COSMIC CAREERS

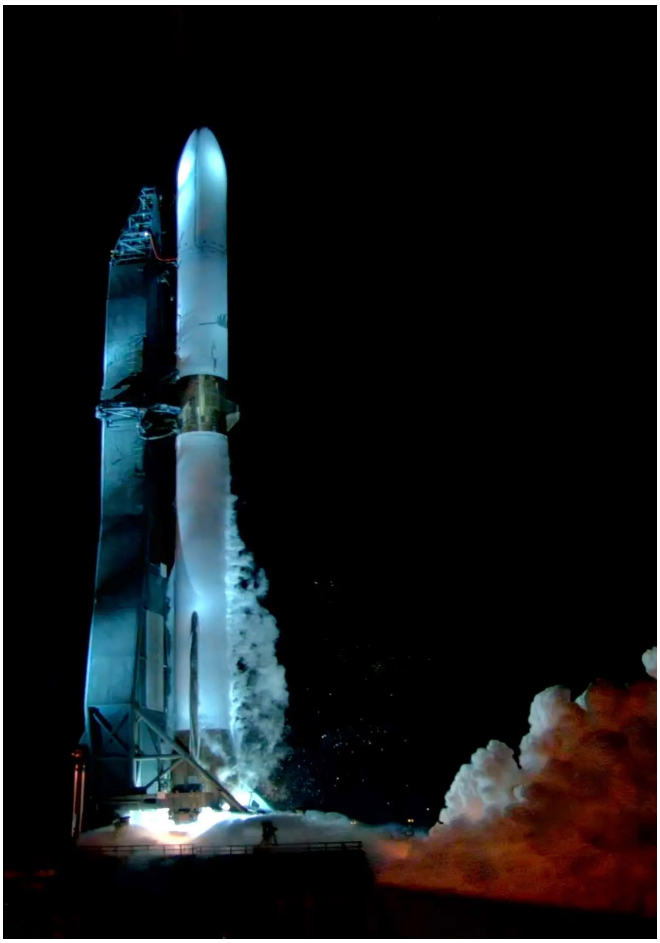
SCAN THE QR CODE FOR A DIGITAL COPY

CHART YOUR COURSE.
LAUNCH YOUR CAREER.

WHAT ARE BLUE ORIGIN AND CLUB FOR THE FUTURE?

Imagine rockets that can fly to space and back, landing safely to be used again and again. That's exactly what we're building at Blue Origin, an American aerospace company on a mission to make space accessible to everyone. We're not just dreaming about the future: we're creating it through groundbreaking projects. New Glenn, a massive orbital rocket designed to launch satellites and cargo for companies and governments worldwide; Blue Moon, our lunar lander that will carry supplies and eventually people to the Moon's surface; and our engines, advanced rocket propulsion systems that power not just our vehicles, but other companies' rockets too. Our ultimate goal? Building a future where millions live and work in space, harnessing its resources to benefit life on Earth. By making rockets reusable instead of single use, we're dramatically cutting the cost of getting to space and building the infrastructure needed for humanity's expansion beyond our planet.

Do you want to be part of humanity's next giant leap? Club for the Future, founded by Blue Origin, is a non-profit organization with the mission to inspire and mobilize future generations like you to pursue careers in STEAM (Science, Technology, Engineering, Arts, and Math). Through programs like Art to Space, space-focused lessons and events, and by activating ambassadors around the world, we're showing young people that the space industry isn't just about astronauts. It's about engineers, artists, programmers, designers, and countless other careers that are shaping our multiplanetary future.



WHAT IS STEAM?

STEAM stands for Science, Technology, Engineering, Arts, and Math: the powerhouse fields that drive innovation, solve complex problems, and help us understand our world and our place in the universe.

S **Science** discovers how the world works through observation and experimentation. Career paths include: Aerodynamicist, Propulsion Scientist, and Materials Scientist.

T **Technology** transforms scientific discoveries into practical tools and systems that solve real-world challenges. Career paths include: Software Developer, Robotics Specialist, and Systems Administrator.

E **Engineering** takes complex problems and designs technical solutions. Engineers turn visions into functioning vehicles. Career paths include: Propulsion Engineer, Structural Engineer, and Systems Engineer.

A **Arts** brings creativity and design thinking to aerospace, making technology user-friendly, beautiful, and functional. Career paths include: Industrial Designer, Technical Illustrator, and UX Designer.

M **Mathematics** provides the precise tools for every calculation, model, and analysis in space exploration. Career options include: Flight Dynamics Analyst, Computational Fluid Dynamics Specialist, and Statistical Analyst.

WHY STEAM?

PURPOSE

Many STEAM professionals report high job satisfaction from seeing their work translate into tangible improvements in people's lives. Whether it's developing renewable energy or creating assistive technology for people with disabilities, STEAM careers offer abundant opportunities for positive change.

PASSION

STEAM careers allow people to transform "I've always wondered about..." into "I get to explore this every day." The passion factor explains why many STEAM professionals consider their work not just a job but a calling that aligns with their fundamental interests.

PROBLEM-SOLVING

Many STEAM professionals describe the satisfaction of breaking through after persistent effort as uniquely rewarding. The "eureka moment" of solving a difficult problem creates a sense of accomplishment that few other career paths offer with such regularity.

PROSPERITY

Beyond financial rewards, STEAM careers often offer exceptional work environments, including flexibility, continued professional development, and cultures that value innovation. The prosperity factor encompasses not just compensation but the overall quality of professional life.

STEAM CAREERS IN SPACE

Have you ever discovered a STEAM career that intrigued you but left you unsure what it involves or how to pursue it? Many students face this same challenge. Below, you'll find an overview of exciting space industry career paths, including typical education and training timelines. Keep in mind, there are multiple routes to your dream job, and these are just a few examples to get you started!

ASSEMBLY TECHNICIAN

- Put space vehicles together
- 6-12 months - Manufacturing assembly certificate from a community college
- Median Entry Level Salary: $40,000-$60,000

AEROSPACE ENGINEER

- Design and develop all kinds of space vehicles
- 4 years - Bachelor's degree in aerospace engineering
- Median Entry Level Salary: $118,000-$122,000

ELECTRICAL ENGINEER

- Design the systems to power a space vehicle
- 4 years - Bachelor's degree in electrical engineering
- Median Entry Level Salary: $110,000-$115,000

GEOLOGISTS

- Study planetary surfaces, compositions, and resources for space exploration missions
- 4+ years, Bachelor's and higher recommended
- Median Entry Level Salary: $70,000-$90,000

CYBERSECURITY

- Protect computer systems from threats
- 4 years - Bachelor's degree in computer science or a similar subject
- Median Entry Level Salary: $120,000-$135,000

FINANCIAL ANALYST

- Predict how a company is doing financially based on information that already exists
- 4 years - Bachelor's degree in finance
- Median Entry Level Salary: $85,000-$95,000

CREW SUPPORT

- Train and support astronauts
- 4+ years - Bachelor's degree in hospitality and experience in high-stakes environments
- Median Entry Level Salary: $80,000-$120,000

GRAPHIC DESIGNER

- Creates the visual art for a company that is used on logos, videos, websites, and more
- 4 years - Bachelor's degree in graphic design
- Median Entry Level Salary: $65,000-$95,000

MACHINIST

- Create the parts of space vehicles
- 2 years - Machining certificate from a trade school or community college
- Median Entry Level Salary: $50,000-$80,000

MATERIALS PLANNER

- Choose materials for use in space vehicles
- 4 years - Bachelor's degree in a relevant field or an Associate's + experience in the field
- Median Entry Level Salary: $55,000-$70,000

MECHANICAL ENGINEER

- Create the moving parts of a space vehicle
- 4 years - Bachelor's degree in mechanical engineering
- Median Entry Level Salary: $105,000-$110,000

FUEL SCIENTIST

- Develops and tests fuel formulations for space launch vehicles
- 6+ years - Bachelor's and Master's/PhD
- Median Entry Level Salary: $85,000-$110,000

AVIONICS/SOFTWARE ENGINEER

- Designs electronic systems for space vehicles
- 4 years - Bachelor's degree in a relevant engineering field
- Median Entry Level Salary: $115,000-$130,000

MARKETING/COMMUNICATIONS SPECIALIST

- Creates compelling content and manages external communications for space projects
- 4 years - Bachelor's degree related field
- Median Entry Level Salary: $60,000-$80,000

ASTROBIOLOGIST

- Studies potential for extraterrestrial life and biological aspects of space.
- 6+ years - Bachelor's and Master's/PhD
- Median Entry Level Salary: $85,000-$110,000

PROJECT MANAGER

- Organizes teams to complete large projects
- 5 years - Bachelor's degree in a STEAM field and a certification in project management
- Median Entry Level Salary: $110,000-$130,000

WHICH CAREER IS FOR YOU?

SCIENCE

- Chemistry
  - Exploring materials in space → Geologist
  - Exploring efficient energy sources → Fuel Scientist
- Biology → Astrobiologist

TECHNOLOGY

- Software
  - Mission/Flight Software → Avionics/Software Engineer
  - Operating Systems → Cybersecurity Specialist
- Hardware → Electrical Engineer

ENGINEERING

- Designing
  - Vehicle/Aircraft Scale → Aerospace Engineer
  - Component Scale → Mechanical Engineer
- Building
  - Precision Work → Machinist
  - Hands-On Assembly → Assembly Technician

ARTS

- Communication
  - Direct Human Support → Crew Support
  - Public Interaction → Marketing/Comms Specialist
- Visual Design → Graphic Designer

MATHEMATICS

- Analyzing Data
  - Inventory Planning → Materials Planner
  - Financial Operations → Financial Analyst
- Managing Processes → Project Manager

NAME: **MICHELLE MAGANA**
HOMETOWN: **LONG BEACH, CA**
JOB TITLE: **MATERIAL PLANNER III**

What is your job at Blue Origin?

A Material Planner plays a crucial role in orchestrating the flow of materials essential for manufacturing. We are at the helm of forecasting, predicting material requirements through analysis of production schedules. With a sharp focus on procurement, we coordinate closely with Buyers, ensuring timely delivery of materials while maintaining a balance between cost efficiency and quality. We skillfully develop and adapt production schedules in response to availability and evolving demand.

What is one thing you wish you would've done in high school that could've helped you along your path? What resources would you tell a high schooler who is interested in your field to look into?

One change I would make is to build a stronger relationship with my school counselor. It's easy to feel pressured to choose a career path, but remember, there's no timeline. Embrace making mistakes (responsibly), be open to changing your mind, and seize educational opportunities without hesitation. Give yourself the chance to explore various fields until you discover the one that truly makes you happy. Regardless of your chosen field, I recommend every student to pursue mentorship opportunities to gain practical insights into their area of interest.

How has a nontraditional career path affected your professional life?

Nontraditional career paths can bring unique perspectives and skills, leading to innovative problem-solving and adaptability in various professional scenarios. These paths often allow individuals to integrate diverse experiences, become more resilient, and approach challenges with a fresh mindset, which can be highly valuable in dynamic work environments.

2012
Began AA in Fashion Merchandising at Long Beach City College

2017
Graduated and began working in the industry

2024
Began BBA in Project Management at Southern New Hampshire University

2025
Became Material Planner III for Blue Origin

NAME: **STEPHANIE GORDON**
HOMETOWN: **LOS ANGELES, CA**
JOB TITLE: **SR. TECHNICAL PRODUCT MANAGER**
BLUE ENGINES ANALYTICS, REPORTING, AND SOFTWARE (BEARS)

What is your job at Blue Origin?

My job is kind of like being a translator who connects the dots between our software developers (people who write computer programs) and the people who use those programs. I help everyone understand each other and make sure the software we create is helpful for building rockets safer, faster, and at lower cost.

When did you first learn about the job you have now? How did you get into your field?

I got into aerospace because I've always loved airplanes and flight! My dad worked in aviation and also has a pilot's license, so I grew up around planes and going to air shows all the time. When I was a sophomore in college working towards my English degree, I still wasn't sure what career I wanted. At the same time, I was working on my pilots license, and my dad suggested I try a trade school to get my FAA aircraft mechanics license (which is called an "A&P", or "Airframe and Powerplant" certification). I ended up doing both college and trade school at the same time - and got my pilots license too!

What is the biggest misconception people have about your job?

People often think that because I work at Blue Origin, I must be an engineer with a math or science degree. Or, since I'm on a software team, that I'm a computer programmer. There are so many other jobs here that aren't engineering or programming, like mine or ones in project management or communications, which all still support Blue's mission.

2005
Started BA in English at CSU Northridge

2009
Earned Airframe & Powerplant Certification (FAA) at North Valley Occupational Center

2009
Graduated from CSU Northridge and began working in the industry

2010
Earned Private Pilot's License (FAA)

2024
Began working at Blue Origin

NAME: **AKEEM THORPE**
HOMETOWN: **PLAINSBORO, NJ**
JOB TITLE: **AEROSPACE SOFTWARE APPS ENGINEER III**

What is your favorite aspect of your job at Blue Origin?

My favorite aspect is seeing successful long test run results that indicate we are successfully meeting certain mission objectives in simulation. It's exciting to see tests that indicate our software is operating as we expect, and helpful when tests fail, indicating a real issue we need to fix to be ready for launch.

What is the biggest misconception people have about your job?

Perhaps that software engineering is just coding. Coding is a part of it, but the code is a liability that must be maintained. We're looking to solve problems using software which also entails planning, design, analysis, testing, and documenting.

What would you say the hardest part about breaking into the STEAM field is?

Working through university coursework that is difficult that you are not interested in can be hard. Everything may not be interesting to you, but you need to find ways to keep yourself engaged to truly digest the material, especially because the coursework can set foundational knowledge that may be useful to you later in your professional work or subsequent academic work. The other hard thing is persevering to move to the field you want to be in. In professional life, it can be easy to settle where you are at, especially when you are comfortable with the work you are doing. You need to continue to take on new challenges to develop yourself as a STEAM professional and to develop your career in the direction you want to go in. Sometimes you're making decisions for your future self, and that can be hard when your present self is comfortable.

2009
Started BS in Aeronautical Engineering at Rensselaer Polytechnic Institute

2011
Started AS in Engineering Sciences at MCC

2014
Graduated from Rensselaer Polytechnic Institute

2017
Pursued a MS in Software Development at Boston Unversity

2023
Began working at Blue Origin

NAME: ALEXANDER PAGEL
HOMETOWN: WESTGATE, IA
JOB TITLE: TECHNICIAN - ASSEMBLY & INTEGRATION SR.

When did you first learn about the job you have now? How did you get into your field?

It was a new program at the company, and they needed technicians. I saw it as a great opportunity to grow, so I volunteered to take on the workload. Since then, I've built dozens of new engines, refurb engines, and even some display engines, one of which you can view at the Seattle Museum of Flight.

Who was the biggest influence/inspiration on where you are today?

My 1st influence was my Grandpa Steven, who was a former Diesel Mechanic in the Navy. That man taught me how to navigate my way around a toolbox and understand how to use calibrated equipment. He taught me how to stick weld, fix diesel tractor engines and manage the basic upkeep of a working farm. The 2nd is the United States Marine Corps and what it means to be a Marine to be held to the highest of standards and to be the prime example of success.

"Some people wonder all their lives if they've made a difference. The Marines don't have that problem." - Ronald Reagan

How has being in the Marine Corps affected how you made it to where you are today?

The Marine Corps has 100% shaped my life for the better. I joined in 2013 after dropping out of college and swinging a hammer (carpentry) for a few years. I chose Aviation Technician (MOS# 6114), from there I went to bootcamp at Recruit Training Depot San Diego, California. Then off to School of Infantry, and after that I finally got to CNATT (Center for Naval Aviation Technical Training) where I worked on the engines, gear boxes, flight controls, testing, and final inspections before flight and had the opportunity to fly in the back of the Huey.

NORTHEAST IOWA COMMUNITY COLLEGE

2010
Pursued AutoCAD at Northeast Iowa Community College RAMS

NICC

2011
Pursued Carpentry at Northeast Iowa Commnunity College

2013
Joined the United States Marine Corps as a 6114 (Aviation Mechanic)

RED TAILS

2019
Pursued AA in Natural Resources at Hawkeye Community College

BLUE ORIGIN

2020
Began working at Blue Origin as an Engine Integration Technician II

NAME: STEPHANIE GONZALEZ
HOMETOWN: HOUSTON, TX
JOB TITLE: THERMAL ENGINEER ON MK2

When did you first learn about the job you have now? How did you get into your field?

I learned about Thermal Engineering when I was in college, through my school's rocket lab. I was really interested in propulsion because of the high heat it generated and the methods used to prevent melting the nozzle. I didn't make the propulsion team, but I learned that other parts of the rocket also needed thermal analysis and special hardware to maintain temperatures. Our rocket lab didn't have any openings for thermal analysis, so I joined our satellite lab to get experience with thermal analysis.

What does a day at Blue Origin typically look like for you?

I work an 8-hour day, mostly doing independent design work with meetings sprinkled in with stakeholders to discuss design and analysis status. When a tight deadline or review comes up, I may work longer days to cram in more work, but it's not a normal occurrence. The work life balance at Blue has been pretty kind.

What challenges did you face as a first gen college student?

As a first gen college student, I had unrealistic expectations of how college worked. Being a good student was not enough for me to get into an engineering program. I constantly felt imposter syndrome for being under prepared and out of place. However, being able to find community though student organizations was extremely helpful to me. Many student organizations can help provide opportunities and resources to help navigate college. For example, organizations like the Society of Hispanic Professional Engineers often provide resources like technical workshops, career development opportunities, and networking events to help get students prepared for applying to internships. In college I was a member of the Hispanic Business Student Association, Society of Hispanic Professional Engineers, and Women in Aerospace for Leadership and Development.

TEXAS Engineering

2019 - 2020
Entered University of Texas Austin and transferred into Aerospace Engineering as a Sophomore

TEXAS SPACECRAFT LABORATORY
THE UNIVERSITY OF TEXAS AT AUSTIN

2021
Joined Texas Spacecraft Laboratory

2022
Industry internship at NASA and Boeing

2024
Graduated from University of Texas Austin

BLUE ORIGIN

2023
Began working at Blue Origin as a Thermal Analyst, then promoted to Thermal Engineer II in 2025

COLLEGE ROADMAP

Balancing college prep with tests, homework, and extracurriculars can feel overwhelming, but it doesn't have to be. With some planning, you can spread the work across all four years of high school and avoid a last-minute scramble. Below is a practical timeline for fitting college preparation naturally into each high school year, so you can stay on track without burning out.

9TH GRADE

Take classes that explore your interests

Join lots of clubs and extracurriculars

Get involved in community service

10TH GRADE

Stay active in clubs and extracurriculars

Focus your classes on your interests

Consider careers in areas you're interested in

11TH GRADE

Initial list of college you're applying to

Leadership roles in clubs & extracurriculars

Decide what you'll potentially study

12TH GRADE

Finalize college list

Retake ACT/SAT for a better score

Tour colleges in-person/virtual

Take ACT/SAT

Apply to colleges

Apply for financial aid and scholarships

Keep grades and GPA high

Accept college offer

Graduate High School!

THINGS TO CONSIDER WHEN CHOOSING YOUR PATH

DIFFERENT KINDS OF HIGHER EDUCATION PATHWAYS

CERTIFICATION TYPES: Professional & Technical Apprenticeship, Professional Licenses **LENGTH:** 6-12 months	**ASSOCIATES'S DEGREE:** **TYPES:** Arts (AA), Sciences (AS), Applied Sciences (AAS), General Studies (AGS) **LENGTH:** 2 years	**BACHELOR'S DEGREE:** **TYPES:** Arts (BA), Sciences (BS), Fine Arts (BFA) **LENGTH:** 4 years	**MASTER'S DEGREE:** **TYPES:** Arts (MA), Sciences (MS), Business Admin. (MBA), Education (MEd) **LENGTH:** 1-2 years	**DOCTORATE DEGREE:** **TYPES:** Philosophy (PhD), Medicine (MD), Law (JD), Education (EdD) **LENGTH:** 4-7 years
COSTS: $5,00 - $5,000, but varies depending on the field	**PUBLIC:** $8,000 - $10,000 **PRIVATE:** $18,000 - $30,000	**PUBLIC IN - STATE:** ~$100,000 **PUBLIC OUT-OF-STATE:** ~$200,000 **PRIVATE:** ~$240,000	**PUBLIC:** ~$60,000 **PRIVATE:** ~$90,000	**PUBLIC:** ~$12,000 - $100,000 per year **PRIVATE:** ~$21,000 - $100,000+ per year

HOW DO I PAY FOR HIGHER ED?

Loans: Borrowed money repaid with interest, usually after graduation. Federal loans typically offer lower interest rates and more flexible repayment than private loans.

Need-Based Scholarships: Awarded based on family financial need. Requires completing the FAFSA, and never needs to be repaid.

Merit Scholarships: Reward achievements like grades, test scores, athletics, artistic talent, or community service. Offered by schools, organizations, and businesses.

Private Funding: Comes from outside sources such as community foundations, religious groups, and companies. Often has specific eligibility requirements based on background, major, or career goals.

School Funding: Grants and scholarships offered directly by colleges, based on need, merit, or other valued characteristics.

Federal Grants: Free money for education (like the Pell Grant) that never needs to be repaid, typically awarded based on financial need.

Work-Study Programs: Part-time jobs, often on campus, that help cover education expenses while providing valuable work experience.

SETTING YOURSELF UP FOR STEAM SUCCESS IN HIGH SCHOOL

TAKE FOUR YEARS OF MATH
- Math is the bedrock of all science! Take college-level math courses if possible in order to get ahead in your education.

TAKE FOUR YEARS OF SCIENCE
- Most science disciplines rely on each other and take the same problem-solving skills, so it is crucial to have a strong science background.

LEARN BASIC CODING/PROGRAMMING
- STEAM utilizes coding regularly, and as technology develops it is important to understand how the tools you use work.

TAKE AP, IB OR COLLEGE CLASSES
- Earn college credit and explore your interests at a lower/no cost during high school, this can help you get a degree faster!

LOG COMMUNITY SERVICE HOURS
- Colleges like seeing community involvement because it shows responsibility and selflessness.

GET INVOLVED IN EXTRACURRICULAR ACTIVITIES AND CLUBS
- Learn technical experience, leadership opportunities, explore career pathways, and gain personal and professional connections

ADDITIONAL RESOURCES

MAJOR SCHOLARSHIP SEARCH ENGINES

- **FastWeb:** Database with millions of scholarships worth over $4 billion
- **Scholarship.com:** Free matching platform connecting students to opportunities
- **College Board's Big Future:** Scholarship search tool with $4+ billion in awards

MAJOR-BASED SCHOLARSHIPS

- **National Merit Scholarship Program:** Based on PSAT performance
- **Coca-Cola Scholars Program:** For demonstrated leadership and service
- **Davidson Fellows Scholarships:** For students who completed significant projects
- **Jack Kent Cooke Foundation:** For high-achieving students with financial need
- **Elks National Foundation Most Valuable Student Competition:** Leadership and academic achievement

CAREER-SPECIFIC SCHOLARSHIPS

- **FIRST Robotics Scholarships:** For STEM-oriented students
- **Society of Women Engineers:** For women pursuing engineering
- **American Chemical Society Scholars Program:** For underrepresented students in chemistry
- **ESA Foundation Scholarship:** For women and minorities pursuing computer/video game arts
- **Microsoft Disability Scholarship:** For students with disabilities pursuing STEM

DEMOGRAPHIC-SPECIFIC SCHOLARSHIPS

- **Gates Scholarship:** For exceptional minority students with financial need
- **Ron Brown Scholar Program:** For Black/African American students
- **Hispanic Scholarship Fund:** Various scholarships for Hispanic students
- **United Negro College Fund (UNCF):** Scholarships for minority students
- **Point Foundation:** For LGBTQ+ students
- **TheDream.US:** For DREAMers with limited access to financial aid

DEVELOPMENT OPPORTUNITIES

- **NASA High School Internship Program:** STEM and space exploration opportunities
- **Bank of America Student Leaders:** Paid summer internship and leadership summit
- **Girls Who Code:** Programs to close the gender gap in technology
- **Year Up:** Skills development and corporate internships
- **LinkedIn Student Programs:** Early career networking platform
- **Khan Academy/Coursera/edX:** Free or low-cost skill development courses

GOVERNMENT & FOUNDATION RESOURECES

- **Federal Student Aid (studentaid.gov):** Information on federal grants and loans
- **AmeriCorps:** Service opportunities with education awards
- **ROTC Programs:** Military scholarship programs
- **State Higher Education Agencies:** State-specific scholarships for residents