about the world and themselves. In the history of philosophy, however, there are deep disagreements about the very nature of truth and human beings' ambitious nature. Can truth be objective? How do our desires and identities come to bear on what we are able to recognize as true? This course is organized around major figures in the history of philosophy, including one representative from each of the ancient, medieval, modern and contemporary periods. Featured thinkers may include Plato, Aristotle, St. Augustine, Aquinas, Descartes, Locke, Berkeley, Hume, Kant, Kierkegaard, James, Russell, Quine, Putnam, Rorty, and Chalmers. Students learn to craft focused arguments and essays, and practice oral discussion and debate.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

93. Ethics & Contemporary Issues Honors
Prerequisite: Graded writing assignment
How do citizens of this world make ethical, good choices? Students study the dilemmas and disagreements initiated by current events and global issues, including cloning, genetic screening, and human rights. Examining ideas such as moral relativism and objectivism, as well as utilitarianism, virtue ethics, and duty theories, students grapple with ethical theories and their relationship to world events. Participants examine interactions of social movements, dissent and scientific study in an effort to understand how these movements impact views of ethical behavior. This course enriches students' understanding of science, medicine, and public policy.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 1 semester

NEW! 94. Art History (AP Designation Pending)
Prerequisite: Graded Writing Assignment
"I found I could say things with color and shapes that I couldn't say any other way — things I had no words for." — Georgia O'Keeffe
What does art say about the artist? About the time in which s/he lived? AP Art History students examine major forms of artistic expression from the ancient world to the present. Students analyze, discuss, and write about the cultural and historical contexts of art, and create new understanding based on how art communicates meaning. The course surveys painting and drawing, architecture, sculpture and other media such as printmaking, photography, ceramics and fiber arts. This course prepares students for the AP Art History Exam and is equivalent to a college Introduction to Art History course.
Note: Residential students are strongly encouraged to bring their own computer.
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; or Admission Portfolio
High school credit offered: 2 semesters

MATHEMATICS

Equinox offers a variety of mathematics courses presented in two formats: teacher-led (instructor paces the instruction and leads class meetings) and individually paced (students pace themselves with instructor support, and the instructor serves as a facilitator or "guide on the side"). Although the content of the courses is equivalent, the requirements of the students as learners vary greatly. (See box on page 32 for details.)

The following information applies to all IP courses.
Note: A graphing calculator is required.
Offered: Session 2
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 2 semesters

95. IP Algebra II & Trigonometry Honors
(see course description #98 for list of topics and prerequisites)

96. IP Pre-Calculus Honors
(see course description #99 for list of topics and prerequisites)

97. IP AP Calculus
(see course description #100 for list of topics and prerequisites)

98. Algebra II & Trigonometry Honors
Prerequisite: Algebra I
Algebra II & Trigonometry Honors is an advanced instructor-led algebra course focusing on topics of systems, equations, polynomial arithmetic, complex numbers, solutions of quadratic equations, exponential and logarithmic functions, sequences, series, graphs of polynomial functions, conic sections, and concepts in trigonometry including trigonometric identities. Students completing this accelerated course are prepared for future coursework in math, physics, and engineering.
Note: A graphing calculator is required.
Offered: Sessions 1 & 2
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 2 semesters

99. Pre–Calculus Honors
Prerequisites: Algebra I and II and Geometry
Pre-Calculus Honors is an instructor-led course designed to follow and build upon advanced algebra. Topics include linear, quadratic, polynomial, exponential, logarithmic, and trigonometric functions. Students apply vectors, sequences, series, and matrices to solve problems. Advanced topics in functions and graphs, trigonometry and discrete mathematics are also covered. This course prepares students for success in AP Calculus AB and/or BC.
Note: A graphing calculator is required.
Offered: Sessions 1 & 2
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 2 semesters

100. Calculus AB
(AP designation pending)
Prerequisites: Algebra I and II with Trigonometry; Geometry; and Pre-Calculus
Rocket scientist or brain surgeon, architect or engineer — the study of calculus is the foundation for many professional endeavors. This college-level calculus course covers analytic geometry, functions, limits, continuity, derivatives, integrals and their applications. It explores symbolic differentiation and integration utilities as students apply these skills to solve problems. Upon successful completion, students are prepared to take the AP Calculus AB exam.
Note: A graphing calculator is required.
Offered: Session 1
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 2 semesters

101. Statistics (AP designation pending)
Prerequisites: Algebra I and II
Collecting, analyzing, and drawing conclusions from data are skills required in virtually every discipline. In this non-calculus-based course students explore the theory of probability, descriptions of statistical measurements, probability distributions and experimental and statistical inference. Students develop research proposals, collect and analyze data and complete a comprehensive statistical project. Upon completion, students are prepared to take the AP Statistics exam.
Notes:
- *A TI-84 or statistics-based calculator is required.*
- *Residential students are strongly encouraged to bring their own computer.*

Offered: Session 2
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 2 semesters

TECHNOLOGY

102. Computer Science A
(AP designation pending)
Prerequisite: Algebra II and demonstrated experience in one programming language
Java is used in industries ranging from retail to finance to medicine. Students learn to program in Java using keywords, operators and data types to develop solutions to problems, and subsequently to code and compile programs, as well as to compose command-line programs, basic graphics and simple games. Students do not need prior experience with Java, but should have previous programming or computer language experience. This course prepares students for the AP Computer Science exam.
Note: Students are required to bring a PC-compatible laptop computer for use in the course. Students who do not have a computer should contact the Equinox Program Coordinator to discuss alternatives.
Offered: Session 2
Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio
High school credit offered: 1 semester

SCIENCE

103. Going Small: Engineering & Design Honors
Prerequisite: Algebra II
Industries as diverse as medicine, sports, business and science require the skills of a design engineer and every field is going small. In this introductory college-level course conducted primarily in Northwestern's Materials Research Science and Engineering Center, students learn how to use engineering principles and to generate design solutions. Focusing on nanotechnology, students work in teams to develop designs and test their concepts for functionality on topics such as smart sensors, drug delivery, solar cells and nano-surfaces.
Notes:
- *Additional $150 lab fee required.*
- *A scientific calculator is required.*
- *Residential students are strongly encouraged to bring their own computer.*

Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510 + SAT M ≥ 540; ACT R ≥ 24 + ACT M ≥ 21; ACT S ≥ 22; or Admission Portfolio
High school credit offered: 1 semester

104. Physics Honors
Prerequisites: Algebra I and II and 1 year of Honors Biology OR 1 year of Honors Chemistry
Physics helps explain, predict and control physical phenomena. This course emphasizes fundamental principles of nature through the study of classical physics. Through lecture, discussion, demonstration, video, laboratory work and collaborative problem solving, students explore topics including linear, rotational, and wave motion; force; momentum; energy; and electrostatics and circuits. Physics Honors is a demanding course for students who wish to complete a full-year high school physics course in an accelerated format.
Notes:
- *A graphing calculator is required.*
- *Additional $150 lab fee required.*

Offered: Sessions 1 & 2
Admission Criteria: SAT V or Crit. R ≥ 510 + SAT M ≥ 540; ACT R ≥ 24 + ACT M ≥ 21; ACT S ≥ 22; or Admission Portfolio
High school credit offered: 2 semesters

105. Physics C (AP designation pending)
Prerequisites: Successful completion of one year of Honors Physics and one year of Honors Pre-Calculus
This advanced course provides students with a detailed study of both classical mechanics and classical electromagnetism. It is designed for students who are interested in majoring in a technical science in college. Students will solve college-level physics problems and be prepared for the AP® Physics C exam.
Notes:
- *A graphing calculator is required.*
- *Additional $150 lab fee required.*

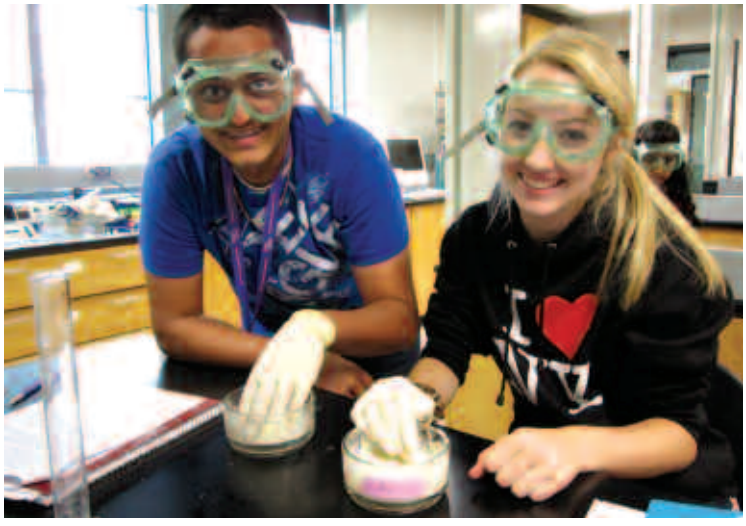
Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 510 + SAT M ≥ 540; ACT R ≥ 24 + ACT M ≥ 21; ACT S ≥ 22; or Admission Portfolio
High school credit offered: 2 semesters

106. Chemistry Honors
Prerequisite: One year of an honors laboratory science
How does an atom account for the nature of matter? In this course, participants study the modern principles of chemistry, including atomic models, valence and ionization, bonding, nomenclature of formulas, moles, stoichiometry, gas laws, molecular forces, polarity, solutions, equilibrium, acids and bases, thermochemistry, and oxidation-reduction. Through experiments, students learn to use proper lab technique, record and analyze data and produce scientific lab reports.
Notes:
- *A scientific calculator is required.*
- *Additional $150 lab fee required.*

Offered: Sessions 1 & 2
Admission Criteria: SAT V or Crit. R ≥ 510 + SAT M ≥ 540; ACT R ≥ 24 + ACT M ≥ 21; ACT S ≥ 22; or Admission Portfolio
High school credit offered: 2 semesters

107. Advanced Chemistry Honors
Prerequisite: One year of Honors Chemistry
Dig more deeply into Chemistry topics and prepare for AP and other college-level courses by focusing on advanced stoichiometry, reactions, gases, atomic theory, solutions, and states of matter. Laboratory work emphasizes increased competency in solving chemical calculations and problems. Upon completion, students attain a deeper understanding of chemistry fundamentals and a broader background in topics critical to success in the field.
Notes:
- *A scientific calculator is required.*
- *Additional $150 lab fee required.*

Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510 + SAT M ≥ 540; ACT R ≥ 24 + ACT M ≥ 21; ACT S ≥ 22; or Admission Portfolio
High school credit offered: 1 semester



Students enjoy hands-on labs and inquiry-based instruction.

RETURNING FAVORITE!
108. Medicinal Chemistry Honors
Prerequisite: One year of Honors Chemistry; AP Chemistry preferred
Why do medicines work? How do scientists develop and test potential drugs? Integrating biochemistry and organic chemistry, this course offers an introduction to the topic of medicinal chemistry. Study begins with examining the chemistry of small molecule interactions and the various roles enzymes play in the body catalyzing important reactions. The course includes a brief history and current events discussion of the topic, but focuses on the drug design process and the effect of pharmaceuticals on the human body.
Notes:
- *Additional $150 software & materials fee required.*
- *Residential students are strongly encouraged to bring their own computer.*

Offered: Session 2
Admission Criteria: SAT V or Crit. R ≥ 510 + SAT M ≥ 540; ACT R ≥ 24 + ACT M ≥ 21; ACT S ≥ 22; or Admission Portfolio
High school credit offered: 1 semester

109. Chemistry (AP designation pending)
Prerequisite: One year of Honors Chemistry; Advanced Chemistry recommended
This course focuses on thermodynamics, thermochemistry, the physical behavior of gases, states and structure of matter, chemical equilibrium and kinetics, and various chemical reactions. Daily laboratory work emphasizes competency in solving chemical calculations and problems. In the accelerated format, this is a rigorous and lab-heavy course requiring significant study and dedication. Upon successful completion, students are prepared to take the AP Chemistry exam.
Notes:
- *A scientific calculator is required.*
- *Additional $150 lab fee required.*

Offered: Session 1
Admission Criteria: SAT V or Crit. R ≥ 510 + SAT M ≥ 540; ACT R ≥ 24 + ACT M ≥ 21; ACT S ≥ 22; or Admission Portfolio
High school credit offered: 2 semesters

110. Culinary Science & Nutrition: Eat to Live, Live to Eat

Prerequisite: full year Honors lab science course

Top chefs work to create delicious, healthful menus using local, sustainable provisions. Medical researchers and health providers tout diet and nutrition as the foundations of health and healing. Both worlds come together as amateur researcher-cooks learn the science and practice of nutrition, the role it plays in prevention of disease, recent medical breakthroughs and research surrounding nutrition, and the art of creating and preparing tasty, healthy meals. Participants visit local markets and restaurant kitchens, study with clinical nutritionists and cook with master chefs. This course is perfect for students interested in the medical field, as well as students interested in learning to cook or in increasing their existing skills.

Notes:

- *Additional $150 lab & materials fee required.*
- *Portions of this course take place off campus; students are escorted to field-study sites.*
- *Residential students are strongly encouraged to bring their own computer.*

Offered: Session 2

Admission Criteria: SAT M ≥ 540; ACT M ≥ 20; or Admission Portfolio

High school credit offered: 1 semester

111. Biology Honors

Prerequisite: completion of an Honors laboratory science course

Biology comes alive in this fast-paced course, emphasizing the principles that apply to plants and animals. As a supplement to class discussion, text readings, and demonstrations, students spend class time in a laboratory performing experiments and learning methods of scientific investigation. Biology Honors is designed for students who have the ability to accelerate in science. Students must be willing to commit to the intense demands of mastering one year of biology in three weeks. This course prepares students for Human Biology Honors, Genetics Honors and AP Biology.

Note: Additional $150 lab fee required.

Offered: Session 1

Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; ACT S ≥ 22; or Admission Portfolio

High school credit offered: 2 semesters

112. Biology (AP® designation pending)

Prerequisite: One year of Honors Biology

How do stem cells differentiate into a diverse range of cell types? In AP Biology, coursework is centered on three general areas: molecules and cells; heredity and evolution; and organisms and populations. Students develop a framework for understanding modern biology and engage in the scientific process through lab experiments, readings, lecture, and discussion. AP Biology is designed to be the equivalent of an introductory, college-level biology course, and prepares students to take the AP® Biology test.

Notes:

- *Additional $150 lab fee required.*
- *Residential students are strongly encouraged to bring their own computer.*

Offered: Session 2

Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; ACT S ≥ 22; or Admission Portfolio

High school credit offered: 2 semesters

113. Human Biology Honors

Prerequisite: One year of Honors Biology

This course covers the chemistry of cellular life, cell structure and function, human organization, major systems of the human body, human and medical genetics, DNA and biotechnology, human evolution, ecology and population concerns. Students perform dissections, as well as experiments in molecular genetics, histology and chemical composition of cells. This course is ideal for students interested in medicine or veterinary science and provides preparation for AP Biology.

Note: Additional $150 lab fee required.

Offered: Session 1

Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; ACT S ≥ 22; or Admission Portfolio

High school credit offered: 1 semester

114. Genetics Honors

Prerequisite: One year of Honors Biology

Students build on their knowledge of biology to investigate concepts and techniques used to study human genetic qualities and traits. Topics include molecular DNA, evolution of populations, Mendelian inheritance, as well as bioethical questions such as genetic engineering and stem cell research. Students learn how genetic information is transmitted, circulated, arranged, and modified through basic principles of genetic research and laboratory problem solving.

Notes:

- *Additional $150 lab fee required.*
- *Residential students are strongly encouraged to bring their own computer.*

Offered: Session 2

Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; ACT S ≥ 22; or Admission Portfolio

High school credit offered: 1 semester

115. Neuroscience Honors

Prerequisite: One year of Honors Biology

Students explore the complex systems of the human brain, drawing upon the interdisciplinary principles of biology, chemistry, anatomy, physiology and psychology. Topics include neural systems and behavior; the embryonic development of the central and peripheral nervous systems; study of sensory and motor systems; changes in brain chemistry; aspects of learning and memory; and disorders of the nervous system. In addition to lecture and discussion, students participate in laboratory dissections and experiments.

Notes:

- *Additional $150 lab fee required.*
- *Residential students are strongly encouraged to bring their own computer.*

Offered: Session 1

Admission Criteria: SAT V or Crit. R ≥ 510; ACT R ≥ 24; ACT S ≥ 22; or Admission Portfolio

High school credit offered: 1 semester

CIVIC LEADERSHIP INSTITUTE (for students completing grades 9–12)

A SERVICE-LEARNING PROGRAM IN DOWNTOWN CHICAGO
Sunday, July 1– Friday, July 20, 2012

Make Chicago your classroom this summer!

- **LEARN** about social issues
- **SERVE** communities in need
- **DEVELOP** leadership skills
- **MAKE** a difference

Northwestern University's Civic Leadership Institute (CLI) for outstanding high school students combines an innovative service-learning curriculum with an unforgettable residential experience in the heart of downtown Chicago.

120. Civic Engagement & Contemporary Social Issues Honors
News media and popular culture surround us with stories of violence, poverty and urban decay. Political leaders exchange ideas about education, the economy, health care and welfare reform. But what are all of these issues really about? What is life like for someone who is homeless or on welfare? Where have these problems come from? Most importantly, what can we do about them, as individual citizens and as a society? Civic Leadership Institute students explore the complex challenges that affect our communities today, and are introduced to tools and strategies for community development and positive social change.

Through challenging academic work, community service, hands-on field experiences, guest speakers and facilitated debates and discussions, the Civic Leadership Institute helps students develop the knowledge, experience and leadership skills they need to make a positive impact on the world!

EXPERIENCE CHICAGO

Civic Leadership Institute participants live and learn in the heart of downtown Chicago. While CLI is a Northwestern University program, having a central location offers unparalleled access to Chicago's Loop and historic neighborhoods throughout the city. Field experiences and service projects immerse students in vibrant communities like Bronzeville, Chinatown and Pilsen. On evenings and weekends, students explore cultural sites and tourist attractions like Navy Pier, Millennium Park and the Magnificent Mile. Students hone their leadership skills both inside and outside of the classroom through top-notch instruction, hands-on service, college living and access to all that Chicago has to offer!

Notes:

- *Additional field study fee required*
- *Service-learning credit offered: 25 to 100 hours*
- *Residential students only*
- *Admission Criteria: Talent Search scores of SAT V or Crit. R ≥ 510 or ACT R ≥ 24; OR achievement in the 95th percentile or above on the verbal composite of any nationally normed standardized achievement test; OR an Admission Portfolio*
  High school credit offered: 1 semester

FOR MORE INFORMATION

Civic Education Project

Phone	847/467-2572
E–mail	cep@northwestern.edu
Web	www.ctd.northwestern.edu/cep

For students completing grades 7 or 8 interested in service-learning, please consider:
59. Taking Action: Leadership & Service
(Please see detailed course description on page 30)

Spark, Solstice & Apogee Eligibility & Details

This page and page 45 provide answers to important questions about the Spark, Solstice and Apogee Programs. Please read this information carefully and completely. Additional information is available on the Center for Talent Development (CTD) website at www.ctd.northwestern.edu/summer. CTD looks forward to receiving your application!

ELIGIBILITY

Spark, Solstice and Apogee are fast-paced enrichment programs. Students must be prepared to handle the rigor of the course content and the rapid pace of instruction. The preferred evidence of readiness is an above-grade-level test score (i.e., EXPLORE test taken while in grades 3 through 6). If above-grade-level test scores are not available, applicants may submit test scores from a nationally normed, standardized grade-level assessment or an admission portfolio. See the CTD website for examples of tests we accept for admission.

Test Score Requirements

- Participation in above-grade-level testing such as the EXPLORE® taken in grades 3, 4, 5, or 6 (a score in the 95th percentile is not necessary on the EXPLORE); or
- English & writing and social sciences courses: 95th percentile or above national percentile rank in verbal/reading on a nationally normed, grade-level achievement test; or
- Mathematics and science courses: 95th percentile or above national percentile rank in math on a nationally normed, grade-level achievement test. Apogee Algebra I has specific score requirements. See course description for details.
- TOEFL/SLEP is required of students for whom English is not the first language. Because courses are taught in English, TOEFL/SLEP scores are used to assess proficiency and assist in course placement.

Above-Grade-Level Testing on EXPLORE, ACT or SAT

If you are interested in taking the EXPLORE, ACT or SAT through Northwestern University's Midwest Academic Talent Search (NUMATS), there may still be time to register online. Spring testing dates are available. (If you plan to participate in NUMATS for the purpose of 2012 Summer Program participation, please be sure to check the timeline for receipt of official scores to assure that they will be available by May 14.) Information on timelines, cost, and registration is available at www.ctd.northwestern.edu/numats.

Prerequisites

Some courses require that students complete prerequisites in order to qualify for admission. Prerequisites are listed at the beginning of each course description. Students must submit proof of prerequisites (e.g., transcripts, report card, etc.) in order to be considered for course enrollment.

PERFORMANCE EVALUATIONS, TRANSCRIPTS & SYLLABI

Spark, Solstice and Apogee courses, with the exception of Algebra I in Apogee, are for enrichment only; students enrolled in enrichment courses do not receive grades for the course(s) they complete.

Students in the Apogee Algebra I course receive a grade and credit through Center for Talent Development if they complete the course successfully. A grade of C or better is considered successful completion. As CTD is accredited through the North Central Association Commission on Accreditation and School Improvement (NCA CASI), students may be able to earn credit at their academic year schools for courses successfully completed through CTD.

Note: The acceptance of CTD credit(s) at a student's academic-year school depends on that school's institutional policy about the recognition of credit from outside institutions. Students who are interested in pursuing credit for a CTD course at their academic-year school should discuss this option with their academic counselor or school administrator BEFORE applying to the Summer Program.

Evaluations

Students completing a Summer Program course receive a narrative evaluation. The evaluation includes a rubric rating the student's skills in core areas, comments on the student's performance in class and recommendations for future study. For the Algebra 1 course, grades and high school credit earned through CTD are also included. Evaluations are sent to families via e-mail, usually by September 15.

Transcripts

Students may request that CTD send an official transcript to their school by indicating this on the program application. Additional transcripts (for high school applications, scholarships, etc.) may be requested for a fee using the Transcript Request Form, which is available on the CTD web site under Downloads.

Syllabi

Syllabi for similar courses held in 2011 are available on the CTD website:
For Spark courses visit www.ctd.northwestern.edu/summer/programs/spark/academics/syllabi/
For Solstice courses visit www.ctd.northwestern.edu/summer/programs/solstice/academics/#syllabi/
For Apogee courses visit www.ctd.northwestern.edu/summer/programs/apogee/academics/syllabi/

Spectrum, Equinox & Civic Leadership Institute Eligibility & Details

This page and the next provide answers to important questions about the Spectrum, Equinox and Civic Leadership Institute Programs. Please read this information carefully and completely. Additional information is available on the Center for Talent Development (CTD) website at www.ctd.northwestern.edu/summer. CTD looks forward to receiving your application!

ELIGIBILITY

Spectrum, Equinox and Civic Leadership Institute are advanced and accelerated programs. Students need to be prepared to complete a semester or year's worth of coursework during the session. The preferred evidence of readiness is an above-grade-level test score (i.e., ACT or SAT test taken while in middle school). If appropriate test scores are not available, applicants may submit an admission portfolio.

Test Score Requirements

To apply as a student with qualifying test scores, you should have participated in above-grade-level testing through Northwestern University's Midwest Academic Talent Search or another similar program (i.e., CTY, DukeTIP, etc. Score requirements listed with the course descriptions refer to SAT or ACT tests taken in grades 6 through 9, not in grades 10 through 12. If you do not have above-grade-level test scores, please read the following section in this brochure for more information on the testing process. Students without above-grade-level scores must submit an Admission Portfolio application. (CLI applicants may submit a nationally normed, standardized test with scores in the 95th percentile or above on the verbal composite.)

Because courses are taught in English, TOEFL/SLEP scores are required of students for whom English is not the first language to assess proficiency and assist in course placement.

Above-Grade-Level Testing on ACT or SAT

If you are interested in taking the ACT or SAT through Northwestern University's Midwest Academic Talent Search (NUMATS), there may still be time to register online. Spring testing dates are available. (If you plan to participate in NUMATS for the purpose of 2012 Summer Program participation, please be sure to check the timeline for receipt of official scores to assure that they will be available by May 14.) Information on timelines, cost, and registration is available at www.ctd.northwestern.edu/numats.

Prerequisites

Some courses require that students complete prerequisites in order to qualify for admission. Prerequisites are listed at the beginning of each course description. Students must submit proof of prerequisites (e.g., transcripts, report card, etc.) in order to be considered for course enrollment.

GRADES & CREDITS, EVALUATIONS, TRANSCRIPTS & SYLLABI

Grades & Credits

Students in Spectrum (Accelerated Honors courses), Equinox and Civic Leadership Institute receive grades and credit through Center for Talent Development for courses they complete successfully. A grade of C or better is considered successful completion of a course and allows students to receive credit through CTD. Spectrum Accelerated Enrichment courses are for enrichment only; students enrolled in enrichment courses do not receive grades or credit for the course(s) they complete.

As CTD is accredited through the North Central Association Commission on Accreditation and School Improvement (NCA CASI), students may be able to earn credit for courses successfully completed through CTD at their academic year schools. All Spectrum Accelerated Honors courses, Equinox courses and the Civic Leadership Institute are one or two semester-long high school courses (see course descriptions).

Note: The acceptance of CTD credit(s) at a student's academic-year school depends on that school's institutional policy about the recognition of credit from outside institutions. Students who are interested in pursuing credit for a CTD course at their academic-year school should discuss this option with their academic counselor or school administrator BEFORE applying to the Summer Program.

Evaluations

Students completing a Summer Program course receive a narrative evaluation. The evaluation includes course grades and number of high school credits earned through CTD (if applicable), comments on the student's performance in class and recommendations for future study. Evaluations are sent to families via e-mail, usually by September 15.

Transcripts

Official CTD transcripts are sent to the student's school unless otherwise indicated on the program application. Additional transcripts (for college applications, scholarships, etc.) may be requested for a fee using the Transcript Request Form, which is available on the CTD website under Downloads.

Syllabi

Syllabi for similar courses held in 2011 are available on the CTD website:
For Spectrum courses visit
www.ctd.northwestern.edu/summer/programs/spectrum/academics/syllabi/
For Equinox courses visit
www.ctd.northwestern.edu/summer/programs/equinox/academics/syllabi/
For the Civic Leadership Institute visit
www.ctd.northwestern.edu/cep/programs/cli/academic/syllabus/

Spark, Solstice, Apogee, Spectrum & Equinox Campus Life Details

PROGRAM EXPERIENCE

The programs provide learning experiences matched to students' identified abilities, inspire a love of learning, and provide a community of intellectual peers.

Typical Daily Schedule

(times may be earlier or later depending on the program)

7:15	**a.m.**	Breakfast
8:15	**a.m.**	Commuter students arrive/walk to class
8:30	**a.m.**	Class starts
11:15	**a.m.**	Lunch
12:15	**p.m.**	Class continues
2:45	**p.m.**	Class ends/commuter students may depart
3:00	**p.m.**	Afternoon activity (commuters encouraged to participate)
5:30	**p.m.**	Dinner (optional for commuters)
6:30	**p.m.**	Evening study sessions (commuters invited but not required to participate)
8:15	**p.m.**	Evening activity
10:00	**p.m.**	Students must be in their own rooms

Activities

Activities are an important part of the CTD Summer Program experience, and they help provide a healthy balance of work and play. After class students may participate in a variety of afternoon and evening activities (selections vary by program). Favorites include visiting the beach on Lake Michigan, playing Capture the Flag, visiting the University Student Center, participating in Ultimate Frisbee and soccer games, and engaging in various crafts. Quiet time is an option for students who wish to study or relax with friends.

Students in residential programs enjoy a broad range of activities, such as off- and on-campus theater, concerts, movies, museums, dances and talent shows. The learning that occurs outside of class, through casual conversation, study periods, and recreational activities, is just as important as that which occurs in class. For this reason, we require residential students to remain with the Summer Program throughout each session, including weekends and holidays. If you are not comfortable having your child remain in the program over the weekend, enroll him/her as a commuter student. Due to safety and supervision concerns, weekend activities are offered to residential students only.

RESIDENTIAL LIFE (Northwestern University and CLI)

For students who prefer to experience a residential living and learning community, the Summer Program provides a residential option:

- Students reside and eat in university residence halls under the supervision of specially trained residential staff.
- Students in Spark, Solstice, Apogee, Spectrum and CLI are housed by age and by gender and, when possible, by course or discipline. Students in Equinox are housed by course (males and females may be on the same floor/wing but have separate rooms and bathroom facilities).
- A residential coordinator in each program oversees residential life including staff, activities, health and social issues. Residential assistants are assigned to supervise small groups of students.

COMMUTERS

Students who prefer to reside at home while participating in the Summer Program may commute. (CLI students may not be commuters.) Commuters may choose to participate in afternoon activities and evening study sessions.

- Commuters are dropped off and picked up at a central location monitored by CTD staff members. Equinox commuters may be dropped off at a spot convenient to their classroom, take public transportation or drive themselves to campus.
- Lunch is provided to all commuter students in a university dining hall.
- Commuters participating in an evening study session may stay for dinner for a per meal fee (Northwestern site only).
- For the convenience of its commuter students, CTD provides a carpool list for those who request to be included on it. Please indicate your interest in being placed on this list by checking the carpool list box on the Summer Program Application.

COMPUTERS

Because of heavy demand, access to public-use computers and campus computer labs is extremely limited. There are one or two computers in each residence hall that students may access, if needed. Residential students in Apogee, Spectrum and Equinox are strongly encouraged to bring their own laptops and printers with them while attending CTD to assist them with their coursework. Because of the short duration of our programs, neither CTD nor Northwestern University provides technical support, including e-mail or Internet accounts, for personal computers. Students are given access to the closed wireless network on campus. Details regarding the rights and responsibilities of computer and Internet usage on campus are provided in the acceptance materials. If you have questions about computer use at the program, please contact the Summer Program office.

INSTRUCTORS

Center for Talent Development selects instructors based on their mastery of subject matter, experience, enthusiasm and the ability to differentiate instruction. CTD instructors are particularly skilled at providing engaging and thought-provoking learning experiences for academically talented students.

THIRD-PARTY WEBSITES

CTD's website and CTD program and course materials may refer to third-party websites. Staff members review such websites for inappropriate content before referencing them. However, because web content continuously changes and is not controlled by CTD, CTD disclaims responsibility for the content contained on third-party websites. If you become aware of anything that may be inappropriate, please notify CTD staff immediately.

2012 SUMMER PROGRAM FEES & APPLICATION PROCEDURE

For Leapfrog fees & application procedures, see pages 16 through 18.

APPLICATION DEADLINE (POSTMARK) IS MAY 14, 2012

Complete applications are reviewed as they are received starting January 1. The application deadline is May 14, but many courses fill earlier, so early application is strongly encouraged. Applications postmarked after May 14, 2012 are subject to a $50 late fee and tuition must be paid in full. Although CTD does its best to accommodate late applications, enrollment may not be possible. Please be sure to send a *complete* application packet, as applications are *reviewed only after they are complete*. After the May 14 deadline, applications that remain incomplete will be deemed inactive, will not be reviewed and no follow up contact will be made.

Notes:

- Applications can be filled out via our online application, by downloading a paper application form from the website or by requesting that a paper application be sent to you.
- If you have questions, please e-mail Summer Program staff directly: summer@ctd.northwestern.edu.

APPLICATION REVIEW PROCESS

Once the CTD summer program office receives a completed application, it is forwarded to the appropriate program coordinator for review. Once the application is reviewed and an enrollment decision is made, the program coordinator will notify the applicant via e-mail. The process takes approximately four weeks from the time a completed application is received (incomplete applications are not reviewed). Due to the volume of applications, the review process may take longer closer to the application deadline.

PROGRAM FEES (per session)

Spark (1-week program)

	RESIDENTIAL FEES	COMMUTER FEES
Tuition	$1,215	$710
Application Fee	$ 60	$ 60
Total Tuition	$1,275	$770

Solstice (2-week program)

	RESIDENTIAL FEES	COMMUTER FEES
Tuition	$2,240	$1,300
Application Fee	$ 60	$ 60
Total Tuition	$2,300	$1,360

Apogee, Spectrum, Equinox (3-week programs)

	RESIDENTIAL FEES	COMMUTER FEES
Tuition	$3,270	$1,885
Application Fee	$ 60	$ 60
Total Tuition	$3,330	$1,945

Notes:

- Residential fees cover tuition, room and board for the entire session; books; basic materials; and health center fees.
- Commuter fees include tuition, books, basic materials, and lunch.
- Selected courses carry a lab or materials fee; amounts vary by course (see course descriptions for fee details).
- All applications must be accompanied by a non-refundable application fee of $60 and a tuition deposit of $200 for a total of $260. Payment in full and a non-refundable late fee of $50 must accompany each application postmarked after May 14, 2012.
- Students applying for more than one session need pay only one application fee, but must remit tuition deposits for each session.
- Tuition balances must be paid by check, money order or credit card within 30 days of acceptance in the program. For students who receive their program acceptance after May 14, the final payment is due upon notification of acceptance.
- Students with an outstanding balance after June 8, 2012, may lose their place in the program. Unless a payment plan has been approved, accounts must be paid in full by Opening Day or students will not be allowed to check in.

REFUNDS & WITHDRAWALS

- All requests for refunds and/or withdrawals must be made in writing and either e-mailed, faxed or mailed to CTD by June 8, 2012. Check with CTD to confirm receipt of request.
- The tuition deposit is non-refundable after June 8, 2012.
- If a student withdraws in writing between the June 8 deadline and the start of the program, CTD will refund 50% of the program fees paid, less the deposit.
- Students who withdraw after the start of a program receive no refund.
- Students dismissed for disciplinary reasons are not eligible for any refund.
- The $60 application fee is not refundable except in cases where all course choices are closed or financial aid is not adequate for participation.
- Refund processing may take eight weeks, starting from the time a written request is received by CTD.

FINANCIAL AID & SCHOLARSHIPS

CTD offers need-based financial aid awarded as requests are received beginning in January 2012. Families are encouraged to apply early as the amount of aid available is limited and is often exhausted before the May application deadline.

- For students enrolling in 3-week program computer technology courses (e.g., Bits & Blocks, Java, etc.), two scholarship opportunities exist: The Sandra Dennhardt Scholarship and the Gary Greenberg Scholarship. For information on eligibility and application procedures visit the financial aid section of the Apogee, Spectrum or Equinox program website.

- The amount of financial aid awarded varies from partial to full tuition, and awards are based on family income and extenuating circumstances (e.g., loss of job, unforeseen medical expenses, etc.). Most families awarded aid have a total household income of less than $50,000.
- Financial aid is awarded for no more than one program and session per child.
- To be considered for financial aid, families must complete the Financial Aid Application, available on the website or in the online application. All required materials (tax information, statement of need, etc.) must be included in the financial aid submission in order for an application for financial aid to be considered.
- The amount of financial aid granted and the balance due are reflected on an invoice included in the acceptance materials. Any outstanding balance must be paid by June 8, 2012, unless arrangements have been made with CTD for a payment plan.

PAYMENT PLAN

A five-month payment plan is available. To apply, you must complete and submit the payment plan application form available on our website at www.ctd.northwestern.edu/summer/downloads. The payment plan application deadline is the same as your acceptance packet materials. The fee for using the payment plan is $50. Families that are eligible for financial aid will not be assessed the service charge for using the payment plan.

PROGRAM APPLICATION PROCEDURES

Domestic Applicants (International Applicants see page right)

The application deadline for domestic applicants is May 14, 2012 (postmark). You may apply online at www.ctd.northwestern.edu/summer, download an application from the CTD website or contact the CTD Summer Program office to request an application form be sent to you.
Note: CTD's Summer Program does *not* accept faxed applications.

CTD welcomes applications from **new applicants with qualifying test scores**, **prequalified applicants** and **admission portfolio applicants**. To begin the application process, select the applicant type best suited to you based on the descriptions below.

You are a **new applicant with qualifying test scores** if you meet any ***one*** of the following ***three*** criteria:
- You have never attended a Center for Talent Development (CTD) program and you have qualifying test scores. (Spectrum and Equinox require above-grade-level test scores — ACT or SAT taken in grades 6, 7, 8, or 9.)
- You have previously attended a CTD program, but you are now applying for a course in a subject area different than the course you successfully completed and you have new qualifying test scores.
- You attended Apogee, Saturday Enrichment Program or Gifted LearningLinks but are now applying for Spectrum or Equinox and you have the requisite above-grade-level scores.

You are a **prequalified applicant** if you meet ***both*** of the following criteria:
- For Spark, Solstice or Apogee: successful completion of a previous Leapfrog, Saturday Enrichment, Gifted LearningLinks, Spark or Apogee course. For Spectrum or Equinox: successful completion of a previous Spectrum or Equinox course.
- You are applying for a course in the same subject area as the course you previously completed.

You are an **admission portfolio applicant** if you meet the following **criterion:**
- You do not have qualifying test scores because either you have (1) never taken a nationally normed standardized achievement test or, for Spectrum or Equinox an above-grade-level test such as the ACT or SAT in grades 6 through 9 OR (2) you have taken a nationally normed standardized test, or for Spectrum or Equinox, an above-grade-level test, but have not achieved a qualifying test score.

International Applicants

CTD welcomes applications from international students (non-U.S. citizens). Please follow the guidelines for new students with qualifying test scores, prequalified students, or admission portfolio applicants as described in the section entitled Domestic Applicants. In addition, if English is not the first language, students need to submit TOEFL or SLEP scores (SLEP is not accepted for application to the Equinox program). Students need a good command of written and spoken English to succeed in the fast-paced, intensive courses. For information about TOEFL or SLEP tests, contact TOEFL/TSE services at www.ets.org.

CTD strongly recommends students who require visa sponsorship apply before April 1, 2012 as it may take 8 to 10 weeks to secure a student visa. CTD is not responsible for an accepted student's ability to secure a student visa.

Visa & Passport Requirements for International Applicants (Non-U.S. Citizens)

The CTD Summer Program has been identified by the Student and Exchange Visitor Program (SEVP) and Northwestern University as academic programs that require a student visa for any non-U.S. citizen/permanent resident. Any admitted student who is not a U.S. citizen, U.S. permanent resident or in another visa category that allows for study, requires sponsorship for a student visa. Failure to comply may negatively impact a student's ability to secure another non-immigrant visa in the future.
- Non-U.S. citizens are required to have the appropriate student visa (for more information visit www.travel.state.gov/visa/temp/types/types_1268.html).
- All non-U.S. citizens are required to have a passport to attend summer programs in the U.S. The passport must be valid for a minimum of six months after the completion of the program.
- Accepted students who require visa sponsorship may incur additional fees to cover processing and mailing costs.

2012 SUMMER PROGRAM FEES & APPLICATION PROCEDURE continued

APPLICATION MATERIALS CHECKLIST

Use the following charts to determine what materials are required in order to submit a complete application.

SPARK, SOLSTICE, APOGEE OR CIVIC LEADERSHIP INSTITUTE

	Prequalified	New Student w/test scores	New Student w/Admission Portfolio
APPLICATION FORM	●	●	●
APPLICATION FEE & TUITION DEPOSIT	●	●	●
250-WORD ESSAY	●	●	●
PROOF OF PREREQUISITES (IF REQUIRED FOR 1st CHOICE COURSE)	●	●	●
COPY OF TEST SCORES (ABOVE-GRADE-LEVEL OR GRADE-LEVEL)		●	● (if available)
REPORT CARD			●
TWO TEACHER RECOMMENDATIONS			●
TOEFL/SLEP SCORES*	●	●	●

* (Students whose first language is not English)

SPECTRUM OR EQUINOX

	Prequalified	New Student w/test scores	New Student w/Admission Portfolio
APPLICATION FORM	●	●	●
APPLICATION FEE & TUITION DEPOSIT	●	●	●
250-WORD ESSAY	●	●	●
PROOF OF PREREQUISITES (IF REQUIRED FOR 1st CHOICE COURSE)	●	●	●
COPY OF ABOVE-GRADE-LEVEL TEST SCORES (ACT OR SAT)		●	● (if available)
COPY OF GRADE-LEVEL STANDARDIZED TEST SCORES			●
REPORT CARD			●
TWO TEACHER RECOMMENDATIONS			●
TOEFL/SLEP SCORES*	●	●	●

* (Students whose first language is not English)

Application Notes

- The non-refundable application fee of $60 and tuition deposit of $200 (total $260) should be made by credit card, check or money order payable to Center for Talent Development. (If applying after May 14, submit full tuition plus $50 late fee.) Only one application fee is required per student, regardless of the number of sessions for which a student applies.
- The 250-word essay must be wholly conceived of and written by the applicant on the topic for the program you selected.
- Prerequisites, if required, are listed in the program pages at the beginning of the course description.
- Above-grade-level test scores refer to the ACT or SAT taken in grades 6 through 9. Grade-level standardized test scores should be nationally normed tests taken within the last two years (i.e., Terra Nova, ISAT, Iowa Test of Basic Skills, etc.). See pages 43 or 44 for eligibility requirements.
- The report card you provide should be the most recent evaluation of your child's school performance.
- Two teacher recommendations are required for Admission Portfolio students and they should be from individuals who are able to speak to your child's abilities in the subject area closest to the course choice. Download the recommendation form from www.ctd.northwestern.edu/summer/downloads.

Essay Questions

All students are required to submit a 250-word essay conceived and written by the applicant.

Spark Essay Topic: Think about a time when you had to adjust to a new situation or challenge. Describe at least three ways you worked to overcome obstacles, make friends, and achieve success. What skills did you use and how might you apply these skills to your summer Spark experience?

Solstice & Apogee Essay Topic: Tell us about an activity (for example, a contest, sports camp, big school project, etc.) you chose to do because you loved the subject, but it required you to work hard. What was the hardest challenge you faced? How did you stay motivated and not give up? What was the coolest thing you learned (about yourself or the subject)?

Spectrum Essay Topic: What is success? Describe a time when you were successful (or unsuccessful) and how that experience impacted you. Discuss what you learned and define the qualities that you possess that will help you to be successful in the Spectrum program.

Equinox Essay Topic: Bill Cosby said, "Anyone can dabble, but once you've made that commitment, your blood has that particular thing in it, and it's very hard for people to stop you." What are *you* passionate about as a citizen of the world? How will that passion help you get the most out of your Equinox experience and achieve your larger goals?

Submitting the Application

The online application is available at www.ctd.northwestern.edu/summer. You will need a credit card to complete the transaction and we recommend that you prepare all necessary supporting documents (test scores, essay, prerequisite materials, etc.) in advance so that they can be sent to CTD immediately after you submit the online portion of the application. Supporting documents may be mailed, e-mailed or faxed.

If you are not able to apply online, you may download a copy of the application form from our website or request a paper application be sent to you.

Provide the following information:
1) Which application form(s) you are requesting
2) How you would like the material sent: e-mail or postal service
3) Address and contact information: name, mailing address (including city, state and zip code) or e-mail address and, in both instances, a phone number in case we need to contact you.

CONTACTING THE SUMMER PROGRAM

By Phone: 847/491-8257 (Summer Program direct line)
By E-mail: summer@ctd.northwestern.edu
By Fax: 847/467-0880

NORTHWESTERN UNIVERSITY

CENTER FOR TALENT DEVELOPMENT

PROGRAMS & RESOURCES FOR ACADEMICALLY GIFTED STUDENTS

Center for Talent Development (CTD) at Northwestern University offers a range of year-round programs and services for academically gifted students (PreK–grade 12), their parents and teachers. Every program meets high standards that CTD has developed and refined during its 30 years of research and practice. Small class sizes and world-class university resources create a learning environment that is ideal for motivated, curious students ready to excel. CTD is accredited as a nonpublic supplementary school by the North Central Association Commission on Accreditation and School Improvement.

SPECIAL EVENT FOR FAMILIES: OPPORTUNITIES FOR THE FUTURE FAMILY CONFERENCE

CTD hosts a family conference just prior to the start of the Summer Program. It offers parents the chance to learn from experts in gifted education about talent development, social and emotional issues and educational options. Students in grades 4 through 12 attend workshops on their favorite subjects and explore career paths.

Date, Time & Location: Saturday, June 23 from 1 to 5:15 p.m. on Northwestern University's Evanston Campus.

Keynote: Kristie Speirs Neumeister, PhD, Ball State University and Virginia Burney, PhD, consultant, High Ability Education, discuss psychosocial skills training—helping students be successful beyond academics by learning to focus, work with others, face challenges, and maintain confidence after setbacks.

Registration & Fees: $95 individual; $125 couple or 1 adult/1 child; $135 family of 3 or more. Sign up now on the Summer Program Application form.

NORTHWESTERN UNIVERSITY'S MIDWEST ACADEMIC TALENT SEARCH (NUMATS)

NUMATS supports a community of gifted learners with above-grade-level testing, academic planning and access to targeted resources. Students who score in the top 10th percentile on grade-level tests have reached the test ceiling and their true academic talent remains unknown. NUMATS uses EXPLORE, ACT and SAT — tests normally administered to older students for high school and college admission — to gain a more accurate assessment of high achievers in grades 3–9. Parents and teachers receive help in interpreting test scores and valuable tools to chart an effective academic path for their students. NUMATS serves the families of 25,000 gifted children every year.

FOR MORE INFORMATION
www.ctd.northwestern.edu,
e-mail ctd@northwestern.edu
or phone 847/491-3782.

GIFTED LEARNINGLINKS (GLL)

Gifted LearningLinks offers online courses for every member of the family. The program allows bright students to set their own study pace and place. Family courses for students K through grade 2 and enrichment courses for grades 3 through 8 run year round. Students in grades 6 through 12 can take high school Honors or AP® courses for credit. Nine-week independent study options are offered in several subject areas for students in grades 3 through 12. Gifted LearningLinks also offers extracurricular clubs. Discounts are available for school districts and homeschool groups.

SATURDAY ENRICHMENT PROGRAM (SEP)

Gifted students look forward to weekend learning when they enroll in the Saturday Enrichment Program. New, multi-week sessions begin in the fall, winter and spring at four Chicagoland locations. Children in PreK through grade 9 can select from a broad range of subject areas. They pursue their chosen topic in depth through hands-on experimentation and enjoy interaction among their intellectual peers.

ACCELERATED WEEKEND EXPERIENCE (AWE)

Older students with busy schedules appreciate the opportunity to participate in programs of short duration. These classes, for grades 5–8, meet over a single weekend, spanning both Saturday and Sunday. Gifted students explore a single subject with an expert in the field. AWE programs are held in various locations throughout the country.

CIVIC EDUCATION PROJECT

The Civic Education Project offers award-winning leadership and civic engagement programs for outstanding high school and junior high school students. School year and summer programs combine hands-on education and community service to promote civic responsibility among young people. Students learn and serve in communities across the country, developing the knowledge, experience and leadership skills they need to make a positive impact on society.

Northwestern University
617 Dartmouth Place
Evanston, Illinois 60208-4175

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2012 Summer Program

For academically gifted students in PreK through grade 12

NORTHWESTERN UNIVERSITY
CENTER FOR TALENT DEVELOPMENT
617 Dartmouth Place
Evanston, Illinois 60208-4175
phone: 847/491-3782
fax: 847/467-0880
e-mail: ctd@northwestern.edu
web: www.ctd.northwestern.edu

Field trips to Chicago's outstanding science and cultural institutions contribute to the CTD Summer Program experience.

Center for Talent Development
SCHOOL OF EDUCATION & SOCIAL POLICY

Center for Talent Development
Northwestern University

NORTHWESTERN UNIVERSITY