FIND THE RIGHT FIT: ENGINEERING SKILLS THAT MATTER

YOUR ALIGNMENT CHECKLIST

You can genuinely enjoy the journey to becoming an engineer by choosing opportunities that build the skills engineers use every day—and match your interests and goals. Keep this checklist handy as you search for new programs and opportunities.

Not sure how to answer the "Ask" questions? Reach out to the program to learn what students do week to week—and what they'll create by the end.

THINK LIKE AN ENGINEER

Engineers learn by tackling open-ended questions—where there isn't a single "right" answer.

ASK:

- **Will I practice defining the problem—not just following directions?**
- **Will I get to test ideas, learn from mistakes, and iterate?**
- **Will I be encouraged to use curiosity, creativity, and critical thinking?**

 Design challenges, investigations, experiments, or projects with iteration

 Mostly lectures or videos—with little opportunity for hands-on problem solving

COLLABORATE WITH CONFIDENCE

Collaboration is a core engineering skill—sharing ideas (even when you're not 100% sure) and communicating across perspectives.

ASK:

- **Will I work on a team or have opportunities to collaborate?**
- **Will I practice explaining my thoughts and listening to others' ideas?**
- **Is there structure for teamwork (roles, feedback, communication routines)?**

 Team projects, group labs, peer feedback, or mentoring that build communication skills

 Group work with no guidance or opportunities to receive feedback

BUILD YOUR TECHNICAL TOOLKIT

Not every opportunity needs coding—but strong programs help you build practical skills like data organization, documentation, and clear communication.

ASK:

- **Will I practice at least one useful technical skill (Excel, Python, CAD, lab techniques, etc.)?**
- **Will I create something tangible—a project, prototype, dataset analysis, report, or presentation?**
- **Will I leave with a portfolio-ready artifact I can explain?**

 Clear skills and clear output—so you know exactly what you'll build or produce

 Vague outcomes like "learn about STEM," without specific deliverables

FOLLOW YOUR CURIOSITY

Choose opportunities that connect to what you're most curious about.

ASK:

- **Which sounds most exciting—building, coding, designing, researching, experimenting, or presenting?**
- **Does this program connect to a topic I genuinely care about?**
- **Would I be proud to share what I worked on?**

✔ You can describe the topic/problem you'll explore and why it interests you

❗ Applying only because it "looks good," without a clear reason

SUPPORT YOUR NEXT STEP

Opportunities are most valuable when they move you toward a specific next step.

ASK:

- **Does this help me prepare for advanced coursework, a summer program, a club/team, or a college pathway?**
- **Will I gain skills that make my next opportunity easier to earn or succeed in?**
- **Will I be able to answer: What did I learn? What did I build? What can I do next?**

✔ The opportunity has outcomes that clearly connect to your next step

❗ A great program that doesn't support your goals right now

FIT YOUR REAL LIFE

The best opportunity is one you can successfully complete.

ASK:

- **Does the schedule fit school, family plans, work, or activities?**
- **Is transportation/time zone manageable?**
- **Is the cost clear and is financial aid available if needed?**

✔ The time commitment is realistic, transparent, and sustainable

❗ Overcommitting and missing what matters most

START HERE: SEARCH ENGINES AND OPPORTUNITY HUBS

Search and browse programs, internships, and STEM opportunities.

NATIONAL STEM HONOR SOCIETY: RESOURCE LIBRARY
A curated STEM resource library, searchable by categories and other filters, with some content described as membership accessible.

NASA: STEM GATEWAY
NASA's official portal to explore and apply for STEM opportunities, including internships and challenges.

NIH: SUMMER INTERNSHIP PROGRAM (SIP)
A major research internship program open to high school students, ideal for those students interested in biomedical and health-related STEM.

INSTITUTE FOR BROADENING PARTICIPATION (IBP): PATHWAYSTOSCIENCE RESOURCES LIBRARY AND PROGRAMS SEARCH
A searchable database of STEM programs, paid internships, and research opportunities across disciplines and education levels.

STANDOUTSEARCH: HIGH SCHOOL INTERNSHIP DATABASE AND STANDOUT CONNECT
A directory-style search tool focused on internships for high school students, including STEM options.

TEEN LIFE: STEM SUMMER PROGRAMS DIRECTORY
Explore a large directory of summer programs and enrichment experiences.

BUILD EXPERIENCE (INTERNSHIP & PROGRAM ALTERNATIVES)

FIRST ROBOTICS COMPETITION (GRADES 9–12)
A hands-on robotics program where students design, build, and program robots with a team and mentors.

SCIENCE OLYMPIAD (STATE DIRECTORIES)
A nationwide STEM competition, organized at the state level, to help you find local teams and tournaments.

Always verify eligibility, deadlines, and costs on the official site.

Johns Hopkins Engineering Innovation Pre-College Programs give high school students the power to create the future as an engineer and earn college credit from our top-tier research university.

EXPLORE OUR PROGRAMS

HEAR FROM OUR ALUMNI

REGISTER FOR AN INFO SESSION