Welcome Note

Welcome to Polygence! We’re delighted to support you in the crucial work of guiding students along their journey of personal growth. Our goal is to empower young people to explore their academic passions, develop new skills, and reach their full intellectual potential.

Through our mentorship program, your students will create their own, unique research projects under the guidance of PhD-level mentors. Whether they build a robot from scratch, publish in an academic journal, or earn college credits through our partnership with UC Irvine, their final products should give them a sense of accomplishment and shine on college applications.

Along the way, they’ll learn other invaluable skills. Guided research teaches creative thinking, problem solving, time management, resilience, and the courage to take control of your academic and professional career. From small colleges to big research universities, your students will take lessons from research with them while also becoming part of a growing network of Polygence alumni.

If you have questions, please reach out! We’re so excited to work with you and your students!

Sincerely,

George Philip “GP” LeBourdais
Head of Partnerships

Christopher Jack “CJ”
Partnerships Manager
Polygence is an online mentorship program that helps students turn their passions into tangible research projects with the support of PhD-level experts.

Polygence was founded on the principle that students should feel empowered to explore the academic subjects and practical ideas that inspire them. Under the guidance of our mentors—who range from college Professors to advanced degree candidates to expert practitioners in various industries—Polygence students engage in academic fields across the STEM, the social sciences, and the humanities. With the support of their mentors and our team, students produce tangible products, from published peer-reviewed papers to functioning robots to original screenplays, that give them a real sense of accomplishment and shine on college applications.
Program Overview

Polygence is delighted to foster new partnerships to support students with an enriching research mentorship program. With the help of advanced degree candidates, professors, and industry experts, students transform their interests and passions into unique research projects.

The program consists of 10 one-on-one sessions with an expert in the student’s chosen field, from the Humanities to STEM. Students set their own meeting schedule over the course of 3 to 6 months and create a variety of products, ranging from podcasts to docuseries to creative portfolios. Students who write research papers can even earn college credit through our program with the University of California Irvine.

A typical student journey based on the five project milestones:

**Session 3:** Research Question

**Session 4:** 1-page Outline of Project

**Session 6:** Draft of half of the project*

**Session 9:** First draft of entire project*

**Session 10:** Final draft submission

*We recommend students submit these two drafts to the Project Review Program for detailed feedback.

88% said that things they learned in their independent projects will help or have already helped them succeed in college.

80% of students said Polygence had influenced what they’d like to study in college or do for their career.

78% of Polygence seniors reported going to a top research university (R1 in the US or top research university abroad).

73% agreed that their project let them do things they wouldn’t have had the chance to do in school.

95% of Polygence seniors were accepted to an R1 university.

80% of Polygence seniors reported going to a top research university (R1 in the US or top research university abroad).
A wide range of project outcomes

**Ribosome distribution affects stalling in amino-acid starved cancer cells**

Protein synthesis is a process central to all life on Earth. In this project, a student researched and analyzed RNA sequencing and ribosome profiling data to examine their effects on general protein synthesis. The student summarized his findings in a research paper that was published in the Journal of Emerging Investigators.

**Coping During Covid-19: Our Coping Responses in Uncontrollable Situations**

In this project, a student explored the importance of examining an individual’s perception of control over their life events through explanatory coping strategies. In psychological interventions, this “locus of control” orientation can help explain coping behaviors, especially during traumatic periods like a pandemic. For her research on this timely topic, the student was selected as a national Regeneron Science Talent Search Scholar.

**Foggy Minds: A Podcast on Dementia**

This student was fascinated by memory. Particularly, how memories are such important fragments of our lives, but are also so elusive. With the help of her mentor, she recorded a high-quality seven-episode podcast that is featured on multiple platforms including iTunes and Spotify.

**Fourth Down Coaching Tool Based on 10 Years of NFL Data**

Can you imagine a tool that could calculate the probability of winning a game? This student took a 10-year data set from the NFL, focusing on fourth downs and two-point conversions, to create an online coaching dashboard. The goal was to help coaches make better decisions based on verifiable data. The student also published his findings and his coaching tool on medium.com, an open platform with a wide audience.

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College Credit Program with UCI x GATI

Polygence is thrilled to partner with the University of California at Irvine’s Gifted and Talented Institute (UCI x GATI). This program is not included in Polygence’s tuition, and students will be invited to apply mid-way through the project if they are in good standing.

For those who are selected and enrolled, the UCI x GATI program is a partially self-paced two-unit UCI class. As part of a well-rounded research project experience, eligible students will also enroll in a UC Irvine undergraduate-level writing program. To earn college credits for their project, students must first submit an application form and have their research papers (either experimental or review papers) ready for submission by each deadline.

All Polygence papers will be graded by UCI faculty members and awarded a letter grade. Students receive an official transcript at the end of the process. There are no restrictions on the breadth of subject areas, and we welcome academic papers in any and all fields!
Project Spotlight

Machine Learning in Modern Cancer Treatment

The student researched various types of machine learning and the ways they have been, and continue to be, incorporated into the medicine and healthcare field. Sia specifically focused on cervical cancer, lung cancer, and brain cancer. The majority of her time was spent researching for and writing her research paper, which addresses the promising applications of AI as well as the potential pitfalls.

Landmine locator

Annually, 5,000 people die per year at the hand of landmines. The current methods of solving this problem use expensive, ground-penetrating-radar equipped vehicles that are not designed for civilian use. With the use of a cost effective, civilian operated, landmine solution such as mine, people can clear out plots of land for landmines with the assurance that no destruction will occur. Through the use of computer vision, my drone will be able to maximize the success rate of detection with a identifying algorithm using the camera and field-of-view.

Experimental Play Writing: From Ancient Greece to Contemporary America

Ethan studied some of his favorite Ancient Greek plays and Shakespearean plays. Through his studies of the literary genre of drama and theater, the student was inspired to write and produce his own plays. Throughout his Polygence program, Ethan wrote and workshoped his plays The Diner (inspired in part by Edward Hopper’s painting) and Orestes in the Internet. He also wrote a short story about high school, The Frame Between Us.
Polygence mentors are selected based on their exceptional academic background, teaching experience, and unique ability to inspire the next generation of innovative thinkers and industry leaders. We have over 2000 active mentors and we are strong believers in cultivating diverse perspectives on the world - this is why we encourage our students to not only publish research papers, but also to record podcasts, assemble art portfolios, write Op-Ed articles, build robots and start organizations with the guidance of our expert mentors.

**Courtney**  
PhD  
Education  
University of Virginia, PhD  
Neuroscience, Neuroimmunology  
University of Michigan - Ann Arbor, BS  
Neuroscience

**Ross**  
PhD  
Education  
University of California San Diego, PhD  
Electrical & Computer Engineering  
University of California Berkeley, BS  
Computer Science

**Nora**  
PhD candidate  
Education  
University College London, PhD  
U.S. History  
Harvard University, MA and BA  
Middle Eastern Studies, Religion

**Michael**  
PhD candidate  
Education  
Massachusetts Institute of Technology, PhD  
Economics  
Harvard University, BA  
Physics

**Katharina**  
MFA  
Education  
New York University, MFA  
Costume Design for Stage and Film  
Brown University, BA  
Fashion Studies

**Jacob**  
PhD candidate  
Education  
Stanford University, PhD & MS  
Applied Physics  
Pennsylvania State University, MS & BS  
Physics
Podcasts hosted on Spotify, publications in high school journals, apps on GooglePlay, and children's books on Amazon are ways students have shared their projects in the past. Learn how Polygence supports you in showcasing your project!

**Showcasing Opportunities**

**Pick a project**
Every student at Polygence does a project! Some students determine their project first and the showcasing venue second, and some do this in reverse!

**Consider your audience**
Who is your project for? How accessible would you like your project to be? Consider your audience to determine the best showcasing venue.

**Run your ideas by your mentor!**
Share your ideas with your mentor so they can help set you up for success!

**Determine showcasing opportunities**
Our database of showcasing opportunities is a great place to get started. You can access this database on your student dashboard or by clicking into the student guidebook. We also encourage students to imagine new ways of showcasing their projects. Dream big!

Find the showcasing database on the dashboard and on our Showcasing Opportunities page.

Reach out to Polygence with your questions. The Polygence Team is always here to help! Write to students@polygence.org
Symposium of Rising Scholars

Polygence’s Symposium of Rising Scholars is an academic conference where students present and share their research with their peers and a panel of experts.

The Symposium of Rising Scholars is a bi-annual academic conference designed for students. It is a great opportunity to showcase their research in order to share their unique perspective and new knowledge with the world, document their intellectual development, and practice the invaluable skill of knowledge synthesis. Students have the opportunity to present an Elevator Pitch or a Conference Talk.

The Symposium is typically held in March and September of each year. Our Fall 2022 Symposium (held on Saturday, September 24th) featured 260 student presenters, three engaging panel discussions, and a fantastic keynote with Harvard University Professor, Michael Puett. Thousands of people have attended The Symposium since its inception.
The Research Archive of Rising Scholars (RARS) is an open-access preprint archive for research articles written by young scholars from around the globe. The goal of the archive is to facilitate exchange of scholarly ideas from young students and to allow them to share the fruits of their research with the world.

Having students' work circulated through RARS means that they’ll have a link to share with others so that they can read and engage with the research they’ve completed. Since this is a non-peer-reviewed preprint server, students who showcase their work on RARS can decide at any point to submit their work to a journal or competitions for consideration. In addition, our archive is fully indexed by Google Scholar, and each preprint shows up as a publication preprint on the author's Google Scholar page.

Premium Showcasing Support

Polygence also offers Premium Showcasing Support as an addition to the Full, 10-session mentorship program. After completion of their Polygence project, students will be matched with a Showcasing Specialist, who will help them achieve their showcasing and publication goals.
FAQs

Is Polygence “Pay-to-Play”?

No. Our aim is to democratize access to research. Polygence partners with a number of NGOs, non-profits, grass-roots organizations, as well as public schools to offer our services to communities in need. Additionally, we offer financial aid to need-based applicants.

Is Polygence a summer program?

No. Each month we start a new cohort so students can enroll year round.

How long is the Polygence program?

The Polygence program is uniquely flexible. Upon enrollment, students choose the time range for project completion. Projects typically range from 3-6 month. (The average project length is 4 ½ months.)

Do you offer financial aid?

Yes! When students apply to Polygence, they’ll submit proof of family income.

Is there a minimum age or grade requirement for students?

No. Although most Polygence students are in high school, we’ve enrolled a handful of mature middle school students. College students are also welcome to enroll.

Does Polygence help students brainstorm their topic idea?

Yes! Prior to application, the partnerships team can meet with your student for 30-minutes to help decide on a research topic. If your student is a great fit for Polygence, your partnership manager can also provide a formal recommendation to admissions.

What’s the acceptance rate?

Roughly 3 in 4 applicants are accepted to Polygence.

Do you help students get published?

Yes! We offer premium publication support for students aiming to publish their work. Polygence students can publish their research in our Research Archive of Rising Scholars (RARS).
Ready to partner with us?

Partnership Benefits

- Dedicated Partnerships Manager
- On-demand student webinars
- Private Counselor portal account
- Access to Student Showcase Database

Scan here to book a meeting or reach out to us

www.polygence.org
partnerships@polygence.org
(512) 910 7779