Congratulations on your admission to the 2014-16 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://iit.edu/boeingscholars. Please do not hesitate to contact Katherine Rhee, Program Coordinator for the IIT Boeing Scholars Academy, at krhee1@iit.edu or 312.567.3965, with any additional questions.

En español: Megan Mozina, Program Director, mmozina@iit.edu, 312.898.8383

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**What is the IIT Boeing Scholars Academy?**

Now entering its fourth year, 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 academic year
- guidance and support in developing leadership grant projects (junior year)
- college advising and application assistance (senior year)

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 June 30th - July 25th, excluding the July 4th holiday, from 10am-5pm each day. The 2014 Academic-Year Session will run from August 2013 to May 2014. Dates for the 2015-16 program have yet to be determined. Most activities take place on Illinois Institute of Technology’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 during the summer?
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 (2011), Local Action, Broader Impact (2012), and Challenging Our Borders, Reshaping Our World (2013); for more information, see the Summer 2011, Summer 2012, and Summer 2013 sections of our website. We will announce our 2014 theme soon. 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 like:

- 9:30-10am: Check-In
- 10am-Noon: All Scholars together — i.e. an Issues Forum or Workshop
- Noon-1pm: Lunch in The Commons (IIT’s main Dining Hall)
- 1-5pm: Project time*, plus a break
- 5pm: Check-Out

*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 for themselves. All are group projects, and are described in further detail below.

A Project Challenge is a 4-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 (3-5 per summer), which typically take place in a classroom. Past Project Challenge topics include:

- Wind and Its Role in Solving the Energy Equation
- How Clean is Clean? The Treatment and Social Science of Water
- E-Waste: Closing the Loop
- Outbreak! Understanding Infectious Disease

Additionally, each IIT Boeing Scholar immerses themselves in one (of six possible) Serving through STEM (SIS) Project, a 24-hour project (over 6-7 days) that involves Scholars contributing to a real-world project that requires them an assigned deliverable for the project Partner or “client” (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:

- **Exploring the Hidden Sides of STEM: Modeling, Microscopy, Biomedical Engineering, and Education** with Dr. Eric Brey (Associate Professor of Biomedical Engineering at IIT)—Scholars developed and facilitated activities for middle school students to teach them about angiogenesis and diabetes.

- **Hacking Experiences** with MonkeyBars — Scholars organized, promoted, and hosted a Hackathon for 40 of their peers, during which they learned to build circuits, solder, and program arrays of lights using Arduino computers.

- **Sustainable Landscape Management and Ecological Design** with IIT’s Office of Campus Energy and Sustainability — Scholars identified and catalogued trees on the IIT main campus and calculated the water needs. They learned about data collection and field work along the way.

- **Engineering and Public Art: Designing Water Remediation Platforms for the Chicago River** with Redmoon Theater Company — Scholars designed and built prototypes for the Great Chicago Fire Festival, considering ecological impact, water remediation, and end of life.

- **Mapping Movement in the City** with University of Chicago’s Center for Robust Decision Making on Climate and Energy Policy (Dr. Meghan Vincent) — Scholars formulated research questions; collected and analyzed data from surveys, databases, and fieldwork; and test their hypotheses to learn more about how people move in the city, the accuracy of city data, and correlation between food deserts and diabetes.

- **Urban Solar: Developing Chicago’s Capacity for Solar Energy** with IIT’s Robert W. Galvin Center for Electricity Innovation — 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.

Through participation in these projects and in dedicated sessions, 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 provide college visits and 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-world problems, and empower them to create opportunities in their communities. Students groups are matched with volunteer Project Mentors (adult professionals) who provide guidance and support.

  LGPs started in 2013-14 involved everything from starting after school programs focused on healthy lifestyles, environmental action, and STEM, to raising awareness of issues related to LGBTQ youth, water conservation, gun violence, drug abuse, and peers with disabilities.

- **Seniors** jump-start the **college application process** with support from program staff. In addition to researching colleges, majors, careers, scholarships, students develop strong drafts of their essays for their applications. Every senior will be expected to complete at least five college applications by mid-September to participate in the Chicago Scholars Onsite Admission Forum.

Overall, through our theme and 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 from 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 advance, and in writing, with program staff to get the absences formally approved as “excused.” 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 Coordinators are full-time IIT staff members who work with students throughout the summer and academic year.

What happens during the Academic-Year Session?
Scholars are expected to continue their involvement throughout the academic year (August-May) by attending at least two program events (e.g., workshops, field trips, job shadows) in addition to LGP and college preparation work 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: iit.edu/boeingscholars.

As part of these activities:

- **Juniors** continue their work developing and implementing their Leadership Grant Projects (LGPs), guided by Project Mentors. During your junior year, you are required to:
  - Attend a Leadership Grant Project workshop once a month
  - Communicate with your LGP group weekly
  - Meet with your LGP group at least every other week
  - Communicate LGP group progress to Ross Ludwig, Program Coordinator, at least every other week

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Seniors* apply to college with support from program staff. During your senior year, you are required to:

- Apply to at least five colleges, with the assistance and guidance of a program coordinator, by mid-September as part of the Chicago Scholars Onsite Admission Forum process. 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. To complete these five college applications, each senior must attend 2-3 individual meetings with Katherine Rhee, Program Coordinator, before mid-September to assess the progress of the applications and submit them together.
- Participate in Mock-Interview, Scholarship, and Financial Aid workshops.
- Attend 1-2 individual meetings in the spring semester to work on scholarship/financial aid applications and compare financial aid packages.
- Update Katherine Rhee, Program Coordinator, on the progress of college and scholarship applications, college acceptances, financial aid award packages, and the final decision of where you’ve decided to enroll in college.

*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? Do 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 2014-15. 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 participation?
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, staff, 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 2013, 97% matriculated at a four-year university in fall 2013; the remaining 3% 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., summer.iit.edu) or in databases such as One Summer Chicago (www.onesummerchicago.org), the Illinois Association of College Admission Counseling’s Summer Program Directory (www.iacac.org/summer-programs), or the Institute on 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 (Katherine Rhee: 312.254.6532; Ross Ludwig: 312.520.6733; Megan Mozina: 312.898.8383) and we 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 founding of Armour Institute of Technology and Lewis Institute, Illinois Tech 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 2900 and total population of just over 7800.

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 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.