Center for Talent Development

Weekend Enrichment Programs
Advanced and Unique Courses for Gifted Students

Course Catalog
Age 4 through Grade 9

Saturday Enrichment Program | Accelerated Weekend Experience

www.northwestern.edu/wep
847/491-3782 ext. 4
sep@northwestern.edu
awe@northwestern.edu

WINTER 2016
Weekend opportunities for discovery that allow gifted students to focus their curiosity and passion on a specific interest area. A wide variety of advanced and unique courses range in duration from a single weekend to eight consecutive Saturdays.

Register now for the winter session of our Saturday Enrichment Program (SEP). Information on the Accelerated Weekend Experience (AWE) is on page 8.

When:
January 16–March 5, 2016
A.M. Classes: 9:00 a.m.–11:30 a.m.
P.M. Classes: 12:00 p.m.–2:30 p.m.

Where:
Evanston, IL (EV)
Northwestern University

Chicago, IL (CH)
The Frances Xavier Warde School, Holy Name Campus, 751 N. State St.

NEW! Lake Bluff, IL (LB)
(Morning classes only)
Lake Bluff Elementary School, 350 W. Washington Ave.

Palatine, IL (PA)
(Morning classes only)
Quest Academy, 500 N. Benton St.

Naperville, IL (NP)
North Central College, 31 N. Loomis St.
Why SEP?

Because the Saturday Enrichment Program:

- Offers a community of like-minded peers.
- Provides challenging accelerated courses with admissions score criteria.
- Presents opportunities to delve deeper into a single topic and to develop an advantage in one’s area of strength.
- Focuses on the whole family, offering parent education workshops that address the social-emotional development of gifted learners.

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.

Who’s eligible for SEP?
Students must be able to submit ONE of the following:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Testing through CTD*</th>
<th>Above-grade-level testing through NUMATS**</th>
<th>Grade-level, standardized test at or above the 90th National Percentile Rank in math or reading</th>
<th>Portfolio Admission with ONE teacher recommendation; most recent report card; nationally normed test scores, if available***</th>
<th>Grade-level, standardized test at or above the 95th National Percentile Rank in math or reading</th>
<th>Portfolio Admission with TWO teacher recommendations; most recent report card; nationally normed test scores, if available***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 4–Grade 3</td>
<td>✓</td>
<td>or</td>
<td>✓</td>
<td>or</td>
<td>✓</td>
<td>or</td>
</tr>
<tr>
<td>Grades 3–9 Enrichment</td>
<td>✓</td>
<td>or</td>
<td>✓</td>
<td>or</td>
<td>✓</td>
<td>or</td>
</tr>
<tr>
<td>Honors Level</td>
<td>✓</td>
<td>or</td>
<td>✓</td>
<td>or</td>
<td>✓</td>
<td>or</td>
</tr>
</tbody>
</table>

NOTE: Students are only placed in classes when proof of course admission criteria is submitted and tuition is paid in full.

* To learn more about testing for your child age 4 through Grade 3, visit: [www.ctd.northwestern.edu/prek-through-grade-3-testing](http://www.ctd.northwestern.edu/prek-through-grade-3-testing). To schedule testing, call 847/491-3782, ext. 6 or e-mail ctd-testing@northwestern.edu.
** For more information on how to apply for above-grade-level testing through NUMATS, visit: [www.ctd.northwestern.edu/numats/](http://www.ctd.northwestern.edu/numats/).
*** Recommendation must demonstrate student is working at least 1½ to 2 years above grade level and must be from a current teacher knowledgeable in the content area of the course for which the child is applying. Requisite teacher recommendation form is available on our website at [www.ctd.northwestern.edu/wep](http://www.ctd.northwestern.edu/wep).

How can families participate in SEP?

1. Confirm that your child is eligible for the program (see chart to the left). Only choose a course in a subject area for which your child qualifies and for which your child shows interest.

2. Choose a course within a grade-level band that matches your child’s current grade level. SEP courses are designed to be 1½ to 2 years above grade level. Selecting a course within your child’s grade-level band ensures placement that is both challenging yet affords your child the opportunity to learn alongside same aged peers.

3. Identify a second course in case the first choice is not available.

4. Complete ONLINE application by visiting [my.ctd.northwestern.edu](http://my.ctd.northwestern.edu) (if needed, a paper application form is available for download).

5. Upload supporting materials electronically to your MyCTD Toolbox account. See web address in step 4 above.
6. Acceptance notifications are sent via e-mail two to three weeks following receipt of a completed application. Please pay special attention to this notification. It will include information about student course placement and a weblink for further information on
   - Program orientation and ongoing parent education seminars
   - Program Policies
   - Late Pickup
   - Behavioral Expectations

7. Students receive a narrative evaluation of their performance as well as recommendations for future study approximately four to six weeks after the conclusion of a course. Grades are only assigned for high school credit-bearing courses and official transcripts are available upon written request to sep@northwestern.edu.

What else do I need to consider?

Tuition .............................................. $420

- Some courses have additional book or lab fees as described in the online course descriptions.
- Full payment must be submitted with the completed application. If applying for both a morning and afternoon session, you will be offered a $60 discount, but you must complete two separate applications. Students staying for both morning and afternoon classes at our Chicago and Naperville sites may bring a nut-free sack lunch and will be supervised between 11:30 a.m.-12:00 p.m. Notify SEP staff of your child’s intention to stay for the lunch period by emailing sep@northwestern.edu.
- Paper applications may be paid by check or money order, made payable to Northwestern University, or by credit card (Visa, MC, Discover or Diner’s Club).

Financial Aid

- Need based financial aid is available.
- Completed online or paper applications (including documentation of test scores, Admission Portfolio materials, and evidence of financial need, including first two pages of latest federal income tax return and a statement of need) AND payment must be received no later than January 4, 2016.
- Applicant’s initial payment is $60. This fee will be refunded if the financial aid award is not sufficient for the family.

Refund and Withdrawal Requests

- Requests must be made in writing and must be submitted to CTD via e-mail at sep@northwestern.edu or by U.S. mail by the Tuesday prior to the start of the SEP session. A $60 non-refundable processing fee will be charged for all refund and withdrawal requests.

“My child enjoys being challenged and learning new concepts. Before, she liked math—now she loves math and recognizes that it is one of her strengths.”

— Saturday Enrichment Program parent
# SEP Courses at a Glance

<table>
<thead>
<tr>
<th>#</th>
<th>GRADE</th>
<th>COURSE TITLE</th>
<th>CONTENT AREA</th>
<th>QUALIFYING SCORE</th>
<th>SITES</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>PreK-K</td>
<td>Geometry Jumpstart</td>
<td>Math</td>
<td>Math</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>02</td>
<td>PreK-K</td>
<td>Oops! Accidental Breakthroughs in Science</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, CH, LB</td>
</tr>
<tr>
<td>03</td>
<td>PreK-K</td>
<td>Astronomical Adventures</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>04</td>
<td>K-1</td>
<td>Math is a Blast</td>
<td>Math</td>
<td>Math</td>
<td>EV</td>
</tr>
<tr>
<td>05</td>
<td>K-1</td>
<td>Time Travelers</td>
<td>English &amp; Language Arts</td>
<td>Reading</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>06</td>
<td>K-1</td>
<td>Mysteries of the Deep</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV</td>
</tr>
<tr>
<td>07</td>
<td>1-2</td>
<td>Problem Solving Solutions</td>
<td>Math</td>
<td>Math</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>08</td>
<td>1-2</td>
<td>Magic or Science?</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>09</td>
<td>2-3</td>
<td>Architectural Design</td>
<td>Design &amp; Engineering</td>
<td>Reading or Math</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>10</td>
<td>2-3</td>
<td>We the Kids</td>
<td>English &amp; Language Arts</td>
<td>Reading</td>
<td>EV</td>
</tr>
<tr>
<td>11</td>
<td>2-3</td>
<td>Science Seekers: Mysteries</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>12</td>
<td>2-3</td>
<td>Introductory Programming with WeDo &amp; Scratch</td>
<td>Computer Science &amp; Technology</td>
<td>Reading or Math</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>13</td>
<td>3-4</td>
<td>The Math Behind Computer Science</td>
<td>Math</td>
<td>Math</td>
<td>EV, NP, PA, CH</td>
</tr>
<tr>
<td>14</td>
<td>3-4</td>
<td>Advanced Raspberry Pi</td>
<td>Computer Science &amp; Technology</td>
<td>Reading or Math</td>
<td>EV</td>
</tr>
<tr>
<td>15</td>
<td>4-5</td>
<td>Pre-Algebra: Geometry &amp; Measurement</td>
<td>Math</td>
<td>Math*</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>16</td>
<td>4-5</td>
<td>Roller Coaster Mania</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>17</td>
<td>4-5</td>
<td>Next Generation Robotics</td>
<td>Computer Science &amp; Technology</td>
<td>Reading or Math</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>18</td>
<td>4-6</td>
<td>The Golden Age of Greece</td>
<td>Social Sciences &amp; Humanities</td>
<td>Reading</td>
<td>EV</td>
</tr>
<tr>
<td>19</td>
<td>5-6</td>
<td>Zombie-ology: The Science of the Undead</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, PA, CH, LB</td>
</tr>
<tr>
<td>20</td>
<td>5-6</td>
<td>Android App Design</td>
<td>Computer Science &amp; Technology</td>
<td>Reading or Math</td>
<td>EV, NP, PA, LB</td>
</tr>
<tr>
<td>21</td>
<td>6-7</td>
<td>Integrated Math Honors</td>
<td>Math</td>
<td>Math*</td>
<td>EV</td>
</tr>
<tr>
<td>22</td>
<td>6-8</td>
<td>Biotechnology</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, PA</td>
</tr>
<tr>
<td>23</td>
<td>6-8</td>
<td>Greenfoot</td>
<td>Computer Science &amp; Technology</td>
<td>Reading or Math</td>
<td>EV, NP</td>
</tr>
<tr>
<td>24</td>
<td>6-8</td>
<td>Science, Engineering &amp; Technology Honors</td>
<td>Science</td>
<td>Reading* OR Math*</td>
<td>EV, NP</td>
</tr>
<tr>
<td>25</td>
<td>7-9</td>
<td>Algebra I Honors</td>
<td>Math</td>
<td>Math*</td>
<td>EV</td>
</tr>
<tr>
<td>26</td>
<td>7-9</td>
<td>Persuasion &amp; Debate Honors</td>
<td>English &amp; Language Arts</td>
<td>Reading*</td>
<td>EV</td>
</tr>
<tr>
<td>27</td>
<td>7-9</td>
<td>Survey of High School Lab Science Honors: Chemistry</td>
<td>Science</td>
<td>Reading* AND Math*</td>
<td>EV, NP</td>
</tr>
</tbody>
</table>

### AFTERNOON CLASSES: 12 NOON – 2:30 P.M.

<table>
<thead>
<tr>
<th>#</th>
<th>GRADE</th>
<th>COURSE TITLE</th>
<th>CONTENT AREA</th>
<th>QUALIFYING SCORE</th>
<th>SITES</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>PreK-K</td>
<td>Geometry Jumpstart</td>
<td>Math</td>
<td>Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>29</td>
<td>PreK-K</td>
<td>Oops! Accidental Breakthroughs in Science</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV</td>
</tr>
<tr>
<td>30</td>
<td>PreK-K</td>
<td>Astronomical Adventures</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>31</td>
<td>K-1</td>
<td>Math is a Blast</td>
<td>Math</td>
<td>Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>32</td>
<td>K-1</td>
<td>Time Travelers</td>
<td>English &amp; Language Arts</td>
<td>Reading</td>
<td>EV</td>
</tr>
<tr>
<td>33</td>
<td>K-1</td>
<td>Mysteries of the Deep</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV</td>
</tr>
<tr>
<td>34</td>
<td>1-2</td>
<td>Problem Solving Solutions</td>
<td>Math</td>
<td>Math</td>
<td>EV, CH</td>
</tr>
<tr>
<td>35</td>
<td>1-2</td>
<td>Magic or Science?</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>36</td>
<td>2-3</td>
<td>Architectural Design</td>
<td>Design &amp; Engineering</td>
<td>Reading or Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>37</td>
<td>2-3</td>
<td>We the Kids</td>
<td>English &amp; Language Arts</td>
<td>Reading or Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>38</td>
<td>2-3</td>
<td>Science Seekers: Mysteries</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>39</td>
<td>2-3</td>
<td>Introductory Programming with WeDo &amp; Scratch</td>
<td>Computer Science &amp; Technology</td>
<td>Reading or Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>40</td>
<td>3-4</td>
<td>The Math Behind Computer Science</td>
<td>Math</td>
<td>Math</td>
<td>EV</td>
</tr>
<tr>
<td>41</td>
<td>3-4</td>
<td>Advanced Raspberry Pi</td>
<td>Computer Science &amp; Technology</td>
<td>Reading or Math</td>
<td>EV</td>
</tr>
<tr>
<td>42</td>
<td>4-5</td>
<td>Pre-Algebra: Geometry &amp; Measurement</td>
<td>Math</td>
<td>Math*</td>
<td>EV</td>
</tr>
<tr>
<td>43</td>
<td>4-5</td>
<td>Roller Coaster Mania</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>44</td>
<td>4-5</td>
<td>Next Generation Robotics</td>
<td>Computer Science &amp; Technology</td>
<td>Reading or Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>45</td>
<td>4-6</td>
<td>The Golden Age of Greece</td>
<td>Social Sciences &amp; Humanities</td>
<td>Reading</td>
<td>EV</td>
</tr>
<tr>
<td>46</td>
<td>5-6</td>
<td>Zombie-ology: The Science of the Undead</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP</td>
</tr>
<tr>
<td>47</td>
<td>5-6</td>
<td>Android App Design</td>
<td>Computer Science &amp; Technology</td>
<td>Reading or Math</td>
<td>EV, NP</td>
</tr>
<tr>
<td>48</td>
<td>6-8</td>
<td>Biotechnology</td>
<td>Science</td>
<td>Reading or Math</td>
<td>EV, NP, CH</td>
</tr>
<tr>
<td>49</td>
<td>6-8</td>
<td>Greenfoot</td>
<td>Computer Science &amp; Technology</td>
<td>Reading or Math</td>
<td>EV</td>
</tr>
<tr>
<td>50</td>
<td>7-9</td>
<td>Persuasion &amp; Debate Honors</td>
<td>English &amp; Language Arts</td>
<td>Reading*</td>
<td>EV</td>
</tr>
<tr>
<td>51</td>
<td>7-9</td>
<td>Survey of High School Lab Science Honors: Chemistry</td>
<td>Science</td>
<td>Reading* AND Math*</td>
<td>EV</td>
</tr>
</tbody>
</table>

*Qualifying score must be at or above the 95th percentile*
Saturday Enrichment Program

Age 4–Grade 9

Grades PreK–K*

Geometry Jumpstart
*How do we use geometry in design and construction?*
Through movement, dance and song, young mathematicians discover geometric concepts found in nature and the built environment. Students learn the shapes, properties and language of geometry and identify symmetries and patterns in two and three dimensions.

Oops! Accidental Breakthroughs in Science
*How do you know when you’ve discovered something?*
Many of the most important breakthroughs in science were discovered accidentally. Budding scientists investigate these fortunate accidents of science and ponder the world of trial, error, adjustment and repetition in this experiment-based class.

Astronomical Adventures
*Why do humans explore the solar system?*
What is about 14 billion years old and has a diameter of at least 93 billion light years? Our universe! Discover our solar system and its meteorites, galaxies, comets and asteroids through hands-on activities and multimedia presentations. Future astronomers learn about the movement of the planets, what causes day and night, eclipses, equinoxes and other celestial events.

Grades K–1*

Math is a Blast
*How is math used in our daily lives?*
3. 2. 1. Blast off! Through interactive games, secret codes, graphing activities, and collaborative projects, students are propelled into the wondrous world of mathematics. Students learn to apply new concepts and develop original ideas about mathematical principles such as proportion, area, patterns, perimeter and fractions.

Time Travelers
*How does an event in the past influence the future?*
What was it like to travel the Oregon Trail? Have you ever wondered what it would have been like if humans lived alongside dinosaurs? Travel back in time to interesting events in Earth’s history to uncover what life was like in the past and explore the impact living things have had on the Earth. Imagine and compose narratives from the point of view of both humans and creatures throughout history, using role-play, visualization and creative writing.

NOTE: Students do NOT need to be able to write independently to be in this course.

Mysteries of the Deep
*How do living creatures in both saltwater and freshwater contribute to our ecosystem?*
What allows clownfish to live among stinging anemones? Where do ocean animals go during a hurricane? Is there life in the deep Marianas Trench? Marine biologists-in-training discover the fascinating world of aquatic life while solving the great mysteries of the deep. Through hands-on projects and lively discussions, students learn about the amazingly diverse life inhabiting our freshwater lakes and salty oceans and the inner-workings of our ecosystem.

*NOTE: SEP does not recommend that children grade 1 and under take both morning and afternoon sessions.*

Creative Studies Course — Rigorous arts-integrated courses that extend learning in math, science and language arts.
Grades 1–2*

Problem Solving Solutions
How can math apply to a real-world situation?
A fire engine travels seven miles to a fire at a speed of 36 mph. Its tank holds 500 gallons of water, but it’s been leaking throughout the journey at a rate of 22.5 gallons per hour. If the fire engine needs 497 gallons of water to put out the fire, will it succeed? Grapple with mindboggling brainteasers to solve the problem.

Magic or Science? 
How can you apply scientific principles to magic?
Magician or scientist? Students explore the science of magic, learning tricks based on scientific facts and discovering the principles behind these amazing effects. Performing scientific sleights of hand, students experiment with magnets, air pressure, polymers and indicators to reveal the surprise and awe of science.

Grades 2–3

Architectural Design
How does building construction inform design?
Future architects and builders become familiar with the vocabulary, tools and visual-spatial skills of the trade. Students learn about architectural styles throughout history, as well as structural concepts, building materials and how designers and planners work to protect the environment. Using mathematics, science, and art, students engage in the design process, studying famous buildings of today to imagine the famous buildings of tomorrow.

NOTE: Additional $15 materials fee required.

We the Kids
How do groups of people work together in a system?
Young politicians, lawmakers, judges and activists design their own amendments to the Constitution and lobby their peers to pass a new law. Students develop and perform a mock trial based on a familiar tale, using literature, role playing, and collaborative activities to understand how an idea can make a real difference.

Science Seekers: Mysteries
How can we investigate mysteries like scientists?
Students uncover the secrets of the universe, conducting a series of experiments that unlock mysteries of sound, light, motion, force, magnetism and the human body. What caused the Chicxulub Crater in Mexico? What happens when the sun’s magnetic field flips? Students use the scientific method to discover the inner-workings of our world and beyond.

Introductory Programming with WeDo & Scratch
What can machines help us do?
Young engineers enhance their programming knowledge, as well as their logical reasoning and creative thinking, by building an interactive device using Scratch software, WeDo Lego building blocks, sensors and motors. Using principles of storytelling in their programming to bring stories to life, students program a simple machine of their own design to follow a sequence, interact with its environment or act out a story.

NOTE: Additional $25 materials fee required.

Grades 3–4

The Math Behind Computer Science
How do computer components function as part of a system?
Develop math skills grounded in problem-solving and creative thinking. As human computers, students analyze binary numbers and patterns, map and sort and encrypt information using only their brains. Use your math mind to think like a computer!

Advanced Raspberry Pi
How can a credit-card sized computer power new innovations?
In this advanced course, students interface with a Raspberry Pi computer and implement projects of their own design. Programmers-in-training apply the Python language to developer tools such as Sonic Pi or Minecraft Pi and work in teams to brainstorm, design and build original projects created to solve a real problem.

PREREQUISITE: Students MUST have previous experience with Scratch and Python and/or have successfully completed SEP’s Programming with Raspberry Pi course.

NOTE: Additional $25 materials fee.

Grades 4–5

NEWLY UPDATED!
Pre-Algebra: Geometry & Measurement
What skills or tools are needed to effectively compute with numbers?
Through exploration, practice and application, students deepen their understanding of mathematical ideas by applying them in real-world settings. Linked to the Common Core State Standards, this pre-algebra series incorporates three courses offered sequentially in the fall, winter and spring. Students may participate in any or all of these courses beginning in any session. Completion of the entire series prepares students for Algebra I.

FALL: Numbers & Algebraic Thinking
WINTER: Geometry & Measurement
SPRING: Data, Statistics & Probability

NOTE: Due to the advanced nature of this course, students must score at or above the 95th percentile in math on a grade-level, standardized test OR EXPLORE Math > 15.

View the chart on page 3 for course sites and qualifying score information.
Roller Coaster Mania
How are Newton’s Laws applied to roller coasters?
Future engineers investigate the mechanics of famous roller coasters throughout history and then design their own. Applying the laws of motion and energy conservation, students put their blueprints into action, building a model and testing it through online simulations.

Next Generation Robotics
What tasks will robots perform in the future?
Young programmers use the new LEGO® MINDSTORMS® EV3 set to build, program and study the inner-workings of advanced robot models. Students discover the process of technological evolution and practice the skills of applied science, while testing and refining mechanical constructions; manipulating sensors, motors and batteries; and commanding their robots to perform tasks of their choosing.
NOTE: Additional $25 materials fee required.

Grades 4–6
The Golden Age of Greece
How does the past influence the future?
Novice cultural anthropologists discover where democracy was born through a study of Greece’s Classical Period. Analyze the ancient Greeks’ contributions to contemporary art, architecture, sports and theatre. Create pottery using Greek designs and write original myths and fables based on Aesop and Greek Mythology. Visit the Field Museum to view artifacts never before seen outside of Greece.

Grades 5–6
Zombie-ology: The Science of the Undead
How can organisms, including humans, increase their chances of survival?
Zombies are everywhere in popular culture—but could these fictional creatures ever become scientific fact? Students learn about real-life organisms that behave like zombies, study bizarre medical examples of sleepwalking and phantom limbs, and take a closer look at the anatomy and physiology of the living to understand the science behind the undead. Topics in virology, epidemiology and biological anthropology help explain the science behind iZombie comics, The Walking Dead and World War Z.

Android App Design
What skills are needed to design, implement and debug apps?
Explore a range of drag & drop programming interfaces like Scratch to develop critical computer coding concepts. Next, apply your programming skills using MIT App Inventor. Build your own original apps and mobile games using the MIT App Inventor Emulator on a computer, and then test them on Android devices.
NOTE: CTD will provide all required technology, but students are encouraged to bring their own Android tablets or phones if available.

Grades 6–8
Biotechnology
How is the field of biotechnology impacting society?
Genetic engineering, transgenic organisms, cloning, stem cell research and DNA fingerprinting—biotechnology is changing the world as we know it. Students examine the relationships among these topics, as well as their economic, social and medical impacts, and learn how this field is helping improve everyday life.

Greenfoot
What is the value of a common coding language?
Students build their own games using the Java programming language and Greenfoot, a complete interactive development environment. Exploring basic programming concepts, students learn to write real Java code, refining and enhancing their games with images and sounds.

HIGH SCHOOL CREDIT COURSES
Within the last year, 95th percentile scores on a nationally normed, grade-level, standardized test required for all SEP honors courses OR the following above-grade-level scores in the appropriate subject area:

| ACT-R 19 | SAT-CR 440 |
| ACT-M 18 | EXP-R 14 |
| ACT-Sc 18 | EXP-M 15 |
| SAT-M 460 | EXP-Sc 16 |

• Complete all 3 sessions to receive 2 semesters of high school credit.
• May be taken over a two-year time span provided student is still within grade level band.
• Consistent class attendance and 4-5 hours of homework per week is expected.
• Acceptance of credits by student’s school depends on that school’s institutional policy. Discuss credit acceptance with appropriate school counselor before applying.
• Student may take any or all courses for enrichment only.
Grades 6–7

Students who began the Integrated Math Honors sequence in the 2014-2015 school year and are now in 8th grade may still complete the sequence during the 2015-2016 school year.

Integrated Math Honors
How do we analyze and understand patterns, relations and functions?
In this accelerated experience, students gain a solid foundation for future mathematics studies. All strands of mathematics are covered during the year: numbers, properties and operations, geometry and spatial sense, measurement, data analysis, probability and statistics, and algebra and functions.
FALL: Quantities, Equations & Inequalities, Functions
WINTER: Sequences, Functions, Data Analysis, Correlations, Modeling
SPRING: Geometry & Logic

NOTES:
• Recommended that Integrated Math Honors be taken in sequence, beginning with the fall.
• A scientific calculator is required.
• Additional cost for required textbook. See online description for cost.

Grades 7–9

Algebra I Honors
How can algebraic tools and skills be used to express mathematical ideas, concepts and relationships?
This course is intended for students who have completed Pre-Algebra and are ready to extend their knowledge in an intensive, full-year course. Algebra I Honors covers 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.

NOTES:
• Algebra I Honors must be taken in sequence, beginning with the fall.
• A scientific calculator is required.
• Additional cost for required textbook. See online description for cost.

Persuasion & Debate Honors
What makes some arguments more effective than others?
Tackling topics of their choosing, students gain the power of persuasion by learning the principles and practices of communication and debate. Students are guided through preparation and presentation, refining their body language and speaking and listening skills based on principles of behavioral science and techniques grounded in the rhetorical tradition.

NOTE: Recommended that the Persuasion & Debate Honors sessions be taken in sequence, beginning with the fall.
Accelerated Weekend Experience (AWE)

Grades 5–8

Why participate in the Accelerated Weekend Experience (AWE)?

AWE offers weekend-long experiences, hosted at community sites across the country. Unique courses connect students with practicing professionals. Join experts in the field for a real-life perspective on topics, such as Alice 3D Programming, Cognitive Neuroscience, Aviation, Cryptography, Digital Imaging, Forensic Science, MIT App Inventor, Veterinary Science and more. Programs run Saturdays and Sundays, 9:00 a.m.–2:30 p.m.

Academically talented middle school students want and need:

• Career exploration with a professional practicing in the field.

• Exposure to career paths in their area of interest.

• A community of like-minded peers.

• Opportunities to delve deeper into a single topic and to develop an advantage in their area of strength.

• Short, intensive, one-weekend-long, supplemental, academic experiences that fit in with their busy schedules.

Who’s eligible for AWE?

• Students who score at the 90th percentile or above on a grade-level, standardized test OR

• Students with above-grade-level test scores through NUMATS OR

• Students who submit a portfolio with ONE teacher recommendation, most recent report card, and nationally normed test scores, if available. Download requisite form on our website.

How do I participate in AWE?

For a current listing of AWE offerings and to apply for AWE, visit www.ctd.northwestern.edu/awe. Remember to check frequently for updates.

What else do I need to consider?

Tuition ......................................... $255

1. Apply by 5 p.m. Central Time on the Monday before session starts.

2. If you apply for both SEP and AWE, you will be offered a $60 discount.

Limited financial aid is available on a first-come, first-served basis.
Center for Talent Development, Northwestern University

Dynamic Pathways for Gifted Learners

The Center for Talent Development at Northwestern University is dedicated to helping gifted students, age 4 through grade 12, reach full potential. We provide research-based assessment, advanced programs and resources to enhance a child’s schooling. Our signature approach to talent development delivers personalized options and guidance for young people with high ability. Program pathways lead students on a journey of intellectual, emotional and social growth. By extending support to families and educators, we help exceptional students discover their unique voice, explore opportunities, cultivate a love of learning and become bold, creative achievers and contributors.

Northwestern University’s Midwest Academic Talent Search (NUMATS)

The foundation for a lifelong journey of achievement and fulfillment. Research-based assessments identify exceptional academic ability and connect students to tailored programs and opportunities. Parents and educators gain invaluable information to create challenging, dynamic pathways that nurture individual potential.

Gifted LearningLinks

Individualized pathways through online learning that expand access to advanced subject matter and foster personal interests. Motivated students progress at the time, place and pace right for them and enjoy one-on-one engagement with instructors.

Weekend Enrichment Programs

Weekend opportunities for discovery that allow gifted students to focus their curiosity and passion on a specific interest area. A wide variety of advanced and unique courses range in duration from a single weekend to eight consecutive Saturdays.

Summer Program

Rigorous, academic adventures with life-changing impact that allow gifted students to delve deep into a subject of intrigue, build upon their strengths and connect with a community of peers.

Civic Education Project

Pathway to leadership and civic engagement that combines service learning with academic study and reflection. Bright, impassioned students engage in social issues first-hand and develop skills to change the world.

National Association for Gifted Children

The National Association for Gifted Children (NAGC) is an organization of parents, teachers, educators, 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 www.nagc.org to join this organization and add your name to the ranks of supporters working to raise awareness of the needs of gifted learners nationwide.

Students associated with Center for Talent Development are afforded all privileges and held to all responsibilities of members of the Northwestern University community. Northwestern University and Center for Talent Development reserve the right to change without notice any statement in this brochure concerning, but not limited to, rules, policies, tuition, fees, courses, and faculty.

CTD students are expected to act with honesty and personal integrity in all their academic work. Using the words and ideas of someone else without proper attribution, thus implying that they are the student’s own, is intellectual theft that robs the student of an important opportunity to learn. Consequences for academic dishonesty or improper “netiquette” may include grade reduction and failure (for credit-bearing courses) or program dismissal.

Because web content continuously changes, CTD disclaims any responsibility for any of the content contained on third-party websites used in course materials. If you become aware of any inappropriate content, please notify CTD staff immediately.

Northwestern University does not discriminate or permit discrimination by any member of its community against any individual on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, parental status, marital status, age, disability, citizenship, or veteran status in matters of admissions, employment, housing, or services or in the educational programs or activities it operates.
Weekend Enrichment Programs
Advanced and Unique Courses for Gifted Students

APPLICATION NOW OPEN!

Mark Your Calendar for This Year’s SEP Dates

Winter Dates
January 16–March 5, 2016
(scheduled snow day March 12)

Spring Dates
April 16–May 21, 2016

Be sure to check out the courses for our new site in Lake Bluff!