Abbott

SHAPING THE FUTURE OF STEM

Our blueprint for launching a high school STEM internship

2nd Edition

ABOUT ABBOTT

Abbott is a global healthcare leader that helps people live more fully at all stages of life. Our portfolio of life-changing technologies spans the spectrum of healthcare, with leading businesses and products in diagnostics, medical devices, nutritionals and branded generic medicines. Our 109,000 colleagues serve people in more than 160 countries.

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CONTINUING OUR COMMITMENT TO THE FUTURE

It's been nearly two years since Abbott first called on other organizations to join us in providing more young people – especially girls and diverse students – with experience in the science, technology, engineering and math, or STEM, fields.

During those months, our global community has experienced the COVID-19 pandemic, natural disasters and continued lack of access to essential health care. These are major challenges and, as we've learned firsthand, we're going to need more of our brightest and most passionate STEM minds to solve them. In fact, the U.S. Bureau of Labor Statistics predicts the U.S. will need another nearly 800,000 STEM workers by the year 2029.

It's with this statistic in mind that we are renewing our efforts to help other organizations start high school STEM internships similar to ours. We've relaunched this second edition of our internship blueprint, including new information about how to help students earn college credit for their experiences.

As our program marks its tenth anniversary this summer, the statistics show it's diversifying our STEM talent pipeline and inspiring students to stay in STEM. More than 70% of our 2020 high school interns came from underrepresented backgrounds, 95% of high school interns go on to study STEM in college and more than 70% of the former high school interns we've hired as full-time engineers are female.

These are hopeful numbers for one corporation, nevertheless we know we can do more. That's why, as part of our 2030 Sustainability Plan, Abbott aims for 45% female representation to achieve gender balance in our STEM roles.

But, as we said in 2019, one company isn't enough. None of us can change the face of STEM alone. Please join us – this work is more important than ever. Because the potential in these students' futures is our potential – your potential – too.

Sincerely,
Mary Moreland
Executive Vice President,
Human Resources, Abbott

INTRODUCTION

About Abbott's high school internship program

We at Abbott know the impact even just one positive experience with science, technology, engineering and math can have on a young person. Our high school STEM internship founder, Corlis Murray, is a perfect example. Had it not been for an engineering internship when she was 17 years old, she would likely have never entertained joining the field. She is African-American, from a low socioeconomic background and didn't have any examples of engineers in her life until that internship, where she found mentors who looked like her. They showed her that she could not only succeed, but thrive, as an engineer, using her creativity every day to make a meaningful impact on the world. Corlis was our company's top engineer when she retired in early 2020 after more than 30 years with Abbott.

"As an African-American female, hearing the life story of Corlis Murray instilled confidence and conveyed to me that it is possible to pursue a career in STEM."

– Lauren Roberts

Abbott High School STEM Intern 2018–2019, Engineering, Temecula, CA

Corlis Murray, retired Abbott Senior Vice President of Quality, Regulatory and Engineering Services and high school STEM internship founder, poses with former interns in 2017.

We founded our STEM internship for high school students in 2012 with an "each one, reach one" mentality. We strive to do our part in harnessing the next generation of STEM leaders with opportunities to discover the same things Corlis did when she was first exposed to engineering as a teenager: that STEM is impactful. It's creative. It's interesting. It's meaningful. It's not just number crunching and sitting at computers. STEM professions change the world as we know it for the better.

We started this program in part because we're passionate advocates for women joining STEM fields. Because **only about a quarter** of the STEM workforce today is female. That's better than **the statistics** from when Corlis joined the field, but there's still a long, long way to go before companies and broader society can benefit from the equal participation of women in STEM.

We target students from diverse schools near areas where we operate. We recruit the best students for the job based on ability, and we're proud of that consistently more than two-thirds of the participants are young women and more than half come from diverse backgrounds. Ninety-five percent of our high school interns go on to study STEM in college, and more than 75% of eligible students go on to our college internship program. In the last few years, we've hired our first former high school interns as full-time engineers at our company.

"As a female, minority, first-generation college student, I did not know much about the engineering industry or studying it in college. Having such an early experience provided me with financial flexibility, professional guidance and career choice reinforcement."

– Brenda Venegas

Abbott High School STEM Intern 2016,
Engineering, Dallas, TX (Irving, TX)

The objectives of our high school internship program are threefold:

1. Demystify STEM careers for high school students by exposing them to hands-on experiences and real, meaningful projects
2. Increase diversity in our STEM talent pipeline by boosting access to STEM experiences for underrepresented groups, such as women, underrepresented racial and ethnic groups and those from low-income backgrounds
3. Advance the probability of interns succeeding in STEM fields through high school, college and ultimately their careers

This blueprint is intended to provide practical advice and best practices to anyone interested in joining this movement. We hope sharing our lessons learned and successes will help other companies start or expand similar high school internship programs to diversify the future face of STEM.

Jomi Babatunde-Omoya
Abbott High School STEM Intern 2019-2021, Engineering, St Paul, MN wearing lab coat of the future she created.

Benefits of a high school internship program

Investing in future talent is essential for all companies, and it's critical for long-term success. Those of you in science-based companies know we are in a STEM talent crisis—more STEM jobs exist than there are students and recent graduates prepared to fill them.[i] This crisis will only worsen as STEM jobs continue to grow at faster rates than all other jobs.[ii] That means it's more important than ever that STEM companies invest in students and engage them in STEM careers.

Part of the problem is that women and members of underrepresented groups are more likely to avoid STEM fields by the time they enter college because they, often implicitly, conclude STEM is not for people who look like them.[iii] **Our own research** has shown that girls in particular are less likely to be encouraged to join a STEM field and are less likely to view themselves as "good" at math and science. It takes a village of schools, companies, parents and policymakers to shift perceptions like these.

People from underrepresented groups are more likely to lack access to advanced STEM classes, teachers, tutoring and other essential resources required to succeed in STEM.[iv, v, vi] High school STEM internship programs are a powerful way to provide opportunities to high school students and to grow and diversify the STEM talent pipeline.

Successful internship programs do more than employ high schoolers; they equip students with the skills to thrive in STEM careers and provide businesses with future leaders and advocates.

Here are some of the benefits businesses and students reap from a high school internship program:

Businesses:

- Access diverse talent for future business success
- Equip future talent with skills the employer wants them to have, including confidence in navigating a business environment, potentially reducing training costs
- Increase retention rates when interns return to work for them after earning a degree
- Expose students to opportunities and future career paths at their organizations
- Improve their reputation as an employer of choice and valued community partner

Students:

- Gain exposure to and an understanding of STEM jobs
- Form relationships with mentors, leaders and role models in STEM fields
- Bolster their confidence in STEM and belief they can pursue a STEM career
- Grow and develop a professional network at an early age
- Make a connection between academics, the workplace and real-world applications
- Develop technical and employability skills to help them succeed in school and the workplace

Why high school?

While many internships serve college-aged students preparing to enter the workforce (including our own **college internship program**), high school internships enable employers to reach a larger range of students and expose them to fields they might otherwise dismiss. Students lose interest in STEM subjects at increasing rates throughout their K-12 education, with only 31% of students reporting an interest in STEM by the end of high school.[vii] Exposing students to STEM earlier in their education pathways enables students to grow their interest and confidence in STEM.

Reaching high school students also will help increase the quantity and quality of companies' college internship pipelines. A high school internship allows a company's reach to expand beyond the network of its typical college recruiting. Additionally, a company can ensure its high school interns are equipped with the skills needed to succeed at the organization, decreasing training time and increasing productivity for the interns who return when they are in college.

When considering whether to implement a high school internship program, it is helpful to evaluate the existing college internship program at the company, if applicable. At our company, for example, we knew it was a priority for us to recruit women and other underrepresented groups at the college level. We started a high school internship program to reach students with a proven ability for math and science earlier—before they've written off STEM as a potential career. This naturally has led to more women and underrepresented demographics in our STEM talent pipeline.

"Abbott's internship program offered me exposure to the STEM fields, something very few high schoolers have access to. It has exposed me to the tangible rewards earned through perseverance, as well as the intangible rewards through new friendships and a well-established work ethic."

– E.J. Ibrahim
Abbott High School STEM Intern 2018–2019,
Engineering, Fairfield, CA

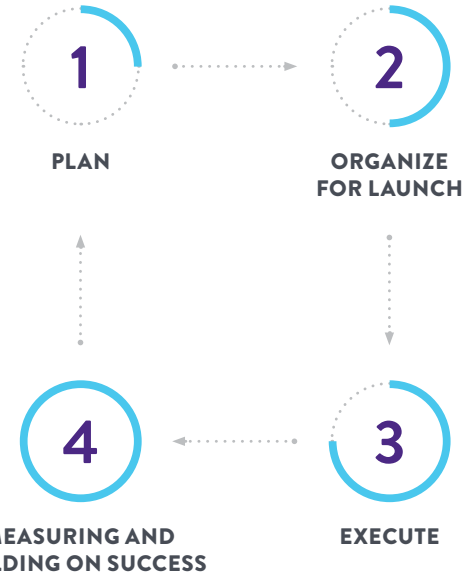
Dana Lundtveit
Abbott High School STEM Intern 2018–2019,
Engineering, Abbott Park, IL

About this blueprint

We created this blueprint to share our experience launching a high school internship program and to inspire other companies to create their own programs—and help jump-start the process. We have partnered with **STEMconnector**—an organization committed to developing strategies that build, attract and retain a more diverse and sustainable STEM workforce—to help ensure companies interested in pursuing a high school STEM internship program have the resources and support they need to get started.

On its own, this document is neither an exhaustive, step-by-step guidebook to starting a high school STEM internship program, nor is it a one-size-fits-all template. It is, however, a starting point with practical information about how our company has managed to implement a high school internship program, overcome challenges along the way and continue to grow and maintain a successful program. We hope we can help provide companies with ideas about how to create and grow programs to meet their own unique goals.

The blueprint is organized to provide companies with ideas to employ at each stage of the process of creating and executing a high school internship. It is divided into the following sections:



What type of company can use this blueprint?

Regardless of size or industry, any company can use a high school STEM internship program to access future talent, provide women and underrepresented groups with access to STEM careers and increase diversity and inclusion in the STEM talent workforce. This blueprint is designed to be broad enough to apply to any company, though specific details of implementation may vary.

1

PLAN

Without adequate planning, an internship program may not achieve desired talent goals and may lead to wasted resources or frustration among community partners. The following are four critical elements to consider before launching a high school internship program.

The business case

The first step to creating a successful high school internship program is to build the business case driven by core goals, which vary depending on the organization and its strategic priorities. Here are three potential business cases:

- **Talent strategy:** An internship program is often directly correlated with talent strategy—employers gain access to future talent through internship programs and can bolster their potential talent pipelines. Think early on about what a successful conversion rate to your college internship program—and eventually full-time hires—looks like.
- **Diversity:** An internship program can also contribute to diversity and inclusion goals if the company targets recruiting with students from underrepresented demographic groups for participation.
- **Reputation:** Internship programs help companies form partnerships within the community and market themselves as STEM employers of choice.

Building a business case is an essential step; an internship program will not garner enough internal support or adequate resources if it is not connected to business strategy.

Lyka De La Fuente
Abbott High School STEM Intern 2015–2016, Engineering, Columbus, OH

Internal allies

Garnering support from internal allies helps ensure a high school internship program receives the attention and resources it needs to succeed. The mission and business case behind an internship program must be understood and supported across the organization by everyone.

While we now have a dedicated high school internship program manager, we understand most companies in the beginning phases of an internship program will not be able to dedicate a full-time staff member to running the program. A program can still run successfully without a dedicated manager as long as there are still one to two staff members, at a minimum, who have made a commitment to the program and have taken on ownership responsibilities. When our program was in the beginning stages, there was one staff member from human resources (HR) and one employee from a business unit who both took leadership roles. We found it helpful to have an employee who recruited for our college internship program help with the high school program to offer feedback on the gaps that exist in college recruiting.

Below is a list of teams and positions the manager of our high school internship program considers essential allies who help support the continued success of the internship program:

Executive sponsor	Provides leadership and vision
Human Resources sponsor	Provides leadership and support for HR engagement; aligns with talent acquisition strategy
Council of business leaders	Provides thought leadership, business awareness and financial support as needed
STEM champions	Support day-to-day questions by site, recruiting, ensuring assignment alignment (technically); serve as chaperones for events and on-site support for site-hosted events
Mentors	Support high school interns—mentors are generally college interns or employees who were previously high school or college interns
Assignment managers	Offer day-to-day management of the interns, ensure technical alignment and have a willingness and ability to work with young talent
Public affairs or communications team	Supports internal and external communications
University relations team	Supports students as they become eligible for the college internship program

Lastly, it's important that the employees who help launch and lead the high school internship program feel passionately about it and its mission. They need to feel comfortable helping students understand what their journey could look like and validating their hopes and dreams, sometimes when no one else in their personal lives can do so. A personal passion will ensure employees are willing to devote the time and energy required to make the program successful.

"Abbott's internship program provided me with the confidence and confirmation that I needed to know that I—a young, black girl from a small town in Ohio—can be successful in STEM and also contribute to positively influencing my community."

– LaMiah Tysinger

Abbott High School STEM Intern 2015–2016, Engineering, Columbus, OH

Funding and resources

Setting a budget and determining the right funding and resources for a high school internship program depends on the size of the program, the types and numbers of internal business groups involved and the goal of the program. The two main funding decisions a company must make are:

1. What will the overarching budget look like? What are all of the components?
2. What business units will supply the funding? If more than one unit will be providing funding, how will it be split?

While our program is centralized with a dedicated manager whose salary sits with HR, our high school internship funding is generally split between our business units that host interns and HR. We work with the businesses to ensure our strategy is aligned with recruitment needs for the college internship program and beyond.

Because we are focused on equity and serving low-income students, we ensure the budget will cover work shirts for students and other financial support students will need to thrive in the internship program. Below is a list of items we include in our budget:

- **Program management**
  - Salaries for internship manager and HR support of the program
  - Travel costs for recruiting
  - Internal and external marketing materials for the program
  - Events (Intern Week, orientation, lunches, end-of-season presentation showcase)
- **Direct support for students**
  - Intern salaries
  - Graduation items (we provide laptops and a stipend to graduating seniors)
  - Attire (we provide every student with five shirts to wear to work, and for students who can't afford "professional dress"—such as a suit—for final presentations, we cover that cost as well)
  - Gifts (we give gifts to our students, managers and schools every year—gifts range from Abbott-branded clothing and bags to laptops for students)
  - Transportation (we provide transportation for students who don't have a way to get to and from the Abbott campus each day)

Executive buy-in

A critical step for implementing a successful high school internship program is to obtain executive support and to identify an executive sponsor. Reach out to the executives and set up in-person meetings to speak with them about the internship program. The executive sponsor will likely play a crucial role in helping to secure funding and advocating for the program's advancement and future expansion.

Executives need to understand and believe in the mission of the internship program and embed these beliefs across the organization so all employees are on board. When a company is unified around the purpose of the internship program, the program should receive the support it needs to succeed.

2

ORGANIZE FOR LAUNCH

Before launching an internship program, it is crucial to determine an appropriate program scope, to communicate well internally and to select strategic high school partners and employee mentors.

As programs expand and grow, companies should revisit the scope and continually communicate about updates and changes internally. Existing high school partnerships and mentorship relationships also should be evaluated and new ones created.

Program scope

Consider starting small when launching a new high school internship program. Especially during the first year, organizations are often still learning as they go and will likely need to adjust the program throughout the year. Focusing on one business unit for intern placement and hiring a small number of interns will help companies adjust more efficiently and learn from mistakes before expanding the program.

During the first year of our high school internship program, we only hired three interns to work in one business area where there was full executive buy-in and support. We wanted to ensure we were well-equipped to serve the interns successfully before expanding the program across the organization.

Internal communications

Once the company is ready to expand and grow the internship program, it is important to communicate the purpose and plans very deliberately across business units and to executives. When we wanted to expand our program beyond the initial business unit, the manager of our high school internship program flew out to business units across the country to communicate about the program in person and help foster a passion around the purpose. The manager found the most success by meeting in-person and engaging with senior-level leaders, such as site directors.

"For the first time in my life, I felt empowered. The STEM field was at my fingertips."

– Leslie Jaramillo Martinez

Abbott High School STEM Intern 2018–2019, Engineering, Dallas, TX (Irving)

High school partner selection

High schools play a significant and crucial role in the recruitment process and also provide support to the students. Creating strong and positive partnerships between a company and its high school partners is a critical part of the program's success.

A company should evaluate what it wants and requires out of the partnerships when it selects high schools to participate. Examples of requirements for high school partners could include:

- **Proximity:** Is the high school close to the company's physical location so interns can commute easily?
- **STEM focus:** Does the school have a robust STEM program?
- **School leadership:** Do school leaders have the time and interest to work closely with the company?
- **Diversity:** Does the school have a diverse student body from which you could recruit students from different backgrounds?

When we partner with high schools, we look for schools that are located within 20 minutes of our physical offices, that have strong STEM or STEAM (science, technology, engineering, arts and math) programs and that have a student body with racial, ethnic, and/or income diversity. Upon deciding a high school fits this description, we reach out to the school and, if the school is interested, the manager of our high school internship program will meet the school leaders in person. If we and the high school decide it is the right fit, we form a partnership. We create an ongoing and open communication channel with the dedicated contact for each high school partner. We do not require our high school partners to sign a formal contract.

Employee managers and mentors

Intern managers provide leadership and create meaningful and challenging assignments for interns. They expose the interns to cross-functional and upper-management interactions and complete reviews and evaluations of the interns.

Criteria to consider when choosing intern managers include:

- Experience working with teenagers and understanding of the approach needed for successfully working with young people
- Willingness and ability to dedicate sufficient time and resources to supporting interns
- Passion about the mission of the internship program

- In addition to providing interns with managers, organizations should also consider providing mentors to high school interns.
- Mentors are often closer in age and experience to the intern and help ease the intern's transition to the workforce, provide advice and answer questions. Good mentors could come from employee networks or could be high school internship program graduates who now work at the company. They also can be college interns or other employees who express interest in serving as mentors to high school interns.

3

EXECUTE

Recruitment

To recruit high school students, we often have corporate leaders visit the schools in person to present to students and speak with them directly. While the manager of the internship program is one important voice, other business leaders can help introduce the company to students and demonstrate commitment to their success.

The interview process will vary based on the size and capacity of the program, but it is critical to have at least one in-person interview with the students to get to know the potential interns. We also recommend involving school staff in the decision-making process because they will have a good sense of the students' potential and interests. School staff also will be able to make recommendations about which students to hire and what support the students may need.

"The most meaningful part of my internship was the fact that when I arrived every day, I knew what I was about to accomplish and had the ability to impact people around the world."

– Yash Butani

Abbott High School STEM Intern 2018–2020, Engineering, Alameda and Santa Clara, CA

Following the recruitment presentation, all interested students can apply for an Abbott high school STEM internship online. Every student who completes the application receives an invitation to complete a first-round digital video interview, in which the students record their answers to the questions and submit them to us by a given deadline. Our internship program manager reviews every student interview and then creates a list of students we would like to speak to in person for the final round of interviews. Before reaching out to students about the final interview, however, we review the list of students with the high school for approval.

Brand awareness

A challenge some companies may face while implementing high school internship programs is a lack of brand awareness among high school students. To help foster interest and understanding, our internship manager will often bring an Abbott product (for example, a medical device like *FreeStyle Libre*, our continuous glucose monitor for people with diabetes or nutritional products like *Similac* and *Pedialyte*) to recruitment sessions to show the students what the company does (creates life-changing technologies) and the impact that has on people (*FreeStyle Libre* eliminates the need for fingersticks for people with diabetes). Even when students do not have any prior knowledge of the products or services, this experience helps them understand how our products tie to the broader mission of the organization: to help people live their best lives through better health. It also helps them better understand the impact they can make through their internship and in their future career if they choose to pursue STEM.

Job descriptions

Job descriptions provide prospective interns with their first impression of the company. For our high school internship job descriptions, we modify our college internship job descriptions to reflect the appropriate educational requirements.

To view example descriptions, see Appendix B.

Onboarding and orientation

Intern onboarding should begin before the actual start date of the internship. After interns accept the positions, a company should communicate with students—over email or through the high schools—about everything it requires for onboarding.

We notify the students about background checks and ask for information to help with orientation (for example, headshots, intended degree, icebreaker questions). We also use this time to inform the interns about their locations, assignments and start dates.

An orientation period—of a week or day(s)—is an essential part of exposing interns to the company, the internship experience and their network of fellow interns and company employees. Our company sponsors an Intern Week every year when we fly all our U.S. high school interns to one central location and house them in a hotel for orientation and networking. During our Intern Week, company leaders provide interns with professional development training focusing on effective presentation skills, résumés, interviews and professional dress. Our leaders also use the week to teach the interns about the internship experience and expectations.

"Abbott's internship program has given me a far better understanding of what members of the STEM professions actually do on a daily basis and how they apply the techniques learned in school to positively impact the world."

– Anabelle Wright

Abbott High School STEM Intern 2017–2018, Engineering, Temecula, CA

Intern pay and hours

To determine an appropriate pay structure for high school interns, companies should consider the local minimum wage and the pay structure for its college interns (if applicable) and select an amount below the pay for college interns but still at, or ideally above, minimum wage. Paying interns benefits the company by enabling it to attract and retain qualified students and compete with other companies hiring interns. Additionally, paying interns promotes a more equitable hiring process by increasing access for students who cannot afford to take an unpaid internship.

We believe paying our high school interns is a means to break down barriers in low-income areas. We pay our interns not only because they perform work for our company, but also to promote equity and attempt to remove barriers that may prevent students from lower socioeconomic classes from participating in the internship program.

While deciding the number of hours interns should work, remember that high school students are often involved in extracurricular activities that meet over the summer (band, sports teams, community service) and are unable to commit to a full 40-hour work week. We require our high school interns to work a 30-hour week with the option to work more if their managers are able to pay them for the extra hours.

Intern assignments

Our internship manager coordinates with assignment managers across the departments in which the interns will be working to create, finalize and approve intern assignments. Assignments reflect an appropriate amount of work and enable interns to become involved in the day-to-day experiences of working in STEM. A meaningful internship experience exposes students to technical and non-technical aspects of a STEM career.

It is absolutely critical that the assignments are related to actual projects that our company's scientists and engineers are working on. For example, one of our interns worked alongside Abbott researchers and engineers developing aspects of the *FreeStyle Libre* continuous glucose monitor, which eliminates the need for fingersticks for people with diabetes.

Our internship director distributes assignment criteria to the relevant departments and provides them with ample time to draft assignments. An important part of the process is for a technical employee—one who is familiar with the STEM-specific work of the assignments—to review and approve all assignments. This person is often a different person than the internship manager, especially if the manager works within HR. After the assignments are created, intern managers help set goals and at the end of the internship, evaluate performance.

Assignment information and goal setting examples can be found in Appendices E and F.

Professional development

Professional development sessions and opportunities for exposure to other areas of the company provide a well-rounded experience for interns and teach them skills for career success beyond the content of their daily assignments. Some ideas for professional development include:

- Panels with previous high school interns
- Guest lectures with current employees about their career paths
- Résumé and interview training

Throughout our summer internship program, we host weekly "lunch-and-learn" meetings for our high school-aged employees. Because there are locations across the country, the director of the high school internship program runs the meetings as webinars so all students can listen.

Logistical considerations

Logistical considerations will vary based on the size and mission of the internship program, but they're essential to pulling off a professional, successful program. A few logistics that we tackle are:

- **Transportation:** We recruit at high schools near our physical locations so students can more easily commute to work. When students do not have the means to drive or pay for public transportation, we will provide money for public transportation or provide shared transportation with other students and employees.
- **Wardrobe:** Our dress code is business casual. Abbott provides five polo shirts to every student that they can wear to work. If an intern requires additional professional clothing due to financial constraints, we will provide it.
- **Permission slips:** If students will be traveling between multiple facilities, our company requires a permission slip from parents or guardians, so students are able to ride in personal vehicles with employees. We would recommend consulting with your legal department to ensure your permission slips are appropriate and inclusive of all necessary factors for your company.

Stephanie Slowik
Abbott High School STEM Intern 2017–2018,
Engineering, Abbott Park, IL

Diya Iyer
Abbott High School STEM Intern 2018–2020,
Patent Law, IT, Abbott Park, IL

Legal considerations and implications

It is crucial that a company considers and handles the legal implications around working with minors. The most important step is to speak with your legal department about the federal and state laws regarding the employment of minors. Below is a list of other legal considerations to consider when starting a high school internship program. We'd like to stress that this list is not exhaustive and that it's key that you consult with your legal department:

- **Work permits:** What are the state's legal requirements around work permits (including if they are required and who needs to sign)?
- **Business-unit restrictions:** Are there any business units that do not allow anyone on site who is under age 18?
- **Travel:** Will the minors be traveling? If so, what are the appropriate permission forms and who needs to sign them?
- **Safety:** Some STEM work may be considered hazardous.
- **Employment documents:** Are any non-disclosure agreements required for the work the interns will be doing? If so, are parent/guardian signatures also required?

Employees' children

When companies have high school internship programs, it is common that employees will inquire if their children can be part of the program. It is up to the organization to decide how it wants to handle those requests.

We do our best to communicate clearly with our employees that the internship program is designed to reach students who are underrepresented in and not exposed to STEM careers. If the employees' children attend one of the partner high schools, they are welcome to apply to the program. We also host other events throughout the year designed intentionally to serve employees' children and expose them to our company and STEM careers.

"High school internships are an opportunity for students to learn how to carry themselves professionally, experience the real-world applications of academics and decide where their passion lies."

– Alyssa Dias
Abbott High School STEM Intern 2014–2015,
Engineering, Abbott Park, IL

4

MEASURING AND BUILDING ON SUCCESS

Business success: short term

To track the success of your program, it's a good idea to select the metrics and measurement processes (tracking, reporting, learning) you'd like to implement from the start. Examples of metrics to use when evaluating the success of a high school internship program might include:

- Conversion of the student interns to college interns and full-time employees
- STEM field retention of the students, or the percentage who remain in STEM fields through postsecondary education and into the workforce (whether they work at the company or elsewhere)
- Diversity of the students who apply for and participate in the internship program
- Number of applicants

Because our priority is to increase the diversity of the STEM workforce, we track the diversity of our high school internship program as a metric of success. We also measure the conversion of our high school interns to our full-time program as well as the students' retention in STEM, whether at Abbott or elsewhere.

It is important to note that while a company may want to achieve a high conversion rate of high school interns to college interns, a 100% conversion rate should not be the goal. Diversifying the talent pipeline means drawing from different pools of students at different stages, including college interns and new college graduates. The goal of an internship program is not to provide a single pathway into a company but rather to expand the potential pool of talent over time.

"[The women at Abbott] have inspired me in immeasurable ways and I hope to carry on their tradition of not only making an impact on the field but also mentoring and inspiring others."

– Emily McClay

Abbott High School STEM Intern 2015–2016, Engineering, Temecula, CA

Business success: long term

A successful high school internship program will provide meaningful experiences to students and develop a potential future talent pipeline for the organization. To accomplish these goals, an organization must invest in its interns beyond the scope of the summer when interns are on-site. When a company takes the time to mentor its interns and develop lasting relationships with them, the organization is much more likely to impact students long term.

While students are interning with us, we encourage them to create LinkedIn profiles to build their personal brands and to help us stay in touch once they leave the program. We use LinkedIn and email to stay connected with interns whether the students return to work at Abbott or not. Creating and maintaining relationships with interns increases the probability they will return to work at the organization and, whether or not the interns return, helps ensure they will serve as lifelong advocates for the company.

Student and social impact

While a STEM high school internship will have very tactical goals and a clear business case for any organization, it is also an opportunity to provide a life-changing experience for students. We invite parents to attend when our students give their final presentations at the end of their internships, summarizing their projects and what they've learned. This increases parental commitment and understanding.

Exposing young people to STEM can alter the rest of their lives and lead them into successful and meaningful careers they otherwise would not have known. Additionally, investing in people who are part of historically underrepresented groups in STEM (women, low-income students and underrepresented ethnic and racial groups) empowers them to pursue STEM and increases their probability of success. We believe that a successful high school STEM internship has the ability to create a more equitable and diverse future STEM workforce.

Jessica Asuncion
Abbott High School STEM Intern 2017–2018,
Engineering, Temecula, CA

EARNING COLLEGE CREDIT

Taking the next step: college credit

One of the biggest challenges facing STEM workforce sustainability is keeping students engaged during high school and converting that interest into pursuit of STEM-based college degrees.

High school internships bridge these gaps, demonstrating to students how the material they're learning in STEM classes applies in real-world, career environments. Abbott took this concept a step further by making it possible for our students to apply for college credit when they complete internships with us the summer after their senior year in high school.

Companies that pursue college credit recommendations for their high school internship programs could give their students the chance to potentially save time and tuition money as they pursue STEM degrees. The hours of credit earned during an internship can free additional time for advanced learning during college and give students an incentive to stay in STEM, increasing degree completion and retention.

In this section we will share our journey and best practices toward earning a credit recommendation.

Getting started

We recommend starting with the following questions as you consider applying for your high school STEM internship to receive a college credit recommendation from a reviewing organization.

- What would your students or organization gain?
- Is your program aligned with the intent of the accrediting organization?
- Do you have the resources to prepare for and manage the process?
- Does your program follow similar university-level programs of study?

At Abbott, we worked with the American Council on Education, the major coordinating body for U.S. higher education institutions, but companies also can work directly with partner universities to develop credit agreements.

You can expect to have an initial evaluation with your reviewing organization, and they will determine your eligibility. If eligible, your program will go through the review process before the reviewing organization determines how many hours and what type of credit your program will receive, if any.

Reviewing organizations consider several factors when granting programs credit recommendations, including: Program difficulty, depth of material, how students are evaluated, how those evaluations align to measurable learning outcomes and overall, how your internship compares against similar postsecondary programming.

Lessons learned

The time from initial evaluation to final decision can take between three and six months and necessitate several hundred pages of material. Preparing ahead can help for a smooth recommendation process. Here are a few tips to get started.

- Take an academic perspective. Research college-level coursework that is similar to your internship. This will help prepare you to demonstrate how your program contains learning outcomes that are translatable to college-level coursework, which is what reviewing organizations want to see.
- Plan ahead to have colleagues available to review submission content. For example, your legal department, public affairs, or learning and development experts.
- Gather and prepare as much information as you can before contacting a potential credit review organization, including the following types of documentation
  - **Overall information**: Your organization's mission and learning and development goals, internship locations and program timeline.
  - **Instructors**: Staff who facilitate your courses, their resumes, student reviews and if they have annual reviews and evaluations.
  - **Students**: Age range, year in school, focus of studies, descriptions of their assignments and if they sign a code of conduct.
  - **Course materials**: Details on educational content, how it is delivered, lesson plans, quizzes and tests, course evaluations, facilitator guides and your process to ensure all material is updated regularly.
  - **Experiential learning**: Assignment descriptions, manager résumés and student performance assessments.
  - **Recordkeeping**: How you track your documentation and how you keep student records secure.
- Are there any key partner universities and colleges where your interns tend to enroll? It's a good idea to contact those institutions and ask what credit recommendations they accept or their standards for approving outside credit.

SUMMARY ACTION STEPS

The following are lists of questions to ask before launching a high school internship program and while expanding the program. These questions are designed to help guide you throughout the internship launch process and should not be considered an extensive list.

The business case	• How will you align your business strategy to make an appropriate business case for a high school internship program? • What kind of business case will resonate most strongly with executives across the organization?
Internal allies	• Which employees and teams will you need to support your internship program? • How will you garner their support?
Funding and resources	• How will your budget be structured? • What business unit(s) will supply the funding? If more than one unit will be providing funding, how will it be split? • What are the items the funding will need to cover? • As the program expands, how will the funding increase?
Executive buy-in	• Which company executives would be passionate about a high school STEM internship program? • What messages will resonate most with executives to encourage their support of the program?

Program scope	• Which business unit(s) will host interns in year one? • How will the program expand if successful and over what time period?
Internal communications	• Who do you need to speak to internally about launching or expanding the internship program? • What is your communications rollout plan?
High school partner selection	• What are your criteria for selecting a high school partner? • How involved do you want or need the high school to be in the recruitment and internship process?
Employee mentors	• What criteria will you use to select employee mentors? • How will you execute the selection process?

3 EXECUTE

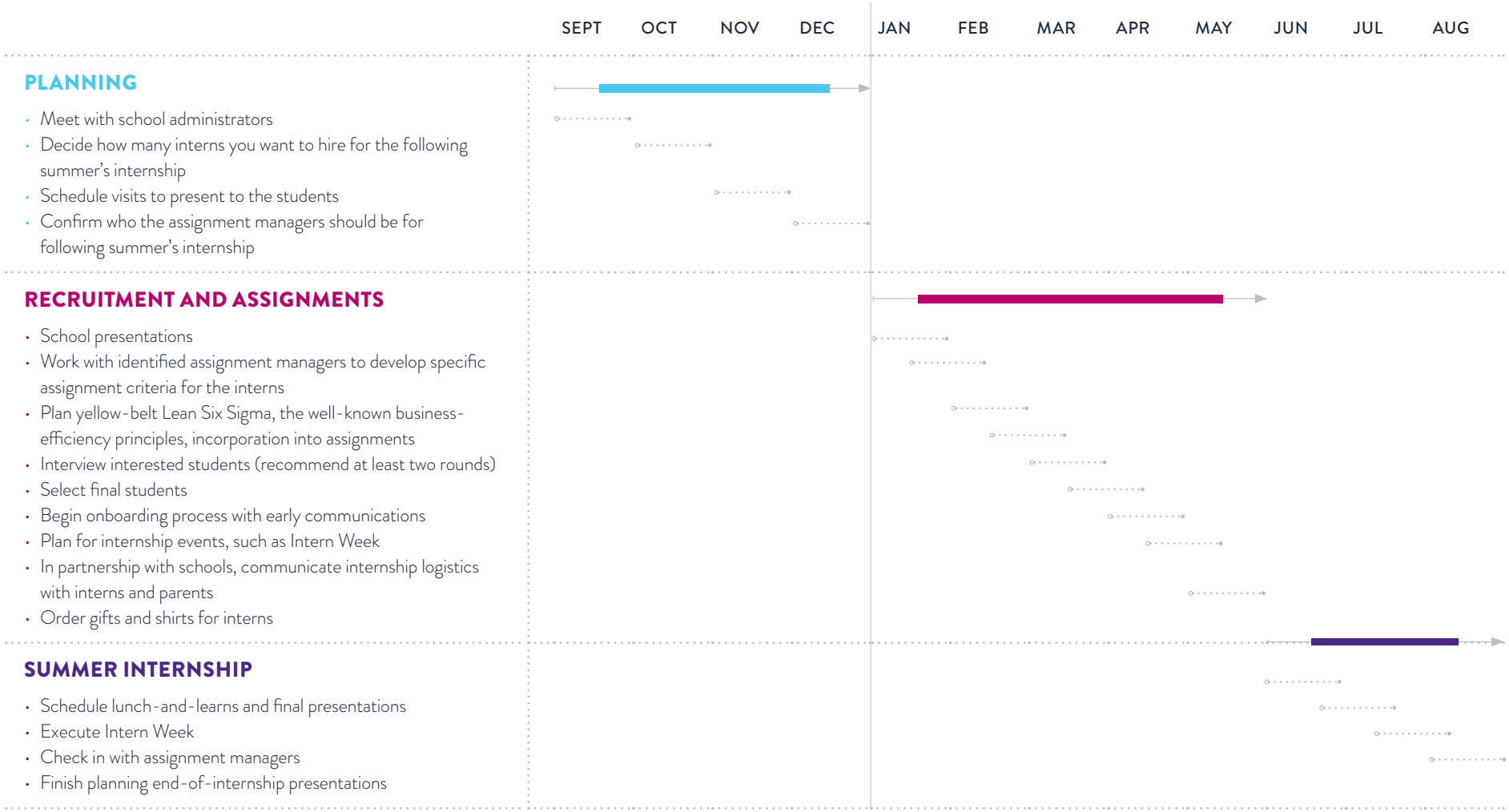
Recruitment	• What traits and skills will you require prospective interns to demonstrate for consideration? • Will you target any specific demographics? • What will your interview process look like?
Job descriptions	• How will you create intern job descriptions? • Who will be in charge of this task? • Will anyone else need to review the descriptions?
Onboarding and orientation	• What information will need to be communicated to students before they start the internship and during onboarding? • What types of events will orientation include? • Who will be involved?
Intern pay and hours	• How much will you pay your interns? • Where will this funding come from?
Intern assignments	• What employee(s) will create the intern assignments? • Who has the technical background to review the assignments?
Professional development	• Will you incorporate professional development lessons during the course of the internship? If so, how and when? What topics?
Logistical considerations	• What logistical items might be overlooked during the launch process and how can you address them beforehand?
Employees' children	• What will your policy be around employees' children working as high school interns?

4 MEASURING AND BUILDING ON SUCCESS

Business success: short term	• What metrics will you track to evaluate the business-related success of your internship program in the short term?
Business success: long term	• How will you define and measure the business-related success of your high school internship program in the long term?
Student and social impact	• What type of impact do you hope to have with your internship program beyond its impact on your organization's talent pipeline? • How will you assess this impact?
College credit recommendation	• Should you pursue a college credit recommendation for your program? • What is needed for a successful application?

APPENDICES

Appendix A: Sample calendar for full year of intern-related activities



Appendix B: Sample internship job description

The purpose of this high school STEM internship is to provide meaningful, professional, hands-on experiences to students with proven academic performance and leadership potential. **[Insert company name]** hires students with an interest in **[XXX]** fields into this internship program based on business need.
Ideal candidates will combine technical and business knowledge with analytical strength and creative problem-solving abilities.

Intern assignments could be located at the following locations (determined based on high school location):

- [X]
- [Y]
- [Z]

Basic Qualifications:

- Sophomore, junior or senior enrolled in a STEM-focused high school curriculum
- Must be enrolled in high school the semester following internship
- Intent is to pursue a bachelor's or master's degree in a STEM field
- Authorized to work in the United States without requiring sponsorship from the company
- Resides near a company host facility

Preferred Qualifications

- Strong academic performance (GPA = 3.0/4.0)
- Exceptionally demonstrated interpersonal skills
- Proven leadership skills
- Demonstrated oral and written communication skills

Appendix C: Sample Intern Week agenda

JUNE 16–22

SUN 16	MON 17	TUE 18	WED 19	THU 20	FRI 21	SAT 22
Interns travel to central location for Intern Week	Icebreakers and networking activities	Leadership presentation, tour of additional manufacturing facility	Leadership presentation, tour of additional facility	Leadership presentation, tour of additional facility	Leadership presentation, tour of additional facility	Return to internship home sites
	Orientation: Rules of the road	Lean Six Sigma Yellow Belt training	Lunch with site leaders	Résumé skills, interview skills and leadership training	Community service event: Building a robotic arm for those in need	
	Leadership overview of Nutrition manufacturing facility where we make ZonePerfect® bars and tour facility	Dinner and "fun" class (i.e., painting)	Presentation skills training	Dinner with top engineer	STEM intern presentations	
	STEM activity: "Lab coat of the future" reinvention challenge				Presentation feedback and informal program debrief	

Appendix D: Sample high school internship week-by-week agenda

PRE-INTERNSHIP

- **Development of intern assignments and goals**
- **Creation of preliminary Yellow Belt charter for students**
- **Intern onboarding including background checks, employment screenings**
- **Assignment manager and facilitator training**

WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9
Intern orientation	Leadership welcome	Weekly manager and intern meeting	Weekly manager and intern meeting	Weekly manager and intern meeting	Weekly manager and intern meeting	Weekly manager and intern meeting	Weekly manager and intern meeting	Yellow Belt final presentation
Site orientation and safety trainings	Networking and development sessions	Yellow Belt status meeting	Yellow Belt status meeting	Yellow Belt status meeting	Yellow Belt status meeting	Yellow Belt status meeting	Yellow Belt status meeting	"Lunch and Learn" sessions
Weekly manager and intern meetings begin	Career development training course	"Lunch and Learn" sessions	"Lunch and Learn" sessions	"Lunch and Learn" sessions	"Lunch and Learn" sessions	"Lunch and Learn" sessions	"Lunch and Learn" sessions	Project assignment experience and learning
Team-member meetings	Lean Six Sigma Yellow Belt training course	Project assignment experience and learning	Project assignment experience and learning	Project assignment experience and learning	Project assignment experience and learning	Project assignment experience and learning	Project assignment experience and learning	Final presentation
	Site tours				Final presentation review, practice and feedback	Final presentation review, practice and feedback	Final presentation review, practice and feedback	Performance assessment

Appendix E: Sample high school intern program assignment description

Assignment Manager:

Location (City/State):

What areas of engineering will the student gain knowledge in?

☐ Chemical Engineering	☐ Biomedical Engineering	☐ Life Science: Biology, Chemistry, etc.
☐ Electrical Engineering	☐ Environmental Engineering	☐ Production Operations Management
☐ Industrial Engineering	☐ Industrial Hygiene/ Environmental Health	☐ Supply Chain Management
☐ Mechanical Engineering	☐ Occupational Safety	☐ Other (please note) _____ _____

SELECT THE AREA OF THE ROLE

☐ **Environmental Health and Safety**	☐ Plant EHS Support ☐ Laboratory Safety ☐ Division EHS Support ☐ Corporate EHS Support
☐ **Engineering**	☐ Plant Engineering ☐ R&D Product Development ☐ Division Engineering ☐ Corporate Engineering
☐ **Manufacturing**	☐ Operations Supervision ☐ Supply Chain ☐ Planning/Materials Management ☐ Project Management ☐ Purchasing
☐ **Quality/ Regulatory**	☐ Plant Quality ☐ Division Quality ☐ Corporate Quality ☐ Division Regulatory ☐ Corporate Regulatory

Please indicate if this project could be considered for Lean Six Sigma Yellow Belt certification.

☐ Yes ☐ No

Please provide a specific assignment description and three key assignment goals:

1 _____

2 _____

3 _____

CONTINUED: Sample high school intern program assignment description

Please select the top two business skills and top two technical skills that will be the main focus of this assignment:	
BUSINESS SKILLS AND EXPERIENCES	**TECHNICAL SKILLS AND EXPERIENCES**
☐ Project Management	☐ Equipment, Calibration, Maintenance
☐ Presentation Skills	☐ Materials and Supplier Controls
☐ Global Projects/Teams Exposure	☐ Environmental, Health and Safety Processes
☐ Managing Multiple Stakeholders	☐ Product and Manufacturing Process Development
☐ Continuous Improvement Projects/Tools, Class A, Lean Six Sigma	☐ Functional Knowledge
☐ Working with Customers	☐ Compliance Audit/Investigations
☐ Working on Teams/Cross-Functional Exposure	☐ Building Database, Data and Statistical Analysis
☐ Problem-Solving/Decision-Making	☐ Writing: Technical Report/Contract/Legal
☐ Other:	☐ Other:

Appendix F: Goal setting and performance review example

SCHEDULE	
JUNE 11	Start Date and Orientation
JUNE 18–22	Intern Week
AUG 10	Final Report Out and Last Day

Mentor: _____

KEY PROJECTS		MANAGER COMMENTS	OVERALL ASSESSMENT
		Goal adherence	**Overall Performance Rating** (Did not Achieve, Partially Achieved, Achieved, Exceeded):
PROJECT 1	**50%**	**Achieved**	**Achieved Expectations**
Intern will assist in identifying electrical and mechanical components to build a test fixture for the architect lee valve project. The intern will provide assistance in the verification testing and the production release of the new design. The intern will learn about Abbott's procurement process, as well as 3D CAD SOLIDWORKS® to update engineering drawings as needed.		_____	[NAME] showed great potential. She demonstrated a great capacity and willingness to learn. She showed strong ability to work independently with minimal instruction to achieve her assigned tasks. She also showed a thirst for understanding not only what was needed to complete her assigned tasks, but also how things work. Her successful interactions with the global community show a heightened sense of professionalism even at a young age. We recommend [NAME] for another internship next year.
PROJECT 2	**30%**	**Achieved**	
Evaluate possibility of using QR codes and iMovie to create messages in order to improve effectiveness in communication. **Key Deliverables:** Feasibility and recommendation.		_____	
PROJECT 3	**20%**	**Achieved**	
Reduce incubation testing related to new product introduction; improve speed-to-market for new launches. **Key Deliverables:** Comparative study across several bills of materials to identify common ingredients.		_____	

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