Congratulations on your admission to the 2013-15 IIT Boeing Scholars Academy! As you consider this opportunity, we encourage you to review the following FAQs and corresponding responses, as well as the program website: http://admission.iit.edu/boeingscholars. Please do not hesitate to contact Katherine Rhee, Program Coordinator, at krhee1@iit.edu or 312.567.3965, with any additional questions.

En español: Tanya Cabrera, tcabrera@iit.edu o 312.567.6943, 312.919.9411; Leticia Moreno, lmoreno2@iit.edu o 312.567.3422.

What is the IIT Boeing Scholars Academy?
Now entering its third year of operation, the Illinois Institute of Technology (IIT) Boeing Scholars Academy is a free, two-year academic enrichment program that inspires high-achieving Chicago-area high school students to make a difference in their communities through STEM fields (science, technology, engineering, mathematics) and to pursue higher education. We do this by offering:

- four weeks of intensive, project-based STEM programming each summer
- workshops, field trips, and career exploration opportunities during the school year
- guidance and support in developing leadership projects (junior year only)
- college advising and application assistance (senior year only)

Our program places a strong emphasis on fostering community and valuing participants’ voices. We conduct brainstorming sessions and focus groups to ensure that our projects and themes are relevant and exciting to Scholars. By addressing the “so what?” (real-world problems and their significance to teens) before focusing on the “what” (STEM content and skills), we engage Scholars’ existing knowledge, inquiry, and motivation, as well as help them find their way forward (“now what?”) and develop a sense of purpose.

We admit students during their sophomore year for participation during their junior and senior years (enrolled Scholars make a two-year commitment to the program). We serve 100 total juniors and seniors at a time.

This year’s Summer Session will run weekdays from July 1-26, excluding the July 4th holiday, from 9am-4pm each day. The Academic-Year Session will run from August 2013 to May 2014. Dates for the 2014-15 program have yet to be determined. Most activities take place on IIT’s Main Campus in Chicago.

Is the IIT Boeing Scholars Academy really FREE?
Yes! Thanks to a generous grant from the Boeing Company, the IIT Boeing Scholars Academy is an entirely free program for participants. All lunches, field trip costs, and project materials are included. However, transportation to and from campus at the beginning and end of each day is not included, except in extenuating financial circumstances. Please also note that students are not compensated financially (e.g., through stipends or scholarships) for their participation.

Who are the other IIT Boeing Scholars?
Each year’s class of IIT Boeing Scholars includes approximately 100 high school students (rising juniors and seniors) hailing from dozens of Chicago-area schools, chosen for their commitment to academics, promise as future leaders, and vision for positively impacting their communities and the world through STEM fields. Like you, each IIT Boeing Scholar brings to the program their enthusiasm for engaging with peers in a collaborative and project-based learning environment, motivation to pursue a high-quality educational experience at the university level and beyond, and desire to innovate in order to solve real-world problems. Beyond these commonalities, Scholars reflect the broad diversity of Chicago-area youth, and each possesses a unique and rich set of experiences, perspectives, skills, and interests.
While you will get to know all 100 Scholars in some capacity over the course of the program, your most in-depth, daily interactions during the Summer Session will be with other students in your “cluster.” Each cluster is comprised of 15-17 Scholars who work together as a group to complete various hands-on projects under the direction of their Program Instructor. Scholars are assigned to their Program Instructor and cluster based on a number of factors, including—insofar as we can tell from each student’s application, recommendations, and interview—their personality and areas of interest and what kind of role we think they might fulfill on a team of their peers. We want every cluster to be as diverse as possible.

**What will I learn and do in the Summer Session?**

In general, the Summer Session provides participants with an interdisciplinary, thematic program of activities focused on increasing access and exposure to STEM fields, solving complex problems, and addressing “big ideas” of relevance to local high school students. Past summer program themes have included “Cities of the Future” and “Local Action, Broader Impact”; for more information, see the “Summer 2011” and “Summer 2012” sections of our website.

We will announce our 2013 theme at the Information Session for Admitted Scholars, being held on Saturday, May 11, 2-4pm, at IIT. In June, we will provide a detailed schedule so that students and parents/guardians know what to plan for each day.

While each day of the Summer Session is structured slightly differently, a *typical day* might look something like this:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30-9am</td>
<td>Check-in</td>
</tr>
<tr>
<td>9am-12pm</td>
<td>All students together—e.g., in an “Issues Forum” (panel discussion) or workshop</td>
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<tr>
<td>12-1pm</td>
<td>Lunch in The Commons (IIT’s Dining Hall)</td>
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<tr>
<td>1-4pm</td>
<td>Project time*, plus a break</td>
</tr>
<tr>
<td>4pm</td>
<td>Check-out</td>
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</tbody>
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*There are three project modules in our tiered curriculum structure. As students progress from Project Challenges, to Serving through STEM Projects, to Leadership Grant Projects, they move from classroom-based learning to the real world, and move from learning about how others use STEM skills to make a positive impact on the world to actually doing this themselves. All are group projects, and are described in further detail below.

A **Project Challenge** is a 3-hour, hands-on project, modeled on a real-world situation and requiring students to consider quantitative *and* qualitative factors as they collaborate, innovate, and present their work to their peers. All Scholars do all Challenges (4-6 per summer), which typically take place in a classroom. Past “Project Challenges” include:

- **Outbreak! Understanding Infectious Disease**: Based on recent events in Haiti, this project required Scholars to take on several different roles as a simulated outbreak of cholera unfolded. In addition to learning about microbiology, Scholars performed a gram stain lab, modeled and measured exponential growth, made and supported predictions, and developed recommendations for how to respond to the epidemic as it unfolded.
- **Innovative Design Solutions**: After disassembling and reassembling a common object to learn how it worked and was manufactured, Scholars were challenged to make adjustments to that object’s design and use patterns with the objective of helping individuals in an assigned community overcome challenges related to poverty.
- **The Net Zero Project**: Springing forward in time to 2050, to a significantly and climatically changed Chicago, Scholars were challenged with accommodating a group of researchers in a new “living city.” Teams had to plan for multiple dwellings, food supply, and sustainable building systems in order to run the city without the help of certain current commodities, like oil.
- **Stormwater Management**: Groups were assigned different sites and tasked with completing area measurements for impervious and pervious surfaces, calculating stormwater runoff for that site during a 24-hour precipitation event, and planning Low Impact Development (LID) strategies.
Additionally, each IIT Boeing Scholar immerses themselves in one (of six possible) “Serving through STEM (StS) Project,” a 24-hour project (over seven days) that involves Scholars contributing to a project in the real world and requires them to develop an assigned deliverable for the project Partner (typically, a faculty member, research center, or organization). Each of these “programs within a program” takes place during the regular summer program day, but each has its own unique schedule and field trips. Past Serving through STEM Projects include:

- For **Analyzing Data in the Public Interest: Computing Approaches to Investigating Community Health Indicators in the United States**, Scholars applied basic computational methods for data collection and analysis to research local and national health and wellness indicators, then created a website to share their findings. *Led by Alana Platt, Department of Computer Science (Doctoral Candidate), IIT.*

- Through **Engineering Research and Mentorship: An Introduction to Understanding Diabetes, Its Complications, and Treatments**, Scholars learned from faculty and undergraduate researchers about the many ways engineers contribute to new treatments of diabetes and its complications—then shared what they learned with middle schoolers. *Overseen by Dr. Eric Brey, Department of Biomedical Engineering, IIT, and led by 14 STEM undergraduates from various universities, Research Experience for Undergraduates (REU) program funded by the National Science Foundation and IIT’s Pritzker Institute of Biomedical Science and Engineering.*

- In **Nature Education in the City: Developing a Community-Based Youth Volunteer Program for the Chicago Zoological Society and Eden Place Nature Center**, Scholars investigated the applicability of zoo science, ecology, and other natural sciences to the lives of urban residents and proposed ways to inspire conservation locally. *Led by Dr. Jo-Elle Mogerman, Chicago Zoological Society.*

- Through **Urban Solar: Developing Chicago’s Capacity for Solar Energy**, Scholars used Google Earth to develop proposals for the optimal placement of solar panels in the city and presented them to the Mayor’s and Governor’s offices. *Led by Andrew Barbeau, Grant Klinzman, and Dr. Mohammad Shahidehpour, Robert W. Galvin Center for Electricity Innovation, IIT.*

Through participation in these projects and in dedicated sessions, we also devote time to helping students develop practical STEM skills (e.g., data collection and analysis, how to write a college-level lab report), professional skills (e.g., presentation skills, project management), and college and career literacy. Besides offering college-oriented workshops and career exposure events, we host a college fair in partnership with the University of Chicago Collegiate Scholars Program, which also serves high-achieving Chicago high school students. Additionally, our Scholars participate in lab tours, field trips, and an Ethics Bowl (organized by IIT’s Center for the Study of Ethics in the Professions).

Rising juniors and seniors participate in all of the above activities together. At certain points during the Summer Session, we split students by grade in school to do the following:

- **Juniors** collaborate in teams to develop Leadership Grant Projects (LGPs) of their own design to be implemented over the course of the next academic year. LGPs require Scholars to take a proactive, structured approach to identifying and addressing real problems in the real world, and empower them to create opportunities in their communities. Student groups are matched with volunteer Project Mentors (adult professionals) who help them make their project happen.
  - LGPs developed in 2012-13 involved everything from starting after school programs focused on health, environmental action, and engineering, to raising awareness of issues related to LGBTQ youth, water conservation, gun violence, and homeless animals.

- **Seniors** jump-start the college application process with support from program staff. In addition to researching colleges, majors, and careers, as well as scholarships for which students may be eligible, students develop strong drafts of their essays and activities for their applications. Every senior will be expected to complete at least five college applications by the time school starts in the fall.

Overall, through our theme and the collaborative structure of the program, we intend to give students a framework through which to situate and integrate their existing experiences and observations of Chicago and the world, what they have already learned in school, and knowledge gleaned through participation in our program.
What if I have to miss a few days this summer?
We understand that the kind of students we admit to the program are highly involved individuals with many talents and interests. While we of course encourage your participation in a variety of arenas, we expect that students will attend every day of the Summer Session. If they must miss a couple of days, they must discuss this in writing, in advance of making those plans, with program staff to get the absences formally approved as “excused.” Students may not miss the first week of the Summer Session. Additionally, we ask that, in advance of any known absence, tardiness, or early dismissal, you notify your Program Instructor and all members of your team with the levels of respect and responsibility that would be expected of you in any future professional environment.

Who are the instructors and staff?
As an IIT Boeing Scholar, your most consistent daily contact during the Summer Session is with a team of six Program Instructors (IIT graduate students and upper-level undergraduates from a variety of STEM disciplines), all of whom are leaders and role models in our campus community. They have stellar academic records, strong experience and interest in teaching, and enthusiasm for and commitment to the program. In addition to co-developing and leading the various projects that Scholars engage in during the program, Program Instructors participate in lectures and workshops alongside students, serve as Teacher Assistants to supervising faculty, and assist with college, career, and leadership programming. Throughout these activities, Program Instructors facilitate and critically mediate learning, helping students figure out how to approach the problems at the core of each curricular project and drawing attention to any unseen complexities and interconnected issues. While Program Instructors do “instruct” Scholars, their relationship to their cluster is more “coach-team” than “teacher-student.”

Each day of the summer program, IIT Boeing Scholars also interact with a wide range of IIT faculty members. Faculty Program Advisors have a daily or near-daily presence, facilitating and leading academic lectures and workshops, as well as co-supervising Program Instructors. Faculty Program Advisors are also essential to developing the overall theme and integrating all academic activities. Each “Serving through STEM” project has a lead faculty member from IIT or an external organization. During the summer and academic year, numerous other faculty members and professionals contribute their time and expertise as guest speakers, job shadow hosts, and Project Mentors.

The Program Director and Program Coordinator are full-time IIT staff members who work with students throughout the summer and academic year.

What do I do during the Academic-Year Session?
Scholars are expected to continue their involvement throughout the academic year (August-May) by attending at least three program events (e.g., workshops, field trips, job shadows) each semester. These events range in focus, depth, purpose, and time of offering to accommodate students’ varying schedules. For many of our academic-year events, we invite Scholars to bring a “plus-one,” such as a family member or friend, to share in their learning. We provide a calendar of options at the beginning of each semester and add a few events as we go; a sampling of past activities can be found on our blog: http://admission.iit.edu/boeingscholars.

As part of these activities:
• Juniors continue their work developing and implementing their Leadership Grant Projects (LGPs), guided by Project Mentors. Groups attend periodic LGP workshops and hold meetings on their own.
• Seniors* apply to college with support from program staff, participating in mock-interviews, financial aid and scholarship workshops, and more.
  o Additionally, through their affiliation with the program, rising seniors are eligible to participate in the Onsite Admissions Forum. Organized by one of our partner non-profit organizations, Chicago Scholars, the Onsite provides a unique opportunity for students to receive special early admissions consideration (in October of their senior year) by approximately 80 selective institutions.

*Please note! Juniors must demonstrate active engagement throughout the Academic-Year Session, as described above, to be invited to continue on with the program during their senior summer and academic year.
How should I dress for program activities?
Unless noted otherwise, daily attire is casual (shorts, jeans, t-shirts) and comfortable (we will be moving around a lot). During the summer, we encourage you to bring a long-sleeved shirt each day, as different campus buildings and field trip sites may be of varying temperatures. We will notify you in advance regarding for which days alternate dress is recommended or required. For instance, on days that we visit a professional workplace, such as the Boeing Company’s office downtown, we would require “business casual” attire. On other days, we may strongly encourage you to wear walking shoes as well as a hat and/or sunscreen.

Please remember that, at all times, you represent your sending high school and home community, and thus should be conscious about the message that your clothing and behavior sends. While we understand that summer temperatures may soar at times, we expect students to maintain modesty in dress as well as in demeanor.

Will there be homework? Will I have to take tests?
We do not generally assign students homework during the summer program, and when we do it is usually something like “for tomorrow, bring an idea about…” When students start developing their Leadership Grant Project proposals and working on their college applications, they will be expected to work on them outside of program hours.

While students are not given grades or traditional tests, to ensure that we are providing a high-quality educational experience that is valuable to all IIT Boeing Scholars, we expect that every program participant complete brief assessment measures. In the past, assessment primarily involved a computer-based “pre-” and “post-test” administered during the Summer Session and an end-of-academic-year survey. These assessments were designed by faculty in IIT’s College of Psychology and Center for Research and Service. We anticipate conducting similar assessment measures in 2013-14. All personal information and results remain confidential, and only aggregated data is reported to the grantor, the Boeing Company. By a separate procedure, we also assess our teaching staff to ensure a superior quality of instruction.

Can I receive college credit for my participation in the program?
The IIT Boeing Scholars Academy program is not an IIT “course,” and we do not grant college credit for its completion. We are aware that there exist academic summer programs that are essentially college courses for high school students, and we recognize that the possibility of college credit can be attractive to participants. Please note that, even with such programs, receiving credit for the courses is contingent on the postsecondary institution you ultimately attend and its policy regarding giving credit for work completed at other institutions. We strongly believe in the structure, purpose, and methods of our program and while you will not get college credit for your work with us we are confident that you will benefit in numerous ways.

Why should I participate in the IIT Boeing Scholars Academy?
Through innovative, interdisciplinary programming, the IIT Boeing Scholars Academy provides high-achieving students from Chicago-area high schools with the valuable opportunity and essential resources to:
- Expand their intellectual and professional options by advancing their knowledge of STEM majors and careers
- Build positive relationships with renowned IIT faculty and students from multiple disciplines, as well as with other outstanding high school students
- Develop and demonstrate their academic excellence, sense of innovation, leadership and teamwork skills, and motivation for success in a college-level learning environment—all of which can strengthen their applications to selective colleges like IIT
- Navigate the college selection, admission, and financial aid processes with guidance from program staff
  - Of Scholars in the Class of 2012, 98% matriculated at a four-year university in fall 2012; the remaining 2% enrolled at two-year institutions with intent to transfer.
- Collaborate with Scholars and mentors to create solutions to real problems in the real world

Indeed, many—like IIT alumna Andrea Berry, quoted below—credit their participation in summer programs as a significant factor in their college and long-term career success:
“As a Chicago Public Schools student, I attended a summer program very similar to the IIT Boeing Scholars Academy. During that summer, I met amazing students who inspired me and who have remained lifelong friends. The educational experiences at IIT that summer changed my life forever. New doors were opened and new possibilities were created—ones that I could barely have imagined as a high school student.

“Today, I want to encourage you to strongly consider the IIT Boeing Scholars Academy, and I want you to know, on behalf of the entire alumni community, that you will have our support today, tomorrow—forever.”

—Andrea Berry, IIT Trustee and Alumna, Senior Vice President of Broadcast Operations, Fox Network Engineering and Operations, Los Angeles, California

While IIT Boeing Scholars will not receive grades or academic credit, they may receive an official letter of participation recognizing their completion of the program. Students may also receive, at their request and with suitable advance notice, letters of recommendation from staff, regarding their individual progress and performance in the program.

What if I can’t make a two-year commitment to participate in the program?
If you know now that you will be unable to make a two-year commitment to the program, we encourage you to find another program that better suits your availability and interests. You may find such opportunities on university websites (e.g., http://summer.iit.edu) or in databases such as One Summer Chicago (www.onesummerchicago.org), the Illinois Association of College Admission Counseling’s Summer Programs Directory (www.iacac.org/summer-programs), or the Institute for Broadening Participation’s Program Search (www.pathwaystoscience.org/Programs.asp).

A note to parents/guardians
Please note that students will be required to turn off their cell phones during the summer program day so as not to disturb activities or distract fellow participants. Students will only be allowed to check their phones during breaks, and even then will be discouraged from communicating about non-urgent matters as this can disrupt their team-building and social development with other students. If you must reach your child immediately, you may call a staff member’s cell (Marya Spont: 312.520.6733; Connie Ma: 312.898.8405) and she will excuse your child from activities to speak with you.

Acknowledgements
In addition to the generous support provided to this program by the Boeing Company and by IIT, we are grateful for partner organizations—such as Chicago Scholars and the University of Chicago Collegiate Scholars Program—with whom we collaborate to enhance our work. While IIT has a long history of hosting academic summer programs, we would like to acknowledge the leadership and/or inspiration in these areas that other universities—particularly MIT, the University of Chicago, Rutgers, and Johns Hopkins University—have provided. We celebrate our shared work with youth.

About Illinois Institute of Technology (IIT)
Illinois Institute of Technology is a national, technological, PhD-granting research university, with world-renowned programs in engineering, architecture, the sciences, humanities, psychology, business, law, and design. Founded in 1940 and tracing its roots back to the 1890s with the foundings of Armour Institute of Technology and Lewis Institute, IIT brings a focused, interdisciplinary approach to education, including the Interprofessional Projects Program. With five campuses throughout the Chicago area and alumni around the world, IIT pairs the educational and cultural experiences of America’s Second City with the small feel of an undergraduate population of just over 2300 and total population of just over 7400.

IIT’s Commitment to Diversity
Illinois Institute of Technology is a community that values and respects its members. We appreciate that our faculty, staff, students, alumni/ae and trustees come from many backgrounds and many parts of the world. We embrace the contributions that differences offer. We are committed to providing a working and learning environment in which all students and all members of the faculty and staff are able to realize their full potential.